



SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION AND RESEARCH

(A Deemed to be University declared under Section 3 of UGC Act 1956)

Comprising Sri Devaraj Urs Medical College

[Constituent unit of Sri Devaraj Urs Educational Trust for Backward Classes (Regd.)]

TAMAKA, KOLAR-563 103, KARNATAKA, INDIA

Ph: 918152-243003, +91 9448395232, E-mail - registrar@sduahe.ac.in / office@sduahe.ac.in. Website: www.sduahe.ac.in

Proceedings of the 45th Meeting of the Academic Council of Sri Devaraj Urs Academy of Higher Education and Research, Kolar held on 4th Dec. 2023 at 11 A.M. in the Council Hall of The Academy through Hybrid mode under the chairpersonship of Dr.B.Vengamma, Vice-Chancellor of The Academy.

"Extract"

Agenda No.AC/XLV-13/23

Subject:

Approval of revised B.Sc. in Yoga curriculum.

Resolution:

The Academic Council resolved to approve the revised B.Sc. in Yoga curriculum as per CBCS.

Registrar

Registrar

**Sri Devaraj Urs Academy of Higher
Education and Research
Tamaka, Kolar - 563 103.**



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Proceedings of the 46th Meeting of the Academic Council of Sri Devaraj Urs Academy of Higher Education and Research, Kolar held on 26th Feb. 2024 at 11 A.M. in the Council Hall of The Academy through Hybrid mode under the chairmanship of Dr.B.Vengamma Hon'ble Vice-Chancellor of The Academy.

"Extract"

Agenda No.AC/XLVI-12/24

Subject:

Approval of B.Sc. Nursing, M.Sc., Post B.Sc. Nursing curriculum under the Faculty of Nursing for the academic year 2024-25.

Resolution:

The Council resolved to approve B.Sc. Nursing, M.Sc., Post B.Sc. Nursing curriculum under the Faculty of Nursing for the academic year 2024-25.


Registrar
Sri Devaraj Urs Academy of Higher
Education and Research
Tamaka, Kolar - 563 103,



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"Extract"

Agenda No.AC/XLVI-11/24

Subject:

Approval of B. Pharmacy Curriculum under the Faculty of Pharmacy for the academic year 2024-25.

Resolution:

The Academic Council resolved to Approve the B. Pharmacy Curriculum under the Faculty of Pharmacy as per National Credit Framework from the academic year 2024-25.

**Registrar
Registrar**

**Sri Devaraj Urs Academy of Higher
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Tamaka, Kolar - 563 103.**



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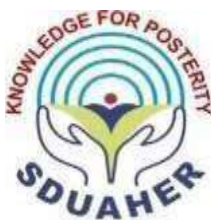
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(With effect from 2024-25 batches)

Choice Based Credit System

Curriculum for Master of Science in Anesthesia & Operation Theatre Technology

Approved: as per resolution of the (Agenda No. EC/LXXIX-12 / 2024), 79th Executive Council held on 28/06/2024



**UGC GUIDELINES ON ADOPTION OF CHOICE BASED
CREDIT SYSTEM (2023)**

TO MASTER PROGRAMS

2023

SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION & RESEARCH

(Declared as Deemed - to - be University u/s 3 of the UGC Act)

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No. SDUAHER/KLR/ADMN/ 3574 /2023-24

Date: 22nd Jan. 2024

NOTIFICATION

Sub: Starting of M.Sc. Anaesthesia and Operation Theatre Technology (AT&OT) program in the Department of Allied Health Sciences.

- Ref: 1. Proceedings of the 45th meeting of the Academic Council held on 4th Dec. 2023.
2. Proceedings of the 76th meeting of the Board of Management held on 26th Dec. 2023.

As per the approval of Academic Council and Board of Management meetings cited at above reference, The Academy decided to start M.Sc. Anaesthesia and Operation Theatre Technology (AT&OT) program in the Department of Allied Health Sciences, FAH & BS from the academic year 2024-25.

Registrar
Registrar

Sri Devaraj Urs Academy of Higher
Education and Research
Tamaka, Kolar - 563 103.

Copy to:

1. P.A. to V.C., SDUAHER.
2. The Dean, FoM, SDUAHER & Principal, SDUMC.
3. The Dean, FAH&BS, SDUAHER.
4. The Controller of Examinations, SDUAHER.
5. The Director, Academics, SDUAHER.
6. The Director, Q & C, SDUAHER.
7. All HoDs, FAH & BS, SDUAHER.
8. O/c.

UGC GUIDELINES ON ADOPTION OF CHOICE BASED CREDIT SYSTEM

1. Preamble

The University Grants Commission (UGC) has initiated several measures to bring equity, efficiency and excellence in the Higher Education System of country. The important measures taken to enhance academic standards and quality in higher education include innovation and improvements in curriculum, teaching-learning process, examination and evaluation systems, besides governance and other matters.

The UGC has formulated various regulations and guidelines from time to time to improve the higher education system and maintain minimum standards and quality across the Higher Educational Institutions (HEIs) in India.

The academic reforms recommended by the UGC in the recent past have led to overall improvement in the higher education system. However, due to lot of diversity in the system of higher education, there are multiple approaches followed by universities towards examination, evaluation and grading system. While the HEIs must have the flexibility and freedom in designing the examination and evaluation methods that best fits the curriculum, syllabi and teaching-learning methods, there is a need to devise a sensible system for awarding the grades based on the performance of students.

Presently the performance of the students is reported using the conventional system of marks secured in the examinations or grades or both. The conversion from marks to letter grades and the letter grades used vary widely across the HEIs in the country. This creates difficulty for the academia and the employers to understand and infer the performance of the students graduating from different universities and colleges based on grades.

The grading system is considered to be better than the conventional marks system and hence it has been followed in the top institutions in India and abroad. So it is desirable to introduce uniform grading system. This will facilitate student mobility across institutions within and across countries and also enable potential employers to assess the performance of students.

To bring in the desired uniformity, in grading system and method for computing the cumulative grade point average (CGPA) based on the performance of students in the examinations, the UG Chas formulated these guidelines. UGC issued circular D.O.No. F.1-2/2008 (XI Plan) dated March 2009 and further in its circular D.O.No.F-1-1/2014 dated 12th November 2014 has directed all the Universities in the country to implement the Choice Based Credit system (CBCS) scheme to the entire undergraduate and post graduate level degrees Programs mandatorily.

In compliance to the above, Sri Devaraj Urs Academy of Higher Education and research [SDUAHER] a deemed to be University has notified with vide No SDUAHER/KLR/ADMN/2063/16- 17 dated 20.10.16 and introduced CBCS for undergraduate Programs (B.Sc.) in order to achieve academic excellence, quality improvement and as administrative reforms. Based on this background, SDUAHER has framed REGULATION governing B.Sc. Programs under Faculty of Allied Health Sciences. As per the academic requirements, versatile and flexible option of CBCS adopted for graduate programs in the year 2016 in a Notification number SDUAHER/KLR/ADMN/1758/2016-17 dated 22.09.2016 and also based on the credit frame work for PG curriculum, national credit frame work, national skill qualification frame work, Masters programs offered under Faculty of Allied Health and Basic sciences in the Academy also subjected for implementation of the CBCS scheme

This facilitates flexible learning; multifaceted development of students with wide variety of courses viz core, electives in discipline specific, Ability enhancement and open to enhance their knowledge and skills. This qualitative change in the Programs is to the global requirements and aspiration of students and stake holders for mobility both within and across the geographical jurisdiction.

CBCS implementation brings desired uniformity in grading system and method for computing semester grade point average (SGPA) for semester performance and cumulative Grade Point average (CGPA) for overall program performance of students in the examinations.

2. Applicability of the Grading System

These guidelines shall apply to all undergraduate and postgraduate level degree, diploma and certificate programs under the credit system awarded by the Central, State and deemed to be universities in India.

3. Definitions of Key Words:

1. **Academic Year:** Two consecutive (one odd + one even) semesters constitute one academic year.
2. **Choice Based Credit System (CBCS) :** The CBCS provides choice for students to select from the prescribed courses (core, elective or minor or soft skill courses).
3. **Course:** Usually referred to, as ‘papers’ is a component of a programme. All courses need not carry the same weight. The courses should define learning objectives and learning outcomes. A course may be designed to comprise lectures/ tutorials/laboratory work/ field work/ outreach activities/ project work/ vocational training/viva/ seminars/ term papers/assignments/ presentations/ self-study etc. or a combination of some of these.
4. **Credit Based Semester System (CBSS):** Under the CBSS, the requirement for awarding a

degree or diploma or certificate is prescribed in terms of number of credits to be completed by the students.

5. **Credit Point:** It is the product of grade point and number of credits for a course.
6. **Credit:** A unit by which the course work is measured. It determines the number of hours of instructions required per week. One credit is equivalent to one hour of teaching (lecture or tutorial) or two hours of practical work/field work per week.
7. **Cumulative Grade Point Average (CGPA):** It is a measure of overall cumulative performance of a student over all semesters. The CGPA is the ratio of total credit points secured by a student in various courses in all semesters and the sum of the total credits of all courses in all the semesters. It is expressed up to two decimal places.
8. **Grade Point:** It is a numerical weight allotted to each letter grade on a 10-point scale.
9. **Letter Grade:** It is an index of the performance of students in a said course. Grades are denoted by letters O, A+, A, B+, B, C, P and F.
10. **Programme:** An educational programme leading to award of a Degree, diploma or certificate.
11. **Semester Grade Point Average (SGPA):** It is a measure of performance of work done in a semester. It is ratio of total credit points secured by a student in various courses registered in a semester and the total course credits taken during that semester. It shall be expressed up to two decimal places.
12. **Semester:** Each semester will consist of 15-18 weeks of academic work equivalent to 90 actual teaching days. The odd semester may be scheduled from July to December and even semester from January to June.
13. **Transcript or Grade Card or Certificate:** Based on the grades earned, a grade certificate shall be issued to all the registered students after every semester. The grade certificate will display the course details (code, title, number of credits, grade secured) along with SGPA of that semester and CGPA earned till that semester.

4. Semester System and Choice Based Credit System

The Indian Higher Education Institutions have been moving from the conventional annual system to semester system. Currently many of the institutions have already introduced the choice based credit system. The semester system accelerates the teaching-learning process and enables vertical and horizontal mobility in learning. The credit based semester system provides flexibility in designing curriculum and assigning credits based on the course content and hours of teaching. The choice based credit system provides a 'cafeteria' type approach in which the students can take courses of their choice, learn at their own pace, undergo additional courses and acquire more than the required credits, and adopt an interdisciplinary approach to learning. It is desirable that the HEIs move to CBCS and implement the grading system.

5. Types of Courses:

Courses in a programme may be of three kinds: Core, Elective and Foundation.

1. Core Course:-

There may be a Core Course in every semester. This is the course which is to be compulsorily studied by a student as a core requirement to complete the requirement of a programme in a said discipline of study.

2. Elective Course:-

Elective course is a course which can be chosen from a pool of papers. It may be:

- Supportive to the discipline of study
- Providing an expanded scope
- Enabling an exposure to some other discipline/domain
- Nurturing student's proficiency/skill.

An elective may be "Generic Elective" focusing on those courses which add generic proficiency to the students. An elective may be "Discipline centric" or may be chosen from an unrelated discipline. It may be called an "Open Elective."

3. Foundation Course:-

The Foundation Courses may be of two kinds: Compulsory Foundation and Elective foundation. "Compulsory Foundation" courses are the courses based upon the content that leads to Knowledge enhancement. They are mandatory for all disciplines. Elective Foundation courses are value-based and are aimed at man-making education.

6. Examination and Assessment

The HEIs are currently following various methods for examination and assessment suitable for the courses and programs as approved by their respective statutory bodies. In assessing the performance of the students in examinations, the usual approach is to award marks based on the examinations conducted at various stages (sessional, mid-term, end-semester etc.,) in a semester. Some of the HEIs convert these marks to letter grades based on absolute or relative grading system and award the grades. There is a marked variation across the colleges and universities in the number of grades, grade points, letter grades used, which creates difficulties in comparing students across the institutions. The UGC recommends the following system to be implemented in awarding the grades and CGPA under the credit based semester system.

6.1. Letter Grades and Grade Points:

- i. Two methods -relative grading or absolute grading– have been in vogue for awarding grades in a course. The relative grading is based on the distribution (usually normal distribution) of marks obtained by all the students of the course and the grades are awarded based on a cut-off marks or percentile. Under the absolute grading, the marks are converted to grades based on pre-determined class intervals. To implement the following grading system, the colleges and universities can use any one of the above methods.
- ii. The UGC recommends a 10-point grading system with the following letter grades as given below:

Table 1: Grades and Grade Points

Letter Grade	Grade Point
O (Outstanding)	10
A+(Excellent)	9
A(Very Good)	8
B+(Good)	7
B(Above Average)	6
C(Average)	5
P (Pass)	4
F(Fail)	0
Ab (Absent)	0

- iii. A student obtaining Grade F shall be considered failed and will be required to reappear in the examination.
- iv. For noncredit courses ‘Satisfactory’ or ‘Unsatisfactory’ shall be indicated instead of the letter grade and this will not be counted for the computation of SGPA/CGPA.
- v. The Universities can decide on the grade or percentage of marks required to pass in a course and also the CGPA required to qualify for a degree taking into consideration the recommendations of the statutory professional councils such as AICTE, MCI, BCI, NCTE etc.,
- vi. The statutory requirement for eligibility to enter as assistant professor in colleges and universities in the disciplines of arts, science, commerce etc., is a minimum average mark of 50% and 55% in relevant postgraduate degree respectively for reserved and general category. Hence, it is recommended that the cut-off marks for grade B shall not be less than 50% and for grade B+, it should not be less than 55% under the absolute grading system. Similarly cut-off marks shall be fixed for grade B and B+ based on the recommendation of the statutory bodies (AICTE, NCTE etc.,) of the relevant disciplines.

6.2. Fairness in Assessment :

Assessment is an integral part of system of education as it is instrumental in identifying and certifying the academic standards accomplished by a student and projecting them far and wide as an objective and impartial indicator of a student's performance. Thus, it becomes bounden duty of a University to ensure that it is carried out in fair manner. In this regard, UGC recommends the following system of checks and balances which would enable Universities effectively and fairly carry out the process of assessment and examination.

- i. In case of at least 50% of core courses offered in different programmes across the disciplines, the assessment of the theoretical component towards the end of the semester should be undertaken by external examiners from outside the university conducting examination, who may be appointed by the competent authority. In such courses, the question papers will be set as well as assessed by external examiners.
- ii. In case of the assessment of practical component of such core courses, the team of examiners should be constituted on 50 – 50 % basis. i.e. half of the examiners in the team should be invited from outside the university conducting examination.
- iii. In case of the assessment of project reports / thesis / dissertation etc. the work should be undertaken by internal as well as external examiners.

7. Computation of SGPA and CGPA

The UGC recommends the following procedure to compute the Semester Grade Point Average (SGPA) and Cumulative Grade Point Average (CGPA):

- i. The SGPA is the ratio of sum of the product of the number of credits with the grade points scored by a student in all the courses taken by a student and the sum of the number of credits of all the courses undergone by a student, i.e

$$SGPA (S_i) = \sum (C_i \times G_i) / \sum C_i$$

where C_i is the number of credits of the i th course and G_i is the grade point scored by the student in the i th course.

- ii. The CGPA is also calculated in the same manner taking into account all the courses undergone by a student over all the semesters of a programme, i.e.

$$CGPA = \sum (C_i \times S_i) / \sum C_i$$

where S_i is the SGPA of the i th semester and C_i is the total number of credits in that semester.

- iii. The SGPA and CGPA shall be rounded off to 2 decimal points and reported in the transcripts.

7. Illustration of Computation of SGPA and CGPA and Format for Transcripts

i. Computation of SGPA and CGPA

Illustration for SGPA

Course	Credit	Grade letter	Grade point	Credit Point (Credit x Grade)
Course 1	3	A	8	3 X 8 = 24
Course 2	4	B+	7	4 X 7 = 28
Course 3	3	B	6	3 X 6 = 18
Course 4	3	O	10	3 X 10 = 30
Course 5	3	C	5	3 X 5 = 15
Course 6	4	B	6	4 X 6 = 24
	20			139

Thus, SGPA = $139/20 = 6.95$

Illustration for CGPA

Semester 1	Semester 2	Semester 3	Semester 4
Credit : 20 SGPA:6.9	Credit : 22 SGPA:7.8	Credit : 25 SGPA: 5.6	Credit : 26 SGPA:6.0
Semester 5	Semester 6		
Credit : 26 SGPA:6.3	Credit : 25 SGPA: 8.0		

$$\text{Thus, CGPA} = \frac{20 \times 6.9 + 22 \times 7.8 + 25 \times 5.6 + 26 \times 6.0 + 26 \times 6.3 + 25 \times 8.0}{144} = 6.73$$

- ii. Transcript (Format): Based on the above recommendations on Letter grades, grade points and SGPA and CCPA, the HEIs may issue the transcript for each semester and a consolidated transcript indicating the performance in all semesters.

Note: 1200 hours / 40 credits per year at the level of 6.5 . Comprising 88 credits consists of (core 64, DSE 16, generic 8.) mandatory Non CGPA range from 8-14 comprising AEC 4, SEC 2/4, elective co/extra CC 2-6.

(With effect from 2024-25 batch)

**Choice based credit system applicable to Master of Science in
Anesthesia & Operation Theatre Technology
Curriculum**

1.0 REGULATIONS GOVERNING MASTERS PROGRAMS

1. TITLE OF THE PROGRAM

Master of Science degree Program in

- M.Sc. in Anesthesia and Operation theater technology (M.Sc. ATOT)

2. DURATION OF THE COURSE

The duration of the Master's Degree Program shall be for a period of two years (consists of four semesters) including submission of project work on the topic registered.

3. ELIGIBILITY FOR ADMISSION

The students who have passed in B.Sc. Anesthesia and OT technology/ B.Sc. Anesthesia technology/ B.Sc. OT technology Program from Institutions affiliated to UGC recognized Universities are eligible for admission.

Note: Candidates passing B.Sc. degree in relevant area through Correspondence shall not be eligible.

4. SELECTION CRITERIA

Seat Selection shall be based on the University conducted entrance examination provided received applications are more than the seats (minimum 2-3 fold) available otherwise it is based on the merit. The merit in the qualifying examination followed interview by the selection committee.

5. MEDIUM OF INSTRUCTION

English shall be the medium of instruction for the subjects of study as well as for the Examination.

6. COURSE OF STUDY

The Program of the study shall include 4 semester, and to be pursued on full time basis.

Note: Students shall be posted to clinical/department as per the university direction.

7. ATTENDANCE

Every candidate should have attended at least 75% of the total number of classes conducted in a semester from the date of commencement of the semester to the last working day as per Academic calendar notified by University in each of the subject/s prescribed for that year, separately, in theory and practical. Only such candidates are eligible to appear for the University examinations in their first attempt. A candidate lacking the prescribed percentage of attendance in any subject either in Theory or Practical will not be eligible to appear for the University Examination in that particular subject.

Note: No candidate shall join any other course of study or appear for any other examination conducted by this university or any other university in India or abroad during the period of study on regular mode.

8. MONITORING PROGRESS OF STUDY (WORK DIARY/RECORD BOOK)

Every candidate shall attend/present in symposia, seminars, conferences, journal club & lectures during each semester as prescribed by the department and not absent him/her from work without valid reasons. Every candidate shall maintain a work diary and record of his/her participation in the training Program. Special mention may be made of the presentations by the candidate as well as details of laboratory work conducted by the candidate. The work diary and record shall be scrutinized and certified by the Department.

9. INTERNAL ASSESSMENT (IA)

Institutions running the program /course shall conduct two tests each in every semester for Internal Assessment as per the University prescribed calendar of events. The marks obtained in these tests will be considered for internal assessment. Average of the two marks will be computed for internal assessment and shall be sent to the University as per the notification issued by Controller of examination before each semester end examination. Records and marks obtained in tests will be maintained by the Department / College and made available to the University. Marks of periodic tests shall be displayed on the Departmental notice board.

Note: If a candidate is absent for the test due to genuine and satisfactory reason, such a candidate may be given a re-test within a fortnight.

The distribution of marks for internal assessment for subjects of study in first year and second year are shown in Tables

Distribution of Internal Assessment marks

Example: Course: Master's program: Anesthesia & Operation Theatre Technology

SL. No.	Subject	Theory/ paper	Practical / paper
01	Theory Paper-1 Paper title:	20	10
02	Theory paper-II Paper title:	20	10
03	Theory paper-III Paper title:	20	10

NOTE: A student must secure at least 50% of total marks fixed for internal assessment for a particular subject in order to be eligible to appear in university examination in that subject. The internal assessment marks **will be added** to the marks obtained in the University (theory & Practical) examination for declaration of pass.

10. PROJECT / DISSERTATION WORK

Candidate pursuing M.Sc. program in the selected specialization i.e. AT&OT is required to carry out dissertation work on a chosen topic in the area of specialization under the guidance of a post graduate teacher after successful completion of first year of the course (1st & 2nd semester). However each candidate has to finalize project title and proposal in second semester, whereas he/she has to obtain Ethical clearance certificate for the project work in the second semester. Whereas, the candidate has to commence the project work during the third semester and should complete in the fourth semester. The completed project and its manuscript for publication should be kept ready before last date for project/ dissertation report submission. Project report shall be submitted to the University through Head of the Department duly certified by the Guide and student signature after plagiarism check.

The project/ dissertation work is aimed to kindle the research instincts among the students. The work should comprise adequate exposure to various research methodologies and techniques. This includes identification of problem, formulation of hypothesis, search and review of literature, getting acquainted with recent advances, collection of data, interpretation of results and drawing conclusions. University shall arrange for evaluation of the project work report both internally and externally and shall have to obtain 50% of the total marks allotted for the project/ dissertation work including viva voce (80 marks for project and 20 marks for viva voce as per Notification No SDUAHER /KLR /ADMN /2732/2020-21 dated 29th March 2021)

The project/ dissertation report shall have the following components in the template.

- Certificates
- Structured Abstract
- Introduction /background
- Review of literature
- Aims and objectives
- Materials and methods
- Results
- Discussion
- Summary
- Conclusion
- Scope of the future research
- References
- Tables / Annexure

The project/ dissertation work shall not be less than 50 pages and shall not exceed 100 pages excluding references, tables, questionnaires and other annexure. It should be neatly typed in double line spacing on one side of paper (A4 size, 8.27" x 11.69") and bound properly. A declaration by the candidate to the effect that the work was done by him/her and a certificate of bonafide on the research work have to be affixed in the beginning of the project/ dissertation report. Five copies of project report/ dissertation should be submitted to the University through proper channel along with a soft copy (CD) as per the calendar of events.

11. GUIDE

The eligibility academic qualification and teaching experience required for recognition as Guides by the SDUAHER are:

a) ELIGIBILITY TO BE A GUIDE

Shall be a full time teacher in the college or institution where he or she is working.

b) Academic qualification and teaching/professional experience for each M.Sc.

branch

1. Ph.D. in AT&OT

or

2. M.D. in Anesthesia

or

3 M.Sc. in AT&OT with five years of teaching/professional experience after the postgraduate qualification in a teaching in medical /Allied Health institution.

c) Age: The age of guide shall not exceed 65 years.

d) STUDENT: GUIDE RATIO

3:1. as a guide or co-guide shall supervise project work of not more than five students per academic year.

12. SCHEDULE OF EXAMINATION

- a. The University conducts four semester examinations during Program period. Each year consists of two semesters; each semester consists of 90-100 working days. Examination should get over during the period of six months of a semester.
- b. The number of examiners for practical and viva-voce shall be two, comprising of one internal and one external examiner appointed by the University.
- c. Submission of HoD certified practical record book by a candidate shall be considered for award of internal assessment marks, and is prerequisite before attending practical examinations.

- d. A failed candidate needs to appear for both theory and practical examination in the failed subject/s only in the subsequent examination. Where each course has theory and practical components. However, in case of courses having common practical, he/she failed in theory and passed in practical can only appear for the theory but not practical again

13. SCHEME OF EXAMINATION:

University examination:

There shall be four University semester end examinations during program duration. Students with backlogs subject are allowed to appear in odd and even semester examination when notified by Examination section (Notification no. SDUAHER/KLR/ADMN/2732/2020-21 dated. 29.03.2021)

Eligibility to appear in University examination

A candidate shall be eligible to appear for examination at the end of each semester in the Academic year from the commencement of the course. He/she should have satisfactorily completed the prescribed course fulfilment with prescribed attendance and internal assessment. Whereas, he/she must appear for the semester end examination to progress to the next semester irrespective of the results.

Note: submission of project in fourth semester is mandatory to take up examinations.

Written examination: Written examination shall consist of theory paper for three hours duration. Each paper shall carry 100 marks plus 20 IA marks and 30 marks viva voce examination added to theory. Therefore total is 150

Practical examination: There shall be practical examination at the end of each semester in first year and second year subjects. Each practical examination carries 50 marks comprising 40 practical and 10 marks for IA along with the viva voce examination, marks will be added to the theory.

Viva- voce: This shall aim at assessing depth of knowledge, logical reasoning, confidence and oral communication skills. Both internal and external examiners shall conduct the viva-voce. Total marks shall be 30.

Presentation of dissertation and discussion on it be done during the viva-voce. Both internal

and external examiners shall conduct the practical and project viva- voce examination. The marks distribution is 80 projects / dissertation and 20 marks viva voce of project.

14. CRITERIA FOR PASS.

Pass criteria in a subject

To consider as pass in University semester end examination, candidate has to appear in all the papers prescribed in that semester and has to fulfil pass criteria. For declaration of pass in any subject in the University examination, the candidates shall pass both in theory and practical examinations components separately as stipulated below; Theory 50%, which includes marks obtained in written examination, internal assessment and viva voce. Practical 50% which includes marks obtained in practical examination, practical Internal assessment. A candidate has to pass in theory and practical separately to pass in a subject in the University examination. A failed candidate is required to appear for both theory and practical in the subsequent examination in that subject.

15. CARRY OVER

A Candidate who has admitted to postgraduate programs under the faculty of Allied health and basic sciences shall be permitted to carry over the backlog subject till the completion of duration of the programme. However, he/she has to appear for the previous examination to get the benefit of carryover. Candidate shall be declared passed in the programme only after successfully passing all the subject/ courses of all semesters of the post graduate programme and is eligible to receive degree in convocation to be held subsequent to the examination.

16 DECLARATIONS OF RESULTS

PASS:

Minimum marks for passing examination in theory is 50% (theory +viva voce+ internals assessment)

Practical is 50% (Practical + Internal assessment) Dissertation /Project report 50% (project + project viva voce)

FIRST CLASS:

The student securing 60% marks or above aggregate in all subjects in a single attempt shall be declared to have passed in the First class.

PDISTINCTION:

A candidate securing aggregate marks of 75% or more in the first attempt shall be declared as passed with distinction. Distinction will not be awarded for candidates passing the examination with more than one attempt.

17. MAXIMUM DURATION FOR COMPLETION OF COURSE

The maximum duration of the programme shall be double the duration of the program from the date of admission. The candidate failing to complete the course within four years from the date of admission will be declared unfit to continue and will be discharged from the programme.

ELIGIBILITY FOR AWARD OF DEGREE

A candidate shall have passed in all the subjects of semester I –IV to be eligible for award of degree.

18. REQUIREMENT OF MAN POWER AND INFRASTRUCTURE

1. Basic Infrastructure includes, Institute should have its own Hospital with full-fledged Anesthesia and OT facility to fulfill the minimum work load criteria.

Teaching staff requirement for each speciality

- 1) Professor – (01)
- 2.) Associate Professor (01)
- 3). Assistant Professor (01)
- 4). Demonstrator – (02)

M.Sc. ANAESTHESIA & OPERATION THEATRE TECHNOLOGY

Program Structure (CBCS scheme)

Semester	Course code	Core courses (1-19)	Discipline specific elective (DSE) (Non-core)	Ability enhancement Compulsory Course (AEC)	Skill enhancement courses (SEC)	Generic elective (GEC)	Foundation course
I	Core-1	Review of Applied Sciences	Biomedical waste management and infection control	-	-	GEC-1 GEC-2 GEC-3	-
	Core-2	Anaesthetic Equipments & Procedures					
	Core-3	Pharmacology of Anaesthetics					
II	Core-1	Advanced Anaesthesia Techniques	Basic Medical Law and Ethics	-	-	GEC-1 GEC-2 GEC-3	-
	Core-2	Applied Surgical Technology					
	Core-3	Biostatistics & Research Methodology					
III	Core-1	Sub Speciality Surgical Techniques	Cyber Security	-	-	GEC-1 GEC-2 GEC-3	-
	Core-2	Health Care Education and Management Technology					
IV	Core-1	Sub Speciality Anaesthesia & Technique	Disaster risk Management and climate control	-	-	GEC-1 GEC-2 GEC-3	-
	Core-2	Anaesthesia & Critical Care					
	Core-3	Project					

FIRST SEMESTER M.Sc. IN ANAESTHESIA & OPERATION THEATRE TECHNOLOGY
DISTRIBUTION OF TEACHING HOURS & CREDITS SEMESTER WISE

Sl. No.	Course Code	Category	Course Title	Theory		Practical	
				Hours / Sem	Credits	Hours / Sem	Credits
1	A101	Core Paper – I	Review of Applied Sciences	60	4	-	-
2	A102	Core Paper – II	Anaesthetic Equipment & Procedures	60	4	120	04
3	A103	Core Paper – III	Pharmacology of Anaesthetics	60	4	-	-
4	DSEC-01	Discipline specific elective course	Biomedical waste management and infection control	45	3	-	-
5	SEC-01	Skill Enhancement Course	Digital Health Technology	30	2	-	-
6	Soft Core - GE	Generic elective course (to choose any one)	Basics of Hospital Administration	50	3	-	-
			Lifestyle disorders				
			Basic computer applications				
TOTAL				305	20	120	04

First Semester M.Sc. in Anaesthesia & Operation Theatre Technology
Distribution of Marks Semester Wise

Sl. No.	Course Code	Category	Course Title	Theory Marks				Practical Marks			TOTAL
				Theory	IA	Viva -Voce	Sub Total	Practical	IA	Sub Total	
1	A101	Core Paper – I	Review of Applied Sciences	100	20	-	120	-	-		120
2	A102	Core Paper – II	Anaesthetic Equipment & Procedures	100	20	30	150	40	10	50	200
3	A103	Core Paper – III	Pharmacology of Anaesthetics	100	20	-	120	-	-		120
4	DSEC-01	Discipline specific elective course	Biomedical waste management and infection control	40	-	-	40	-	-	-	40
5	SEC-01	Skill Enhancement Course	Digital Health Technology	40	-	-	40	-	-	-	40
6	Soft Core - GE	Generic elective course (to choose any one)	Basics of Hospital Administration	40	-	-	40	-	-	-	40
			Lifestyle disorders								
			Basic computer applications								
TOTAL				420	60	30	510	40	10	50	560

SECOND SEMESTER M.Sc. IN ANAESTHESIA & OPERATION THEATRE TECHNOLOGY
DISTRIBUTION OF TEACHING HOURS & CREDITS SEMESTER WISE

Sl. No.	Course Code	Category	Course Title	Theory		Practical	
				Hours / Sem	Credits	Hours / Sem	Credits
1	B101	Core Paper – I	Advanced Anaesthesia Techniques	60	4	140	3
2	B102	Core Paper – II	Applied Surgical Technology	60	4	140	3
3	B103	Core Paper – III	Research Methodology & Biostatistics	60	4	-	-
4	DSEC-01	Discipline specific elective course	Basic Medical Law and Ethics	40	2	-	-
5	AEC-1	Ability Enhancement Course	The Constitution & Human Rights	40	2	-	-
6	GEC-1	Generic elective course (to choose any one)	GEC-1 Basic Life Support	40	2	-	-
			GEC-02 English for communication				
			GEC-03 Basics of yoga and practice				
TOTAL				300	18	280	06

Second Semester M.Sc. in Anaesthesia & Operation Theatre Technology
Distribution of Marks Semester Wise

Sl. No.	Course Code	Category	Course Title	Theory Marks				Practical Marks			TOTAL
				Theory	IA	Viva -Voce	Sub Total	Practical	IA	Sub Total	
1	C101	Core Paper – I	Advanced Anaesthesia Techniques	100	20	30	150	40	10	50	200
2	C102	Core Paper – II	Applied Surgical Technology	100	20	30	150	40	10	50	200
3	C103	Core Paper – III	Research Methodology & Biostatistics	100	20	30	150	-	-	-	150
4	DSEC-01	Discipline specific elective course	Basic Medical Law and Ethics	40	-	-	40	-	-	-	40
5	AEC-1	Ability Enhancement Course	The Constitution & Human Rights	40	-	-	40	-	-	-	40
6	GEC-1	Generic elective course (to choose any one)	GEC-1 Basic Life Support	40	-	-	40	-	-	-	40
			GEC-02 English for communication								
			GEC-03 Basics of yoga and practice								
TOTAL				420	60	90	570	80	20	100	670

THIRD SEMESTER M.Sc. IN ANAESTHESIA & OPERATION THEATRE TECHNOLOGY
DISTRIBUTION OF TEACHING HOURS & CREDITS SEMESTER WISE

Sl. No.	Course Code	Category	Course Title	Theory		Practical	
				Hours / Sem	Credits	Hours / Sem	Credits
1	C101	Core Paper – I	Speciality Surgical Techniques	60	4	40	2
2	C102	Core Paper – II	Health Care Education and Management Technology	60	4	-	-
3		Postings	Clinical Postings	-	-	40	2
4	AEC	Ability Enhancement Course	Cyber Security	40	2	-	-
5	Soft Core	Generic elective course (to choose any one)	Apiculture	40	2	-	-
			Scientific writing				
			Vegetative propagation				
TOTAL				200	12	80	4

Third Semester M.Sc. in Anaesthesia & Operation Theatre Technology
Distribution of Marks Semester Wise

Sl. No.	Course Code	Category	Course Title	Theory Marks				Practical Marks			TOTAL
				Theory	IA	Viva -Voce	Sub Total	Practical	IA	Sub Total	
1	C101	Core Paper – I	Sub Speciality Surgical Techniques	100	20	30	150	40	10	50	200
2	C102	Core Paper – II	Health Care Education and Management Technology	100	20	30	150	-	-	-	150
3		Postings	Clinical Postings	40	-	-	40	-	-	-	40
4		DSE- 1	Cyber Security	40	-	-	40	-	-	-	40
5	Soft Core	Generic elective course (to choose any one)	Apiculture	40	-	-	40	-	-	-	40
			Scientific writing								
			Vegetative propagation								
TOTAL				320	40	60	420	40	10	50	470

Note: Project work commencement

FOURTH SEMESTER M.Sc. IN ANAESTHESIA & OPERATION THEATRE TECHNOLOGY
DISTRIBUTION OF TEACHING HOURS & CREDITS SEMESTER WISE

Sl. No.	Course Code	Category	Course Title	Theory		Practical	
				Hours / Sem	Credits	Hours / Sem	Credits
1	D101	Core Paper – I	Speciality Anaesthesia& Technique	60	4	120	4
2	D102	Core Paper – II	Anaesthesia& Critical Care	60	4	120	4
3		Project / Dissertation	Project / Dissertation	-	-	-	-
4	DSEC-01	Discipline specific elective course	Disaster risk management and climate control	40	2	-	-
5	GE	Generic elective course (to choose any one)	Nutrition And Health	40	2	-	-
			Mushroom cultivation				
			Industrial Exposer for ATOT Instrumentation				
TOTAL				200	10	240	8

SYLLABUS SEMESTER I

REVIEW OF APPLIED SCIENCES

Theory: 60 hours

COURSE OUTCOMES:

At the end of the first semester students should be able to

- CO1:** Discuss the anatomical aspects of respiratory and cardiovascular system.
- CO2:** Describe the Hepatobiliary system and tissue perfusion.
- CO3:** Record and interpret the lung function tests.
- CO4:** Explain the homeostasis and haemostasis
- CO5:** Describe the pharmacology of Adrenergic and Cholinergic drugs and their blockers.
- CO6:** Explain the pharmacology of skeletal muscle relaxants and reversal agents.
- CO7:** Understand common medical diseases like, Ischemic Heart Disease, COPD, Chronic liver diseases.
- CO8:** Explain principles of management of shock, sepsis and common medical emergencies.

Unit-I: Applied Anatomy

12 hours

- Broncho pulmonary segments and alveoli
- Systemic and pulmonary circulation
- Coronary circulation
- Conducting system of the heart
- Neuro muscular junction
- Hepatobiliary system
- Blood pressure & tissue perfusion

Unit- II: Applied Physiology

11 hours

- Respiratory physiology-
 - Spirometry
 - Lung function tests
 - Oxygen transport & CO₂ transport
- Coagulation and its disorders
- Platelets & its disorders

- Acid base physiology
- Hepatobiliary physiology

Unit- III: Pharmacology

14 hours

- Drugs acting on autonomic nervous system
 - Adrenergic drugs & blockers
 - Cholinergic drugs & blockers
- Skeletal muscle relaxants
- Reversal of neuromuscular blockade

Unit-IV: Medicine

24 hours

- Ischemic heart disease
 - Etiopathology
 - Clinical features
 - Investigations
 - Management
 - Complications
- Special emphasis on
 - ECG
 - TMT
 - Echocardiography
- Shock
 - Definition
 - Types
 - Pathophysiology
 - Treatment
 - Details of each type
 - Inotropes
 - Fluids and electrolytes
- COPD& bronchial asthma
 - Pathophysiology
 - Clinical features
 - Smoking and its implications
 - Treatment
 - Lung Function Tests
- Chronic liver disease/failure
 - Hepatitis – Types & treatment
 - Cirrhosis: Pathophysiology and complications
 - Investigations: Liver function tests
 - Obstructive jaundice

There shall be no practical examination

Reference books:

1. Essentials of medical pharmacology (Latest edition) – KD Tripathi
2. Textbook of Pharmacology for Dental and Allied Health Sciences (Latest edition)- Padmaja Uday Kumar
3. Essentials of internal medicine (Latest edition)- Ardhendu Sinha Ray, Abhishek Sinha Ray
4. Text book of Medical Physiology – Indu Khurana
5. Manipal manual of Anatomy for Allied Health Sciences Courses- Sampath Madhyastha
6. BD Chaurasia's Human Anatomy – volume1

SEMESTER I

ANAESTHETIC EQUIPMENTS & PROCEDURES

Theory: 60 hours

Objectives:

At the end of the first semester students should be able to

1. Check adequacy of gas supplies, indent for required supplies, and ensure safe storage and commissioning of gas supplies.
2. Perform routine and periodic checks of
 - a. Anaesthesia workstation
 - b. Gases supply system
 - c. Scavenging system
3. Trouble shoot problems in gas supply, anaesthesia workstation and scavenging system.
4. Ensure availability of standard monitors and their proper functioning. Able to trouble shoot minor complications. Periodic check and suitability of monitoring. Competency in basic interpretation of monitored values.

COURSE OUTCOMES:

At the end of the course students will be able to...

CO1: Describe the modern integrated anaesthesia workstation.

CO2: Describe and operate the anaesthetic monitoring devices.

CO3: Prepare for management of difficult airway under the leadership of anaesthesiologists.

CO4: Set up for the haemodynamic monitoring and troubleshoot its errors.

CO5: Practice the maintenance of anaesthetic gadgets.

CO6: Discuss the role of simulation in anaesthesia and train future students in it.

Unit-1

15 hours

- Medical Gases and Distribution System
 - Medical gas supply, storage and safety
- The modern integrated Anaesthesia workstation
 - Anaesthesia machine & its components
 - Fail safe system
 - Safety check of anaesthesia machine
 - Scavenger system

Unit-2

15 hours

- Monitoring Equipment
 - Respiratory gas monitoring and minimum alveolar concentration
 - Equipments to measure depth of anaesthesia
 - Bispectral index
 - Entropy
 - Neuromuscular block monitoring equipments
 - Cardiac output monitors
 - Equipment for central neuraxial and regional blocks
 - Needles
 - Catheters
 - Nerve locators
 - Ultrasound device
 - Anesthesia equipment for magnetic resonance imaging
 - Equipment for anaesthesia in remote locations
 - How to Interpret X-rays, CT Scan, and MRI in clinical anaesthesia practice

Unit-3

15 hours

- Airway gadgets and their accessories
 - Surgical airway equipments
 - Percutaneous airway equipments
 - Optical laryngoscopes
 - Airway introducers
 - Alternative to intubation
- Gadgets for difficult airway

Unit-4

15 hours

- Hemodynamic monitoring
 - Pressure transducers: resonance
 - Damping
 - Invasive & non-invasive blood pressure measurement
 - Oscillometry
- Pre-use check of anaesthesia equipments
- Sterilization and maintenance of anaesthesia equipments
- Simulation in anaesthesia

References books:

1. A practical approach to anaesthesia equipment- Jerry A Dorsch & Susan EDorsch
2. Anaesthesia equipment simplified- Gregory Rose & J Thomas Mclarney
3. Understanding anaesthetic equipments and procedures A practical approach
Dwarakadas K Baheti & Vandana V Laheri

SEMESTER I
PHARMACOLOGY OF ANAESTHETICS
Theory: 60 hours

Objectives:

At the end of the semester students should be able to

1. Preparation, strength, dose, dilution and storage of commonly used drugs during anaesthesia and resuscitation.
2. Common indications and main pharmacological effects of drugs, fluid and blood used in anaesthesia.
3. Common side effects of the drugs.
4. Identification and immediate treatment of common side effects.

COURSE OUTCOMES:

At the end of the course students will be able to...

CO1: Explain the pharmacology of core drugs used in anaesthesia.

CO2: Know the preparation, strength, dose, dilution and storage of drugs used in anaesthesia.

CO3: Identify the adverse drug reactions and its immediate management.

CO4: Understand fluid management and blood transfusion.

Unit-1

15 hours

- Core drugs in anaesthetic practice
 - General anaesthetic agents
 - Intravenous anaesthetic agents and opioids
 - Volatile anaesthetic agents
 - Local anaesthetics
 - Muscle relaxants and anticholinesterases
 - Benzodiazepines
 - Analgesics

Unit-2

15 hours

- Cardiovascular drugs
 - Sympathomimetics
 - Anti-arrhythmics
 - Vasodilators
 - Antihypertensives
- Anti-inflammatory drugs
- Anticoagulants

Unit-3

15 hours

- Other important drugs
 - Central nervous system
 - Antiemetics and related drugs
 - Electrolytes
 - Diuretics
 - Antimicrobials
 - Drugs affecting coagulation
 - Drugs used in Diabetes
 - Corticosteroids and other hormone preparations

Unit-4

15 hours

- Fluid therapy and transfusion
 - Distribution of body fluids
 - Crystalloids and colloids
 - Fluid infusion and effect on body fluid compartments
 - Blood components
 - Blood transfusion
 - Transfusion hazards

References books:

1. Comparative Pharmacology for Anaesthetist: Armeen Ahmed, Vipin Dhama, Nitin Garg
2. A Primer of Anesthesia- Rajeshwari Subramaniam
3. Drugs in anaesthesia & intensive care- Edward Scarth& Susan Smith

SEMESTER I

BIOMEDICAL WASTE MANAGEMENT (DSE-01)

Course Objective:

The student should be made to:

- Understand the hazardous materials used in hospital and its impact on health
- Understand various waste disposal procedures and management.

Unit I

For complete syllabus and results, class timetable and more pls download iStudy. Its a light weight, easy to use, no images, no pdfs platform to make students life easier.

Unit II

Biomedical Waste Management

Biomedical Waste Management : Types of wastes, major and minor sources of biomedical waste, Categories and classification of biomedical waste, hazard of biomedical waste, need for disposal of biomedical waste, waste minimization, waste segregation and labeling, waste handling, collection, storage and transportation, treatment and disposal.

Unit III

Hazardous Materials

Hazardous Materials : Hazardous Substance Safety, OSHA Hazard Communication Standard, DOT Hazardous Material Regulations, Healthcare Hazardous Materials, Medical Gas Systems, Hazardous Waste Operations and Emergency Response Standard, Respiratory Protection.

Unit IV

For complete syllabus and results, class timetable and more pls download iStudy. Its a light weight, easy to use, no images, no pdfs platform to make students life easier.

Unit V

Infection Control, Prevention and Patient Safety

Healthcare Immunizations, Centers for Disease Control and Prevention, Disinfectants, Sterilants, and Antiseptics, OSHA Bloodborne Pathogens Standard, Tuberculosis, Healthcare Opportunistic Infections, Medical Waste. Patient Safety: An Organizational Function, Errors and Adverse Events, Safety Cultures, Patient-Centered Healthcare, Quality Improvement Tools and Strategies, Healthcare-Associated Infections, Medication Safety.

Unit VI

Infection control methods

Course Outcome:

At the end of the course, the student should be able to

- Analyse various hazards, accidents and its control
- Design waste disposal procedures for different bio wastes
- Categories different bio wastes based on its properties
- Design different safety facility in hospitals
- Propose various regulations and safety norms

Text Books:

1. Tweedy, James T., Healthcare hazard control and safety management-CRC Press_Taylor and Francis (2014).
2. Anantpreet Singh, Sukhjit Kaur, Biomedical Waste Disposal, Jaypee Brothers Medical Publishers (P) Ltd (2012).

References:

1. R.C. Goyal, Hospital Administration and Human Resource Management, PHI – Fourth Edition, 2006
2. V.J. Landrum, Medical Waste Management and disposal, Elsevier, 1991

SEMESTER II

ADVANCED ANAESTHESIA TECHNIQUES

Theory: 60 hours

Objectives:

At the end of the second semester student is expected to understand

1. Common procedures performed in anaesthesia, intensive care unit, and emergency department.
2. Physics and technology involved in the functioning of special equipment used to aid the procedures.
3. Using the special equipment and trouble shoot

COURSE OUTCOMES:

At the end of the course students will be able to...

CO1: Explain the different techniques of regional anaesthesia.

CO2: Recognize modern technologies in anaesthesia practice.

CO3: Describe the technique of general anaesthesia and management of its complications.

CO4: Understand and apply the guidelines and protocols in anaesthesia.

CO5: Discuss the anaesthetic emergencies and their management.

CO6: Understand the deliver of anaesthesia for emergency surgery.

Unit- I

15 hours

- Vascular cannulation
- Central neuraxial blockade
 - Potential benefits of central neuraxial block
 - Mechanism of action, spread, uptake & elimination
 - Ultrasound for central neuraxial blockade
- Peripheral nerve blocks
- Post anaesthesia care
- Ultrasound in ICU
 - FAST
 - Volume assessment
 - Thoracic ultrasound

Unit- II

15 hours

- Review of modern technology in anaesthesia
 - Ultrasound
 - Fiberoptics
 - X-ray
- Smart Pumps and Computer-Controlled Drug Infusion Delivery
- Anaesthesia information management systems
- Clinical information systems in critical care
- Decision support system

Unit- III

15 hours

- General anaesthesia
 - Types and techniques
 - Awareness during anaesthesia
 - Complications
 - The long term effects of general anaesthesia
 - Management of general anaesthesia
 - Anaesthesia and children

Unit- IV

15 hours

- Emergency anaesthesia guidelines
 - Incidence and risk factor
- Anaesthetic emergencies
 - Airway emergencies
 - Anaphylaxis
 - Local anaesthetic toxicity
 - Malignant hyperthermia
- The principles and conduct of anaesthesia for emergency surgery
 - Choice of anaesthetic technique
 - Management and protection of the airway including pulmonary aspiration
 - The rapid sequence induction: evolution over time
 - Management of ventilation
 - Maintenance of anaesthesia

References books:

1. Text book of anaesthesia for post graduates- T.K. Agasthi
2. Step by step practical aspects of emergency anaesthesia- Arun Kumar Paul
3. Anaesthesiology updates for postgraduates- Sampa Dutta Gupta

SEMESTER II

APPLIED SURGICAL TECHNOLOGY

Theory: 60 hours

Objectives:

At the end of the second semester students should understand

1. The surgical diagnosis and procedure to
 - a) Prepare the operation theatre including specific monitors and equipment.
 - b) Follow appropriate measures to protect self and the patient while transferring, intraoperative and postoperative period.
 - c) Manage the equipments required

COURSE OUTCOMES:

At the end of the course students will be able to ...

CO1: Develop a surgical diagnosis

CO2: Demonstrate adequate knowledge of asepsis and aseptic technique, presurgical preparation of patient, surgical infection and prevention, universal precautions, surgical incisions and homeostasis

CO3: Discuss decontamination, debridement and edema control, nutrition, suture techniques, anastomoses and abdominal drainage and surgical and perioperative consideration

CO4: Demonstrate adequate knowledge of patient safety and surgical instrumentation.

Unit-1

15 hours

- Developing a surgical diagnosis
 - Complete and thorough history
 - Physical Examination
 - Radiographic findings
 - Laboratory investigations
 - Record keeping
 - Differential diagnosis
- Basic necessities for surgery

Unit-2

15 hours

- Aseptic technique
 - Medical asepsis
 - Surgical asepsis
- Pre surgical preparation of the patient
- Surgical Infection
 - Factors for wound infection
 - Management of abscess
 - Antibiotic prophylaxis
- Infection prevention and universal precautions
- Surgical Incisions
- Hemostasis
 - Means of promoting wound Hemostasis
 - Dead space management

Unit-3

15 hours

- Decontamination and debridement
- Edema control
- Patient general health and nutrition
- Wound management
 - Prevention of wound infections
- Suture techniques
- Anastomoses
- Abdominal drainage
- Basic surgical and perioperative considerations
 - Antibiotic prophylaxis
 - Prevention of infection in postoperative period

Unit-4

15 hours

- Patient Safety
 - Admission Procedure
 - Procedure for Safely Transferring the Patient to the Operating Table.
 - Positioning
- Surgical Instrumentation
 - Functioning
 - Uses
 - Maintenance
 - Risks and precautions
 - Electrocautery
 - Harmonica
 - Lasers
 - Surgical bio-microscopes
 - X-ray
 - Endoscopes

Reference books:

1. Pocket guide to the Operating Room- Jaypee Latest edition

SEMESTER II

RESEARCH METHODOLOGY AND BIOSTATISTICS

Theory: 60 hours

Objectives:

At the end of the semester students should be able to

1. Understand and apply statistical methods for the design of biomedical research and analysis of biomedical research data;
2. Learn to participate in a research team in study design, data coordination and management, and statistical analysis and reporting of study results

COURSE OUTCOMES:

At the end of the course students will be able to...

CO1: Identify different types of data and ways of presenting the data

CO2: Describe various measures of central tendency and dispersion

CO3: Understand the basic concept of probability distributions- Normal distribution, Binomial distribution, Poisson distribution

CO4: Identify and apply different sampling techniques

CO5: Differentiate structure of research protocol and thesis

CO6: Calculate the sample size for estimating means, proportions, testing of means, proportions between two groups

CO7: Identify different statistical tests and when to apply it

Unit 1:

15 hours

Introduction

Introduction to biostatistics & research methodology, types of variables & scales of measurements, measure of central tendency & dispersion, rate, ratio, proportion, incidence & prevalence

Unit 2:**10 hours****Sampling**

Random and non-random sampling, Different sampling techniques – simple random, stratified, systematic, cluster & multi-stage. Sampling and non-sampling errors and methods of minimizing these errors

Unit 3:**10 hours**

Sampling distribution. Statistics and parameter. Standard error. Basic probability distributions- Normal, Poisson and Binomial distributions with their application in biological sciences. Skewness & Kurtosis.

Unit 4:**15 hours****Tests of significance**

Basics of testing of hypothesis – Null & Alternative hypothesis, type I and type II errors, level of significance & power of the tests, p value. Different Parametric Tests – T test (paired & unpaired), & Test for proportion, One way analysis of variance. Repeated measures analysis of variance. Non-Parametric Tests of significance Chi square test– Mann

– Whitney U Test, Wilcoxon Test, Kruskal – Wallis Analysis of variance by ranks, Friedman's test.

Unit 5:**10 hours****Correlation and regression**

Linear correlation by Karl Pearson and Rank order correlation due to Spearman. Testing the significance of correlation. Linear and Multiple regression.

Unit 6:**4 hours****Sample size determination**

General concept. Sample size for estimating means and proportion, testing of difference in means and proportions of two groups.

Unit 7:**8 hours****Study designs**

Descriptive epidemiological methods – case series analysis and prevalence studies . Analytical epidemiological methods – case control and cohort studies. Clinical trials / intervention studies, odds ratio and relative risk, stratified analysis

Unit 8:**6 hours****Multivariate analysis**

Concept of multivariate analysis, introduction to logistic regression and survival analysis

Unit 9:**4 hours**

Reliability and validity of diagnostic tests

Unit 10:**8 hours****Scientific documentations**

Structure of research protocols, structure of thesis/research report, formats of reporting inscientific journals. Systematic review and meta analysis.

References books:

1. ABC of research methodology and applied biostatistics by MN Parick & NithyaGogtay.
2. Introduction to biostatistics and research methods by P.S.S. Sundar Rao & J. Richard
3. Research methodology & Biostatistics- A comprehensive guide for health care professionals-Suresh K. Sharma
4. Guide to research methodology and Biostatistics-KMK Masthan

DSE – 02 Medical Law and Ethics

40 hours

Basic Medical Law and Ethics.

Introduction to medical Law and ethics : Introduction to Code of conduct, Basic principles of medical ethics Confidentiality, Malpractice and negligence - Rational and irrational drug therapy, Autonomy and informed consent - Right of patients, Care of the terminally ill- Euthanasia,

Organ transplantation, Medico legal aspects of medical records –Medico legal case and type- Records and document related to MLC - ownership of medical records – Confidentiality Privilege communication - Release of medical information - Unauthorized disclosure - retention of medical records. Professional Indemnity insurance policy, development of standardized protocol to avoid near miss or sentinel events.

Obtaining an informed consent. Consideration of medical ethics – Doctors, patient and profession.

SEMESTER III
SUB SPECIALITY SURGICAL TECHNIQUES

Theory: 60 hours

Objectives:

At the end of the third semester students should understand

1. Various sub speciality surgical procedures.
2. Different requirement for each of these procedures.
3. Preparation of patient, equipment, operation theatre for these surgical procedures

COURSE OUTCOMES:

At the end of the course students will be able to...

CO1: Discuss principles of laparoscopic and robotic surgery.

CO2: Assess and discuss management of neck and spine trauma.

CO3: Diagnose and manage facial trauma, plastic and reconstructive surgery and elective orthopaedics

CO4: Discuss elective neurosurgery and cardiac surgery

CO5: Discuss thoracic pathology, vascular surgery and organ transplantation

Unit- I

15 hours

- Principles of laparoscopic surgery
 - Advantages and disadvantages
 - Safety issues and indications
 - Postoperative care
- Principles of robotic surgery
 - Advantages and disadvantages
 - Safety issues and indications
 - Postoperative care
- Neck and spine
 - The accurate assessment of spinal cord injuries
 - The basic management of spinal trauma and major pitfalls

Unit - II

15 hours

- Trauma to the face and mouth
 - Classification of facial fractures
 - Diagnosis and management of fractures
- Plastic and reconstructive surgery
 - The spectrum of plastic surgical techniques
 - The various skin grafts
 - The principles and use of flaps
 - Plastic surgery to manage difficult and complex tissue loss
- Elective orthopaedics
 - Upper limb – pathology, assessment and management
 - Hip and knee
 - Foot and ankle
 - Paediatric orthopaedics

Unit- III

15 hours

- Elective neurosurgery
 - Head injury
 - Investigation and treatment for intracranial infection
 - Treatment for hydrocephalus
 - Management of intracranial haemorrhage
 - Management of epilepsy
 - Understanding the principles involved in brain death
- Cardiac surgery
 - The role of investigation in planning of surgery
 - The management of coronary heart disease
 - The role of surgery in valvular heart disease
 - Special role of surgery in congenital heart disease
 - The management of aortic vascular and pericardial disease

Unit- IV

15 hours

- The thorax
 - Investigation of chest pathology
 - Surgical oncology as applied to chest surgery
- Vascular surgery
 - Investigation for vascular surgery
 - Management technique of vascular surgery
 - Direct repair by stenting
 - Endarterectomy
 - Bypass

- Organ Transplantation
 - What is organ transplantation
 - The transplant process
 - Timeline of medical and legal advances in organ transplantation
 - Cadaveric organ donation
 - Living organ donation
 - Alternative organs
 - The impact of transplantation

References books:

1. Bailey & Loves Short Textbook of Surgery
2. Text book of surgery – S. Das
3. Manipal manual of surgery-K. Rajgopal Shenoy & Anitha Shenoy
4. Short text book of surgery – Himasu Roy

SEMESTER III
HEALTH CARE EDUCATION TECHNOLOGY

Theory: 60 hours

Objectives:

At the end of the second semester students should be able to

1. Document of learner behaviour and outcomes.
2. Describe the application of technology to healthcare education, with examples of uses.
3. Evaluate the application of innovative strategies to health care education.
4. Identify resources available to educators to use and implement technology and innovative strategies in teaching.

Unit- I

15 hours

- Educational Technology
 - State the meaning of educational technology
 - Define educational technology
 - Narrate the nature and characteristics of educational technology
 - Recognize the scope of educational technology
 - Explain the functions of educational technology
 - Appreciate the division and sources of educational technology
 - Appreciate the contribution of educational technology
- Interpersonal Relations
 - Define therapeutic communication
 - Describe the development of interpersonal relationship
 - State the dimensions of interpersonal relationship
 - Explain the phases of interpersonal relationship
 - Appreciate cultural influences in therapeutic relationship
 - Relate the role of transactional analysis with interpersonal communication

Unit- 2

15 hours

- Educational Objectives
 - Define educational objectives
 - State the purposes of educational objectives
 - Appreciate the data sources for formulation of educational objectives
 - List the characteristics of educational objectives
 - Identify types of educational objectives
 - Explain selection and statement of objectives
 - Categorize behavioural changes

- Health care careers
 - Health Care Systems
 - Careers in Health Care
 - Personal and Professional Qualities of a Health Care Worker
 - Legal and Ethical Responsibilities
- Basics of health care
 - Promotion of Safety
 - Infection Control
 - Vital Signs
 - First Aid

Unit- 3

20 hours

- Methods of Clinical Teaching
 - Write philosophy of clinical teaching
 - Realize the outcomes of clinical teaching
 - Describe clinical teaching models
 - Identify factors influencing clinical teaching
 - State the purposes of clinical teaching
 - Enumerate the preparation and execution of clinical teaching session and apply
 - in their practice
 - Explain case method and perform in clinical practice
 - Outline the steps involved in process recording and apply in practice
 - Recognize patient care assignment as a method of clinical teaching
- Information, Education and Communication for Health
 - Define health education.
 - Recognize the scope of health education.
 - Narrate the aims and objectives of health education.
 - Describe the models of health education.
 - Explain the principles of health education.
 - Specify patient education and their goals.
 - Enumerate on patient education process.
 - Identify the strategies of communicating health messages.
 - Describe health communication.

Recommended books:

1. Educational Technologies in Medical and Health Sciences Education
Editors: Bridges, Susan, Chan, Lap Ki, Hmelo-Silver, Cindy E. (Eds.)
2. Nursing Communication and Educational Technology by R Pramila

SEMESTER III
HEALTH CARE MANAGEMENT
Theory: 60 hours

Objectives:

At the end of the third semester students should be able to

1. Discuss the role of the manager in healthcare and how organisations and people work within the healthcare system.
2. Effectively manage people, finances and organisational resources.
3. Complete an organisational development project, reflect on the learning gained and evaluate the project from a leadership and healthcare management perspective.

COURSE OUTCOMES:

At the end of the course students will be able to...

CO1: Describe the evolution of management through different theories.**CO2:** Explain the role of manager at various levels in an organization **CO3:** Apply the functions of management in management processes **CO4:** Describe the roles and functions of HR in an organization

CO5: Explain the significance and steps involved in various functions carried out in HR department.

CO6: Explain the importance of material management, its need and objectives.

CO7: Describe the stages involved in equipment management in a healthcare setting

CO8: Identify and implement some of the inventory management techniques for better management

Unit-I

10 hours

➤ **Management concepts and theories**

- Management and organizations
- Management role
- Levels of managers and management skills
- Classical school
- Behaviour school
- Management science school

➤ **Management functions and process**

- Planning
- Organizing
- Staffing
- Directing
- Controlling

Unit- II

10 hours

- **Basics of HRM and sourcing**
 - Introduction and relationship between HRM and HRD
 - Objectives of HRM
 - HR planning: short term and long term
 - Productivity analysis in healthcare
 - HR policy and procedure
 - Recruitment
 - Selection
 - Placement
 - Induction / Orientation
- **Training and development**
 - Staff training and development
 - Career growth and development
 - Management development

Unit- III

10 hours

- **Materials management**
 - Introduction
 - Definition and function
 - Goals and objectives of materials management
 - Problems and issues in hospitals
- **Equipment purchase and maintenance**
 - Planning and selection of equipment
 - Import of equipment
 - Equipment utilization and operation
 - Equipment repair and maintenance
 - Equipment audit

Unit- IV

8 hours

- **Scientific inventory management**
 - Codification and standardization
 - Value analysis
 - Inventory control
 - Lead time, safety stock and reorder level

- Economic order quantity (EOQ)
- Selective controls
- Case studies on inventory control
- The biomedical waste (management and handling) rules

Recommended books:

1. Introduction to health care management by Sharoon B & Nancy H
2. Foundations of health care management – Bernard J Healy & Marc C Marchese
3. Dunn & Haimann's Health Care Management

CYBER SECURITY

Program Educational Objectives (PEOs)

The exposure of the students to Cyber Security program at Graduate and Post Graduate level should lead to the following: -

- (a) Learn the foundations of Cyber security and threat landscape.
- (b) To equip students with the technical knowledge and skills needed to protect and defend against cyber threats.
- (c) To develop skills in students that can help them plan, implement, and monitor cyber security mechanisms to ensure the protection of information technology assets.
- (d) To expose students to governance, regulatory, legal, economic, environmental, social and ethical contexts of cyber security.
- (e) To expose students to responsible use of online social media networks.
- (f) To systematically educate the necessity to understand the impact of cybercrimes and threats with solutions in a global and societal context.
- (g) To select suitable ethical principles and commit to professional responsibilities and human values and contribute value and wealth for the benefit of the society.

Program Specific Outcomes (PSOs)

Upon completion of the degree program, students will be able to:-

- (h) Understand the cyber security threat landscape.
- (i) Develop a deeper understanding and familiarity with various types of cyber-attacks, cybercrimes, vulnerabilities and remedies thereto.
- (j) Analyse and evaluate existing legal framework and laws on cyber security.
- (k) Analyse and evaluate the digital payment system security and remedial measures against digital payment frauds.
- (l) Analyse and evaluate the importance of personal data its privacy and security.
- (m) Analyse and evaluate the security aspects of social media platforms and ethical aspects associated with use of social media.
- (n) Analyse and evaluate the cyber security risks.
- (o) Based on the Risk assessment, plan suitable security controls , audit and compliance.

- (p) Evaluate and communicate the human role in security systems with an emphasis on ethics, social engineering vulnerabilities and training.
- (q) Increase awareness about cyber-attack vectors and safety against cyber-frauds.
- (r) Take measures for self-cyber-protection as well as societal cyber-protection.

Syllabus of Cyber Security Program at Post Graduate Level

2. The syllabus for Cyber Security Program at Post Graduate Level is as under: -

Cyber Security Program at Post Graduate Level			
Module	Module Name	Module Contents	Learning Outcome
Module-I	Overview of Cybersecurity	Cyber security increasing threat landscape, Cyber security terminologies- Cyberspace, attack, attack vector, attack surface, threat, risk, vulnerability, exploit, exploitation, hacker., Non-state actors, Cyber terrorism, Protection of end user machine, Critical IT and National Critical Infrastructure, Cyberwarfare, Case Studies.	Students after completing this module will be able to understand the basic terminologies related to cyber security and current cyber security threat landscape. They will also develop understanding about the Cyber warfare and necessity to strengthen the cybersecurity of end user machine, critical IT and national critical infrastructure.
Module-II	Cyber crimes	Cyber crimes targeting Computer systems and Mobiles- data diddling attacks, spyware, logic bombs, DoS, DDoS, APTs, virus, Trojans, ransomware, data breach., Online scams and frauds- email scams, Phishing, Vishing, Smishing, Online job fraud, Online sextortion, Debit/ credit card fraud, Online payment fraud, Cyberbullying, website defacement, Cyber- squatting, Pharming, Cyber espionage, Cryptojacking, Darknet- illegal trades, drug trafficking, human trafficking., Social Media Scams & Frauds- impersonation, identity theft, job scams, misinformation, fake news cyber crime against persons - cyber grooming, child pornography, cyber stalking., Social Engineering attacks, Cyber Police stations, Crime reporting procedure, Case studies.	After completion of the module, students will have complete understanding of the cyber- attacks that target computers, mobiles and persons. They will also develop understanding about the type and nature of cyber crimes and as to how report these crimes through the prescribed legal and Government channels.
Practical	1. Platforms for reporting cyber crimes. 2. Checklist for reporting cyber crimes online.		

Cyber Security Program at Post Graduate Level			
Module	Module Name	Module Contents	Learning Outcome
Module-III	Cyber Law	Cyber crime and legal landscape around the world, IT Act,2000 and its amendments. Limitations of IT Act, 2000. Cyber crime and punishments, Cyber Laws and Legal and ethical aspects related to new technologies- AI/ML, IoT,Blockchain, Darknet and Social media, Cyber Laws of other countries, Case Studies.	Students after completing this module will be able to understand the legal framework that exist in India for cyber crimes and penalties and punishments for such crimes, It will also expose students to limitations of existing IT Act,2000 legal framework that is followed in other countries and legal and ethical aspects related to new technologies.
Module IV	Data Privacy and Data Security	Defining data, meta-data, big data, non- personal data. Data protection, Data privacy and data security, Personal Data Protection Bill and its compliance, Data protection principles, Big data security issues and challenges, Data protection regulations of other countries- General Data Protection Regulations(GDPR),2016 Personal Information Protection and Electronic Documents Act (PIPEDA)., Social media- data privacy and security issues.	After completing this module, students will understand the aspects related to personal data privacy and security. They will also get insight into the Data Protection Bill,2019 and data privacy and security issues related to Social media platforms.
Practical	1. Setting privacy settings on social media platforms. 2. Do's and Don'ts for posting content on Social media platforms. 3. Registering complaints on a Social media platform.		

Cyber Security Program at Post Graduate Level

Module	Module Name	Module Contents	Learning Outcome
Module V	Cyber security Management, Compliance and Governance	Cyber security Plan- cyber security policy, cyber crises management plan., Business continuity, Risk assessment, Types of security controls and their goals, Cyber security audit and compliance, National cyber security policy and strategy.	Students after completing this module will understand the main components of cyber security plan. They will also get insights into risk- based assessment, requirement of security controls and need for cyber security audit and compliance.
Practical	1. Prepare password policy for computer and mobile device. 2. List out security controls for computer and implement technical security controls in the personal computer. 3. List out security controls for mobile phone and implement technical security controls in the personal mobile phone. 4. Log into computer system as an administrator and check the security policies in the system.		
References	1. Cyber Security Understanding Cyber Crimes, Computer Forensics and Legal Perspectives by Sumit Belapure and Nina Godbole, Wiley India Pvt. Ltd. 2. Information Warfare and Security by Dorothy F. Denning, Addison Wesley. 3. Security in the Digital Age: Social Media Security Threats and Vulnerabilities by Henry A. Oliver, Create Space Independent Publishing Platform. 4. Data Privacy Principles and Practice by Natraj Venkataramanan and Ashwin Shriram, CRC Press. 5. Information Security Governance, Guidance for Information Security Managers by W. KragBrothy, 1st Edition, Wiley Publication. 6. Auditing IT Infrastructures for Compliance By Martin Weiss, Michael G. Solomon, 2nd Edition, Jones Bartlett Learning.		

Cyber security scheme of Program Postgraduate Level

Sl. No	Course Title	Teaching Scheme at UG and PG Level		
		L/T	P	C
1	Cyber Security	3	1	4

SEMESTER IV
SUB SPECIALITY ANAESTHESIA & TECHNIQUE

Theory: 60 hours

Objectives:

Upon completion of this semester, students will achieve knowledge and level of expertise & proficiency in:

1. Anaesthetic and surgical requirement for different subspeciality procedures in terms of equipment and monitoring.
2. Basic legal ethical issues in organ transplant
3. Functioning and procedures of pain clinic.

COURSE OUTCOMES:

At the end of the course students will be able to...

CO1: Discuss and arrange for the anaesthetic and surgical requirement for the subspeciality surgical procedures in Paediatric , Neuro, Plastic and Reconstructive surgery, Cardiothoracic and vascular surgery, Head and Neck surgery, Ophthalmic procedures, Genitourinary surgeries, Orthopaedic surgeries and Obstetrics and Gynecological procedures.

CO2: Describe the anaesthetic consideration in organ donation and transplant procedures.

CO3: Understand the medico legal aspects of anaesthesia.

CO4: Understand the management of pain and evaluate the treatment.

Unit-1

15 hours

- Paediatric anaesthesia
- Neurosurgical anaesthesia
- Anaesthesia for plastic and reconstructive surgery

Unit-2

15 hours

- Anaesthesia for cardiothoracic and vascular surgery
- Anaesthesia for head and neck surgeries
- Anaesthesia for ophthalmic procedures

Unit-3

15 hours

- Anaesthesia for genitourinary surgeries
- Anaesthesia for orthopaedic surgeries
- Anaesthesia for obstetrics and gynaecological procedures

Unit-4

15 hours

- Anaesthetic considerations in organ donation and transplant procedures
- Pain management
- Legal aspects of anaesthesia

Reference books:

1. Anaesthesiology updates for postgraduates- Sampa Dutta Gupta
2. Textbook of Anaesthesia- Alan R Aitkenhead, David J Rowbotham, Graham Smith
3. A basic textbook is essential - Fundamentals of Anaesthesia- Tim Smith, ColinPinnock, Ted Lin, and Robert Jones

SEMESTER IV

ANAESTHESIA & CRITICAL CARE

Theory: 60 hours

Objectives:

At the end of the fourth semester students should be able to

1. Aware of different monitoring modalities
2. Set up monitoring and trouble shoot monitoring systems.
3. Understand gross functioning of ventilators and ventilatory care
4. Manage equipment required ICU setup
5. Follow universal precautions and maintain asepsis

COURSE OUTCOMES:

At the end of the course students will be able to...

CO1: Setting up for different monitoring techniques and interpret the vital records, in particular to ICU.

CO2: Understand and organize the working principle of ventilator and different modes of mechanical ventilation.

CO3: Set up for the intubation and tracheostomy in ICU.

CO4: Measure the values of spirometry

CO5: Describe the lung injury and ARDS

CO6: Know the infusion and transfusion therapy.

CO7: Practice infection control in ICU.

CO8: Know the transport of critically ill patients.

CO9: Operate and manage the anaesthetic equipments.

Unit-I

15 hours

- Monitoring techniques in ICU practice
 - Invasive blood pressure (BP) monitoring
 - Transesophageal Doppler (TED)
 - Measurement of central venous pressure (CVP)
 - Pulmonary artery catheterization
 - Arterial blood gas (ABG) analysis
 - Intracranial pressure (ICP) measurement
 - Intra-abdominal pressure (IAP) measurement

Unit- II

18 hours

- Ventilator Life Support in ICU
 - Working principles of ventilator in ICU
 - Types of ventilators
 - Mechanical ventilation modes and settings
 - Ventilator management
 - Ventilation induced lung injury
 - Ventilation monitoring
 - Non-conventional ventilation
 - Weaning from the ventilator

Unit- III

12 hours

- Intubation and tracheostomy
- Spirometry
- Data analysis
- Acute lung injury (ALI) and adult respiratory distress syndrome (ARDS)
- Fluid control and therapy
- Drug side effects

Unit- IV

8 hours

- Supportive care
 - Control of infection
 - Transport of critically ill
 - Investigations
- Maintenance of anaesthesia equipments

Books Recommended:

1. Civetta, Taylor & Kirby's Critical care
2. Critical care- Paul Marino

Reference books:

1. The ICU book-Schumacher
2. Text book for Operation Room Technicians- Pramila Bhalla

SEMESTER IV

DISASTER MANAGEMENT AND CLIMATE CONTROL

**Theory : 40
hours**

OBJECTIVES:

At the end of the fourth semester students should be able to

1. Understand the emergency/ disaster management cycle
2. Develop a basic knowledge of prevention, mitigation, preparedness, response and recovery in disaster
3. Have a basic understanding emergency management.
4. Resuscitation and triage skills

COURSE OUTCOMES:

At the end of the course students will be able to...

CO1: Set up and respond for the management of hospital disaster. **CO2:** Understand the basic knowledge to manage the emergencies. **CO3:** Participate in triage and trauma management.

CO4: Perform Basic Life Support and Advanced Cardiac Life Support.

Unit-1

12 hours

- Hospital disaster preparedness and response
 - Scope
 - Coordination and management
 - Planning, training
 - Information, communication and documentation
 - Medico legal concerns
 - Safety and security
 - Human resources
 - Triage
 - Post disaster recovery
 - Patient handling
 - Volunteer involvement and management
 - Coordination and collaboration with wider disaster preparedness initiatives

Unit-2

16 hours

- First aid for unconsciousness
 - Aims , principles & rules of first aid
 - First aid box
- Trauma management
 - Guidelines, protocols, initial assessment
 - Trauma management in emergency department
- Wound management in emergency practice
 - Management of internal and external bleeding
- Chemical injury
- Management of drowning
- Burn care
 - Prehospital treatment
 - Initial emergency department treatment
 - Airway and respiratory care
 - Fluid resuscitation
- Electrical injury management
- Pre hospital management
 - Basic life support
 - Further treatment and transfer

Unit-3

12 hours

Cardio pulmonary resuscitation

- Basic life support
 - Algorithm
 - Mouth to mouth ventilation
 - External cardiac compression
- ACLS
 - Defibrillation
 - Vascular access
 - Definitive airway
 - Foreign body obstruction
 - Drugs
- CPR in infants and children
- Complications of BLS

Books recommended:

1. Disaster management for health care professionals- Joshi Sonopant G

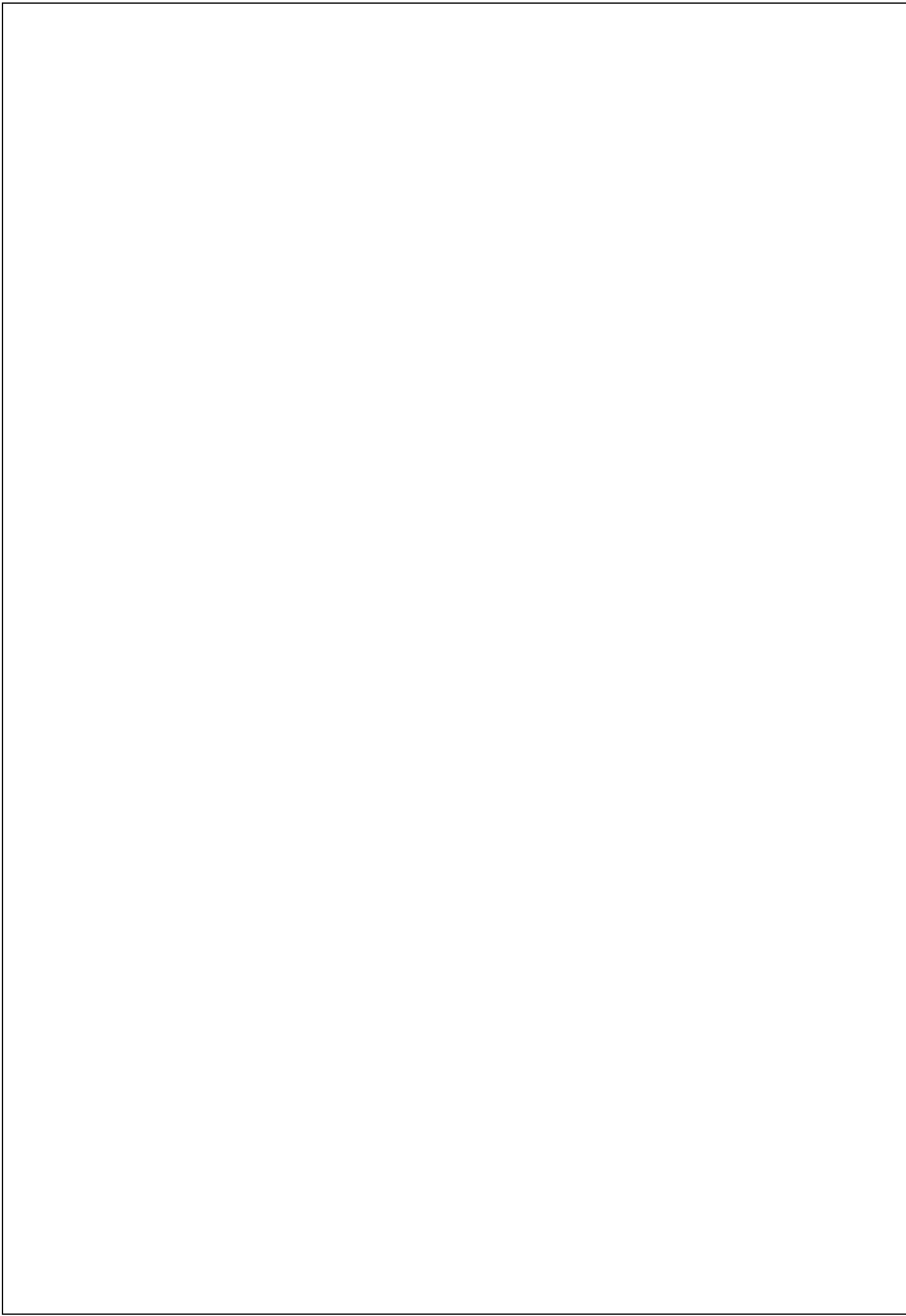
Distribution of Type, Number and marks of Questions for Various Subjects

THEORY

Subjects having maximum marks = 100			Total
Type of question	Number of questions	Marks for Each question	
Long Essay	02	20	40
Short Essay	06	10	60
	TOTAL		100

Note : Revised as per the Proceedings of the 36th meeting of the Academic Council held on 30th Sep 2020. and Proceedings of the 59th meeting of the Board of Management held on 9th Oct 2020.

-End-





SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION AND RESEARCH

(A Deemed to be University declared under Section 3 of UGC Act 1956)

Comprising Sri Devaraj Urs Medical College

[Constituent unit of Sri Devaraj Urs Educational Trust for Backward Classes (Regd.)]

TAMAKA, KOLAR-563 103, KARNATAKA, INDIA

Ph: 918152-243003, +91 9448395232, Fax : +918152 - 243008 E-mail - registrar@sduaher.ac.in / office@sduaher.ac.in. Website: www.sduaher.ac.in

No. SDUAHER/KLR/ADMN/ 3186 /2024-25

30.09.2024

REVISED NOTIFICATION

Ref:1 INC Notification No: 1-6/LT/2024-INC, dated: 20-09-2024

2 Approval of the Hon'able Vice Chancellor, dated:30-09-2024

In continuation of this office notification dated 29-07-2024, the Calendar of events for Admission of M.Sc (N) Program for the academic year 2024-25 is hereby notified as follows:

SL.NO	DESCRIPTION OF EVENTS	SCHEDULE
PART-I		
01	Last date of admission	30 th October 2024
02	Commencement of academic session	18 th September 2024
03	Online submission of list of students to the Registrar SDUAHER	5 th November 2024
04	Getting admission registered certified by the Registrar SDUAHER	15 th November 2024 Before 3.30pm
05	Last date for admission approval statement	30 November 2024
06	Submission of I A marks	17 th July 2025
07	Examination	2 nd week of August 2025
08	Declaration of results	On or before 4 st week of August 2025
SUBMISSION OF SYNOPSIS AND DESSERTATION		
09	Last date for submission of synopsis to SDUAHER	20 th January 2025
10	Last date for submission of Dissertation to SDUAHER	20 th June 2026
11	Last date for submission of Dissertation to SDUAHER with fine	30 th June 2026

Registrar

Copy to:

1. P.A to Vice Chancellor, SDUAHER
2. The Finance Officer, SDUAHER
3. The Controller of Examinations, SDUAHER
4. The Principal, Sri Devaraj Urs College of Nursing, Tamaka, Kolar
5. Office Copy

Sri Devaraj Urs Academy of Higher
Education and Research
Tamaka, Kolar - 563 103.

REGULATIONS GOVERNING

M.Sc NURSING COURSE REGULATIONS AND CURRICULUM FOR COMMUNITY HEALTH NURSING

2024-2025



SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION AND RESEARCH

Constituent Unit, Sri Devaraj Urs College of Nursing

A Deemed To Be University

Declared under section 3 of UGC Act 1956

MHRD GOI NO.F, 9-36/2006-U.3 (A), Dt.25th may 2007

Post box No.62, TAMAKA, KOLAR-563103, KARNAKATAKA, INDIA

Ph.08152-210604, 210605, 243244: Fax: 08152-243008

Website: www.sduaher.ac.in Email -registrar@sduaher.ac.in/office@sduaher.ac.in

CONTENT

S. No.	Content	Page No
1	Philosophy	
2	Aim	
3	Objectives	
4	Other Staff (Maximum Requirement)	
5	Eligibility Criteria/Admission Requirements	
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7	Guidelines for Dissertation	
8	Duration	
9	Scheme of Examination	
	First Year	
10	Nursing Education	
11	Advance Nursing Practice	
12	<i>Clinical Speciality – I</i>	
	- Community Health Nursing	
13	Nursing Research & Statistics	
	Second Year	
14	Nursing Management	
15	<i>Clinical Specialty –II</i>	
	- Community Health Nursing	
16	Annexure – I (Staffing Pattern Relaxed till 2012)	



Sri Devaraj Urs Academy of Higher Education and Research

(A deemed to be university declared under section 3 of UGC Act 1956)

Comprising Sri Devaraj Urs Medical College

[Constituent unit of Sri Devaraj Urs Educational Trust for Back Ward Classes (Regd.)]

TAMAKA, KOLAR-563103, KARNATAKA, INDIA

Ph.918152-243003,+91 9448395232,[E-mail -registrar@sduahe.ac.in/office@sduahe.ac.in](mailto:E-mail-registrar@sduahe.ac.in/office@sduahe.ac.in) Website: www.sduahe.ac.in

NOTIFICATION

Sub: Approved of M.Sc (N) curriculum under the faculty of nursing

Ref: 1) INC notification file No: 1-6/LT/2023-INC, Dated: 26-12-2023
2) Proceedings of 46th Academic council meeting, Dated: 26-02-2024
3) Proceedings of 77th Board of Management meeting, Dated: 28-03-2024
4) No.SDUAHER/KLR/ADMN/238/2024-25, Dated: 18-04-2024

Sri Devaraj Urs Academy of Higher Education and Research, Kolar was established in the year 2007 under section 3 of the UGC Act, 1956. Sri Devaraj Urs College of Nursing becomes a constituent unit of SDUAHER from 1st July 2024. The academic council and board of management of SDUAHER approved M.Sc Nursing curriculum from the academic year 2024-25 in conformity with Indian Nursing Council regulations and curriculum for M.Sc (N) programme, Regulations 2006.

(Dr. Muninaraayana C)
Registrar

Philosophy

National Health Policy(NHP) 2002 emphasizes the need to prepare nurses to function in super-speciality areas who are required in tertiary care institutions, entrusting some limited public health functions to nurses after providing adequate training, and increase the ratio of degree holding vis a vis diploma holding nurses.

It is observed that there is an acute shortage of nursing faculty in under graduate and post graduate nursing programme in India

Indian Nursing Council believes that:

Post Graduate programme is essential to prepare nurses to improve the quality of nursing education and practice in India. .

Post graduate programme in nursing builds upon and extends competence acquired at the graduate levels, emphasizes application of relevant theories into nursing practice, education, administration and development of research skills.

The programme prepares nurses for leadership position in nursing and health fields who can function as nurse specialists, consultants, educators, administrators and researchers in a wide variety of professional settings in meeting the National priorities and the changing needs of the society.

This programme provides the basis for the post masteral programme in nursing. Further the programme encourages accountability and commitment to life long learning which fosters improvement of quality care.

Aim

The aim of the postgraduate program in nursing is to prepare graduates to assume responsibilities as nurse specialists, consultants, educators, administrators in a wide variety of professional settings

Objectives

On Completion of the two year M.Sc Nursing programme, the graduate will be able to:-

1. Utilize/apply the concepts, theories and principles of nursing science
2. Demonstrate advance competence in practice of nursing
3. Practice as a nurse specialist.
4. Demonstrate leadership qualities and function effectively as nurse educator and manager.
5. Demonstrate skill in conducting nursing research, interpreting and utilizing the findings from health related research.

6. Demonstrate the ability to plan and effect change in nursing practice and in the health care delivery system.
7. Establish collaborative relationship with members of other disciplines
8. Demonstrate interest in continued learning for personal and professional advancement.

Other Staff (Minimum requirements)

(To be reviewed and revised and rationalized keeping in mind the mechanization and contract service)

- Ministerial

a)	Administrative Officer	1
c)	Office Superintendent	1
d)	PA to Principal	1
e)	Accountant/Cashier	1

- Upper Division Clerk 2

- Lower Division Clerk 2

- Store Keeper 1

a)	Maintenance of stores	1
b)	Classroom attendants	2
c)	Sanitary staff	As per the physical space
d)	Security Staff	As per the requirement

- Peons/Office attendants 4

- Library

a)	Librarian	2
b)	Library Attendants	As per the requirement

- Hostel

a)	Wardens	2
b)	Cooks, Bearers, Sanitary Staff	As per the requirement
c)	Ayas /Peons	As per the requirement
d)	Security Staff	As per the requirement
e)	Gardeners & Dhobi (desirable)	Depends on structural facilities

Eligibility Criteria/Admission Requirements:

1. The candidate should be a Registered Nurse and Registered midwife or equivalent with any State Nursing Registration Council.
2. The minimum education requirements shall be the passing of :
B.Sc. Nursing / B.Sc. Hons. Nursing / Post Basic B.Sc. Nursing with minimum of 55% aggregate marks.
3. The candidate should have undergone in B.Sc. Nursing / B.Sc. Hons. Nursing / Post Basic B.Sc. Nursing in an institution which is recognized by Indian Nursing Council.
4. Minimum one year of work experience after Basic B.Sc. Nursing.
5. Minimum one year of work experience prior or after Post Basic B.Sc. Nursing.
6. Candidate shall be medically fit.
7. 5% relaxation of marks for SC/ST candidates may be given.

Entrance/Selection test

Selection of the candidates should be based on the merit of the entrance examination held by University or competent authority.

Regulations for examination:

Eligibility for appearing for the examination:

75% of the attendance for theory and practicals. However 100% of attendance for practical before the award of degree

Classification of results:

- 50% pass in each of the theory and practical separately.
- 50-59% Second division
- 60-74% first division
- 75% and above is distinction
- For declaring the rank aggregate of 2 years marks to be considered

If the candidate fails in either practicals or theory paper he/she has to re - appear for both the papers (theory and practical)

Maximum no. of attempts per subject is three (3) inclusive of first attempt. The maximum period to complete the course successfully should not exceed 4 years

Candidate who fails in any subject, shall be permitted to continue the studies into the second year. However the candidate shall not be allowed to appear for the Second year examination till such time that he/she passes all subjects of the first year M.Sc nursing examination

Practicals

- 4 hours of practical examination per student.
- Maximum number of 10 students per day per speciality.
- The examination should be held in clinical area only for clinical specialities
- One internal and external should jointly conduct practical examination
- Examiner – Nursing faculty teaching respective speciality area in M.Sc nursing programme with minimum 3 years experience after M.Sc nursing.

Dissertation

Evaluation of the dissertation should be done by the examiner prior to viva

Duration: Viva-voce -minimum 30 minutes per student

Guidelines for Dissertation

Tentative Schedule for dissertation

S. No.	Activities	Scheduled Time
1.	Submission of the research proposal	End of 9 th month of 1 st year
2.	Submission of dissertation – Final	End of 9 th month of II nd Year

Note: - Administrative approval and ethical clearance should be obtained

A. Research Guides

a) *Qualification of Guide*

Main guide : Nursing faculty / nursing expert in the same clinical speciality holding Ph.D./M.Phil/M.Sc. Nursing with a minimum of 3 years experience in teaching in the Post Graduate Programme in Nursing.

Co-Guide : A Co-Guide is a nursing faculty/expert in the field of study (may be from outside the college but should be within the city.)

b) *Guide – Students Ratio*

Maximum of 1:4 (including as co-guide)

c) *Research Committee*

There should be a research committee in each college comprising of minimum 5 members chaired by the Principal, College of Nursing.

Duration

Duration of the course is 2 years for M.Sc. (N)

Available	52 weeks
Vacation	4 weeks
Examination	2 weeks
Gazetted holidays	3 weeks
Total weeks available	43 weeks
40 hours per week	1720 hours
Total hours for 2 years	3440 hours

Course of Instruction

	Theory (hrs)	Practical (hrs)
1st year		
Nursing education	150	150
Advance nursing practice	150	200
Nursing Research and statistics	150	100
*Clinical speciality –I	150	650

Total	600	1100
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II nd Year

Nursing Management	150	150
Nursing Research(Dissertation)		300
*Clinical Speciality-II	150	950
Total	300	1400

Educational visit 2 weeks

***Clinical Speciality** – Medical Surgical Nursing (Cardio Vascular & Thoracic Nursing, Critical care Nursing, Oncology Nursing, Neurosciences Nursing, Nephro-Urology Nursing, Orthopedic Nursing, Gastro Enterology Nursing,)Obstetric & Gynaecological Nursing, Child Health (Paediatric) Nursing, Mental Health(Psychiatric) Nursing, Community Health Nursing, Psychiatric (Mental Health) Nursing etc.

Note: Students have to maintain log book for each activity during the course of study

Scheme of Examination

	Theory			Practical		
1st year	Hours	Internal	External	Hours	Internal	External
Nursing education	3	25	75		50	50
Advance nursing practice	3	25	75			
Nursing Research and statistics	3	25**	75*			
Clinical speciality -I	3	25	75		100	100
Total		100	300		150	150
II nd Year						
Nursing Management	3	25	75			
Dissertation & Viva					100	100
Clinical Speciality-II	3	25	75		100	100
Total		50	150		200	200

* Nursing research=50 and statistics=25

**Nursing research=15 and statistics=10

1. Minimum pass marks shall be 50 % in each of the Theory and practical papers separately.
2. A candidate must have minimum of 80% attendance (irrespective of the kind of absence) in theory and practical in each subject for appearing for examination.
3. A candidate must have 100% attendance in each of the practical areas before award of degree
4. A candidate has to pass in theory and practical exam separately in each of the paper.
5. If a candidate fails in either theory or practical paper he/she has to re-appear for both the papers (Theory and practical).
6. Maximum no. of attempts permitted for each paper is 3 including first attempt.

7. The maximum period to complete the course successfully should not exceed 4 (four) years
8. A candidate failing in more than two subjects will not be promoted to the IInd year.
9. No candidate shall be admitted to the subsequent IInd year examination unless the candidate has passed the Ist year examination.
10. Maximum number of candidates for all practical examination should not exceed 10 per day.
11. Provision of Supplementary examination should be made.
12. All practical examinations must be held in the respective clinical areas.
13. One internal and One external examiners(outside the University) should jointly conduct practical examination for each student
14. An examiner should be M.Sc (N) in concerned subject and have minimum of 3 (three) years post graduate teaching experience.
15. One internal and One external examiners(outside the University) should evaluate dissertation and jointly conduct viva-voce for each student
16. For Dissertation Internal examiner should be the guide and external examiner should be Nursing faculty / nursing expert in the same clinical speciality holding Ph.D./M.Phil/M.Sc. Nursing with a minimum of 3 years experience in guiding the research projects for Post Graduate students of Nursing.

Admission Strength

Annual admission strength for M.Sc (N) Programme should have prior sanction/permission from the Indian Nursing Council on the basis of clinical, physical facilities and teaching faculty.

Health Services

There should be provisions for the following health services for the students.

- (a) An annual medical examination.
- (b) Vaccination against Tetanus, hepatitis B or any other communicable disease as considered necessary.
- (c) Free medical care during illness and / provision of health insurance should be made.
- (d) A complete health record should be kept in respect of each individual students. The question of continuing the training of a student, with long term chronic illness, will be decided by the individual college.

CURRICULUM

NURSING EDUCATION

Placement : 1st Year

Hours of Instruction
Theory 150 Hours
Practical 150 Hours Total
: 300 Hours

Course Description

This course is designed to assist students to develop a broad understanding of Fundamental Principles, concepts, trends and issues related to education and nursing education. Further, it would provide opportunity to students to understand, appreciate and acquire skills in teaching and evaluation, curriculum development, implementation, maintenance of standards and accreditation of various nursing educational programs.

Objectives

At the end of the course, students will be able to :

1. Explain the aims of education, philosophies, trends in education and health: its impact on nursing education.
2. Describe the teaching learning process.
3. Prepare and utilize various instructional media and methods in teaching learning process.
4. Demonstrate competency in teaching, using various instructional strategies.
5. Critically analyze the existing nursing educational programs, their problems, issues and future trends.
6. Describe the process of curriculum development, and the need and methodology of curriculum change, innovation and integration.
7. Plan and conduct continuing nursing education programs.
8. Critically analyze the existing teacher preparation programs in nursing.
9. Demonstrate skill in guidance and counseling.
10. Describe the problems and issues related to administration of nursing curriculum including selection and organization of clinical experience.
11. Explain the development of standards and accreditation process in nursing education programs.
12. Identify research priorities in nursing education.
13. Discuss various models of collaboration in nursing education and services.

14. Explain the concept, principles, steps, tools and techniques of evaluation
15. Construct, administer and evaluate various tools for assessment of knowledge, skill, and attitude.

Course Content

Units	Hours		Course Content
	Theory	Practical	
I	10		Introduction : □ Education :Definition, aims, concepts, philosophies & their education implications, □ Impact of Social, economical, political & technological changes on education: • Professional education • Current trends and issues in education • Educational reforms and National Educational policy, various educational commissions-reports • Trends in development of nursing education in India
II	20	30	Teaching – Learning Process □ Concepts of teaching and learning: Definition, theories of teaching and learning, relationship between teaching and learning. □ Educational aims and objectives; types, domains, levels, elements and writing of educational objectives □ Competency based education(CBE) and outcome based education(OBE) □ Instructional design: Planning and designing the lesson, writing lesson plan : meaning, its need and importance, formats. □ Instruction strategies – Lecture, discussion, demonstration, simulation, laboratory, seminar, panel, symposium, problem solving, problem based learning (PBL), workshop, project, role- play(socio- drama), clinical teaching methods, programmed instruction, self directed learning(SDL), micro teaching, computer assisted instruction(CAI), computer assisted learning (CAL)

Units	Hours		Course Content
	Theory	Practical	
III	10	10	Instructional media and methods □ Key concepts in the selection and use of media in education □ Developing learning resource material using different media □ Instructional aids – types, uses, selection, preparation, utilization. □ Teacher's role in procuring and managing instructional Aids – Project and non-projected aids, multi media, video-tele conferencing etc
IV	10		Measurement and evaluation: □ Concept and nature of measurement and evaluation, meaning, process, purposes, problems in evaluation and measurement. □ Principles of assessment, formative and summative assessment- internal assessment external examination, advantages and disadvantages. □ Criterion and norm referenced evaluation,
V	12	10	Standardized and non-standardized tests : □ Meaning, characteristics, objectivity, validity, reliability, usability, norms, construction of tests- • Essay, short answer questions and multiple choice questions. • Rating scales, checklist, OSCE/OSPE(Objective structured clinical/practical examination) • Differential scales, and summated scales, sociometry, anecdotal record, attitude scale, critical incident technique □ Question bank-preparation, validation, moderation by panel, utilization □ Developing a system for maintaining confidentiality
VI	8	5	Administration, Scoring and Reporting □ Administering a test; scoring, grading versus marks □ Objective tests, scoring essay test, methods of scoring, Item analysis.
VII	12	6	Standardized Tools □ Tests of intelligence aptitude, interest, personality, achievement, socio-economic status scale, tests for special mental and physical abilities and disabilities.

Units	Hours		Course Content
	Theory	Practical	
VIII	5	6	Nursing Educational programs □ Perspectives of nursing education: Global and national. □ Patterns of nursing education and training programmes in India. Non-university and University programs: ANM, GNM, Basic B.Sc. Nursing, Post Certificate B.Sc. Nursing, M.Sc(N) programs, M.Phil and Ph.D) in Nursing, post basic diploma programs, nurse practitioner programs.
IX	12	25	Continuing Education in Nursing □ Concepts – Definition, importance, need scope, principles of adult learning, assessments of learning needs, priorities, resources. □ Program planning, implementation and evaluation of continuing education programs. □ Research in continuing education. □ Distance education in nursing.
X	10	10	Curriculum Development □ Definition, curriculum determinants, process and steps of curriculum development, Curriculum models, Types and framework. □ Formulation of philosophy, objectives, selection and organization of learning experiences; master plan, course plan, unit plan. □ Evaluation strategies, process of curriculum change, role of students, faculty, administrators, statutory bodies and other stakeholders. □ Equivalency of courses: Transcripts, credit system.
XI	8	4	Teacher preparation □ Teacher – roles & responsibilities, functions, characteristics, competencies, qualities, □ Preparation of professional teacher □ Organizing professional aspects of teacher preparation programs □ Evaluation: self and peer □ Critical analysis of various programs of teacher education in India.

Units	Hours		Course Content
	Theory	Practical	
XII	10	5	Guidance and counseling □ Concept, principles, need, difference between guidance and counseling , trends and issues. □ Guidance and counseling services : diagnostic and remedial. □ Coordination and organization of services. □ Techniques of counseling : Interview, case work, characteristics of counselor, problems in counseling. □ Professional preparation and training for counseling.
XIII	15	10	Administration of Nursing Curriculum □ Role of curriculum coordinator – planning, implementation and evaluation. □ Evaluation of educational programs in nursing-course and program. □ Factors influencing faculty staff relationship and techniques of working together. □ Concept of faculty supervisor (dual) position. □ Curriculum research in nursing. □ Different models of collaboration between education and service
XIV	10		Management of nursing educational institutions □ Planning, organizing, staffing, budgeting, recruitment, discipline, public relation, performance appraisal, welfare services, library services, hostel,
XV	5	5	□ Development and maintenance of standards and accreditation in nursing education programs. □ Role of Indian Nursing Council, State Registration Nursing Councils, Boards and University. □ Role of Professional associations and unions.

Activities :

- Framing philosophy, aims and objectives.
- Lesson Planning.
- Micro teaching-2.
- Conduct practice teachings using different teaching strategies -10 (like lecture cum discussion, demonstration- lab method, field trips, seminars, project, role play, panel discussion, clinical methods etc)
- Preparation and utilization of instructional Aids using different media.
- Develop course plans, unit plans, rotation plans.
- Conduct a continuing education workshop.
- Annotated bibliography.
- Critical evaluation of any nursing education program offered by a selected institution.
- Planning and Organizing field visits.

- Educational visits.
- Field visits (INC/SNRC) to get familiar with recognition/registration process.
- Construct, administer and evaluate tools (objective & essay type test, observation checklist, rating scale etc)
- Observe and practice application of various non-standardized tests (intelligence, Aptitude, Personality, Sociometry, physical & mental disabilities tests.)

Methods of Teaching

- Lecture cum discussion
- Demonstration/ Return demonstration
- Seminar / Presentations
- Project work
- Field visits
- Workshop

Methods of evaluation

- Tests
- Presentation
- Project work
- Written assignments

Internal Assessment

Techniques	Weightage
Test- (2 tests)	50
Assignment	25
Seminar/presentation	25

	100

Practical – Internal assessment

Learning resource material	25
Practice Teaching	50
Conduct Workshop /Short Term Course	25

Practical – external assessment

Practice teaching- 1-	50
Preparation/use of learning resource material-1	25
Construction of tests/rotation plan.	25

ADVANCE NURSING PRACTICE

Placement: 1ST Year

Hours of Instruction
Theory 150 Hours
Practical 200 Hours
Total : 350 Hours

Course Description

The course is designed to develop an understanding of concepts and constructs of theoretical basis of advance nursing practice and critically analyze different theories of nursing and other disciplines.

Objectives:

At the end of the course the students will be able to:

1. Appreciate and analyze the development of nursing as a profession.
2. Describe ethical, legal, political and economic aspects of health care delivery and nursing practice.
3. Explain bio- psycho- social dynamics of health, life style and health care delivery system.
4. Discuss concepts, principles, theories, models, approaches relevant to nursing and their application.
5. Describe scope of nursing practice.
6. Provide holistic and competent nursing care following nursing process approach.
7. Identify latest trends in nursing and the basis of advance nursing practice.
8. Perform extended and expanded role of nurse.
9. Describe alternative modalities of nursing care.
10. Describe the concept of quality control in nursing.
11. Identify the scope of nursing research.
12. Use computer in patient care delivery system and nursing practice.
13. Appreciate importance of self development and professional advancement.

Course Content

Unit	Hours	Content
I	10	Nursing as a Profession □ History of development of nursing profession, characteristics, criteria of the profession, perspective of nursing profession-national, global □ Code of ethics(INC), code of professional conduct(INC), autonomy and accountability, assertiveness, visibility of nurses, legal considerations, □ Role of regulatory bodies □ Professional organizations and unions-self defense, individual and collective bargaining □ Educational preparations, continuing education, career opportunities, professional advancement & role and scope of nursing education. □ Role of research, leadership and management. □ Quality assurance in nursing (INC). □ Futuristic nursing.
II	5	Health care delivery □ Health care environment, economics, constraints, planning process, policies, political process vis a vis nursing profession. □ Health care delivery system- national, state, district and local level. □ Major stakeholders in the health care system-Government, non-govt, Industry and other professionals. □ Patterns of nursing care delivery in India. □ Health care delivery concerns, national health and family welfare programs, inter-sectoral coordination, role of non-governmental agencies. □ Information, education and communication (IEC). □ Tele-medicine.
III	10	Genetics □ Review of cellular division, mutation and law of inheritance, human genome project ,The Genomic era. □ Basic concepts of Genes, Chromosomes & DNA. □ Approaches to common genetic disorders. □ Genetic testing – basis of genetic diagnosis, Pre symptomatic and predisposition testing, Prenatal diagnosis & screening, Ethical, legal & psychosocial issues in genetic testing. □ Genetic counseling. □ Practical application of genetics in nursing.
IV	10	Epidemiology □ Scope, epidemiological approach and methods, □ Morbidity, mortality, □ Concepts of causation of diseases and their screening, □ Application of epidemiology in health care delivery, Health surveillance and health informatics □ Role of nurse

Unit	Hours	Content
V	20	Bio-Psycho social pathology □ Pathophysiology and Psychodynamics of disease causation □ Life processes, homeostatic mechanism, biological and psycho-social dynamics in causation of disease, life style □ Common problems: Oxygen insufficiency, fluid and electrolyte imbalance, nutritional problems, hemorrhage and shock, altered body temperature, unconsciousness, sleep pattern and its disturbances, pain, sensory deprivation. □ Treatment aspects: pharmacological and pre- post operative care aspects, □ Cardio pulmonary resuscitation. □ End of life Care □ Infection prevention (including HIV) and standard safety measures, bio-medical waste management. □ Role of nurse- Evidence based nursing practice; Best practices □ Innovations in nursing
VI	20	Philosophy and Theories of Nursing □ Values, Conceptual models, approaches. □ Nursing theories: Nightingale's, Henderson's, Roger's, Peplau's, Abdella's, Lewine's, Orem's, Johnson's, King's, Neuman's, Roy's, Watson's, etc and their applications, □ Health belief models, communication and management, etc □ Concept of Self health. □ Evidence based practice model.
VIII	10	Nursing process approach □ Health Assessment- illness status of patients/clients (Individuals, family, community), Identification of health- illness problems, health behaviors, signs and symptoms of clients. □ Methods of collection, analysis and utilization of data relevant to nursing process. □ Formulation of nursing care plans, health goals, implementation, modification and evaluation of care.
IX	30	Psychological aspects and Human relations □ Human behavior, Life processes & growth and development, personality development, defense mechanisms, □ Communication, interpersonal relationships, individual and group, group dynamics, and organizational behavior, □ Basic human needs, Growth and development, (Conception through preschool, School age through adolescence, Young & middle adult, and Older adult) □ Sexuality and sexual health. □ Stress and adaptation, crisis and its intervention, □ Coping with loss, death and grieving, □ Principles and techniques of Counseling.

Unit	Hours	Content
X	10	Nursing practice □ Framework, scope and trends. □ Alternative modalities of care, alternative systems of health and complimentary therapies. □ Extended and expanded role of the nurse, in promotive, preventive, curative and restorative health care delivery system in community and institutions. □ Health promotion and primary health care. □ Independent practice issues,- Independent nurse-midwifery practitioner. □ Collaboration issues and models-within and outside nursing. □ Models of Prevention, □ Family nursing, Home nursing, □ Gender sensitive issues and women empowerment. □ Disaster nursing. □ Geriatric considerations in nursing. □ Evidence based nursing practice- Best practices □ Trans-cultural nursing.
XI	25	Computer applications for patient care delivery system and nursing practice □ Use of computers in teaching, learning, research and nursing practice. □ Windows, MS office: Word, Excel, Power Point, □ Internet, literature search, □ Statistical packages, □ Hospital management information system: softwares.

Practical

Clinical posting in the following areas:

- Specialty area- in-patient unit - 2 weeks
- Community health center/PHC - 2 weeks
- Emergency/ICU - 2 weeks

Activities

- Prepare Case studies with nursing process approach and theoretical basis
- Presentation of comparative picture of theories
- Family case- work using model of prevention
- Annotated bibliography
- Report of field visits (5)

Methods of Teaching

- Lecture cum discussion
- Seminar
- Panel discussion
- Debate
- Case Presentations
- Exposure to scientific conferences
- Field visits

Methods of evaluation :

- Tests
- Presentation
- Seminar
- Written assignments

Advance nursing Procedures

Definition, Indication and nursing implications;

- CPR, TPN, Hemodynamic monitoring, Endotracheal intubation, Tracheostoma, mechanical ventilation, Pacemaker, Hemodialysis, Peritoneal dialysis, LP, BT Pleural and abdominal paracentesis OT techniques, Health assessment, Triage, Pulse oxymetry

Internal Assessment

Techniques	Weightage
Test- (2 tests)	50
Assignment	25
Seminar/presentation	25

	100

NURSING RESEARCH AND STATISTICS

Placement: 1st Year

Hours of Instruction
Theory 150 Hours
Practical 100 Hours
Total : 250 Hours

Part-A : Nursing Research

Theory 100 Hours
Practical 50 Hours
Total : 150 Hours

Course Description:

The course is designed to assist the students to acquire an understanding of the research methodology and statistical methods as a basis for identifying research problem, planning and implementing a research plan. It will further enable the students to evaluate research studies and utilize research findings to improve quality of nursing practice, education and management.

General Objectives:

At the end of the course, the students will be able to:

1. Define basic research terms and concepts.
2. Review literature utilizing various sources
3. Describe research methodology
4. Develop a research proposal.
5. Conduct a research study.
6. Communicate research findings
7. Utilize research findings
8. Critically evaluate nursing research studies.
9. Write scientific paper for publication.

Content Outline

Unit	Hours		Course Content
	Theory	Practical	
I	10		Introduction: □ Methods of acquiring knowledge – problem solving and scientific method. □ Research – Definition, characteristics, purposes, kinds of research □ Historical Evolution of research in nursing □ Basic research terms □ Scope of nursing research: areas, problems in nursing, health and social research □ Concept of evidence based practice □ Ethics in research □ Overview of Research process
II	5	5	Review of Literature □ Importance, purposes, sources, criteria for selection of resources and steps in reviewing literature.
III	12		Research Approaches and designs □ Type: Quantitative and Qualitative □ Historical, survey and experimental –Characteristics, types advantages and disadvantages □ Qualitative: Phenomenology, grounded theory, ethnography
IV	10	5	Research problem: □ Identification of research problem □ Formulation of problem statement and research objectives □ Definition of terms □ Assumptions and delimitations □ Identification of variables □ Hypothesis – definition, formulation and types.
V	5	5	Developing theoretical/conceptual framework. □ Theories: Nature, characteristics, Purpose and uses □ Using, testing and developing conceptual framework, models and theories.
VI	6		Sampling □ Population and sample □ Factors influencing sampling □ Sampling techniques □ Sample size □ Probability and sampling error □ Problems of sampling

Unit	Hours		Course Content
	Theory	Practical	
VII	20	10	Tools and methods of Data collection: □ Concepts of data collection □ Data sources, methods/techniques quantitative and qualitative. □ Tools for data collection – types, characteristics and their development □ Validity and reliability of tools □ Procedure for data collection
VIII	5		Implementing research plan □ Pilot Study, review research plan (design)., planning for data collection, administration of tool/interventions, collection of data
IX	10	10	Analysis and interpretation of data □ Plan for data analysis: quantitative and qualitative □ Preparing data for computer analysis and presentation. □ Statistical analysis □ Interpretation of data □ Conclusion and generalizations □ Summary and discussion
X	10		Reporting and utilizing research findings: □ Communication of research results; oral and written □ Writing research report purposes, methods and style- vancouver, American Psychological Association(APA), Campbell etc □ Writing scientific articles for publication: purposes & style
XI	3	8	Critical analysis of research reports and articles
XII	4	7	Developing and presenting a research proposal

Activities:

- Annotated Bibliography of research reports and articles.
- Review of literature of selected topic and reporting
- Formulation of problem statement, objective and hypothesis
- Developing theoretical/conceptual framework.
- Preparation of a sample research tool
- Analysis and interpretation of given data
- Developing and presenting research proposal
- Journal club presentation
- Critical evaluation of selected research studies
- Writing a scientific paper.

Method of Teaching

- Lecture-cum-discussion
- Seminar/Presentations
- Project
- Class room exercises
- Journal club

Methods of Evaluation

- Quiz, Tests (Term)
- Assignments/Term paper
- Presentations
- Project work

Internal Assessment

Techniques	Weightage (15marks)
Term Test(2 tests)	40%
Assignment	20%
Presentation	20%
Project work	20%
Total	100%

Part –B : Statistics

Hours of Instruction
Theory 50 Hours
Practical 50 Hours Total
: 100 Hours

Course Description

At the end of the course, the students will be able to develop an understanding of the statistical methods and apply them in conducting research studies in nursing.

General Objectives

At the end of the course the students will be able to:

1. Explain the basic concepts related to statistics
2. Describe the scope of statistics in health and nursing
3. Organize, tabulate and present data meaningfully.
4. Use descriptive and inferential statistics to predict results.
5. Draw conclusions of the study and predict statistical significance of the results.
6. Describe vital health statistics and their use in health related research.
7. Use statistical packages for data analysis

Unit	Hours		Course Content
	Theory	Practical	
I	7	4	Introduction: □ Concepts, types, significance and scope of statistics, meaning of data, □ sample, parameter □ type and levels of data and their measurement □ Organization and presentation of data – Tabulation of data; □ Frequency distribution □ Graphical and tabular presentations.
II	4	4	Measures of central tendency: □ Mean, Median, Mode
III	4	5	Measures of variability; □ Range, Percentiles, average deviation, quartile deviation, standard deviation
IV	3	2	Normal Distribution: □ Probability, characteristics and application of normal probability curve; sampling error.

Unit	Hours		Course Content
	Theory	Practical	
V	6	8	Measures of relationship: □ Correlation – need and meaning □ Rank order correlation; □ Scatter diagram method □ Product moment correlation □ Simple linear regression analysis and prediction.
VI	5	2	Designs and meaning: □ Experimental designs □ Comparison in pairs, randomized block design, Latin squares.
VII	8	10	Significance of Statistic and Significance of difference between two Statistics (Testing hypothesis) □ Non parametric test – Chi-square test, Sign, median test, Mann Whitney test. □ Parametric test – ‘t’ test, ANOVA, MANOVA, ANCOVA
VIII	5	5	Use of statistical methods in psychology and education: □ Scaling – Z Score, Z Scaling □ Standard Score and T Score □ Reliability of test Scores: test-retest method, parallel forms, split half method.
IX	4	2	Application of statistics in health: □ Ratios, Rates, Trends □ Vital health statistics – Birth and death rates. □ Measures related to fertility, morbidity and mortality
X	4	8	Use of Computers for data analysis □ Use of statistical package.

Activities

- Exercises on organization and tabulation of data,
- Graphical and tabular presentation of data
- Calculation of descriptive and inferential statistics(chi square, t-test, correlation)
- Practice in using statistical package
- Computing vital health statistics

Methods of Teaching:

- Lecture-cum-discussion
- Demonstration – on data organization, tabulation, calculation of statistics, use of statistical package, Classroom exercises, organization and tabulation of data,

- Computing Descriptive and inferential statistics; vital and health statistics and use of computer for data entry and analysis using statistical package.

Methods of Evaluation

- Test, Classroom statistical exercises.

Internal Assessment

Techniques

Weightage 10 marks

Test – (2 tests)

100%

CLINICAL SPECIALITY- I

COMMUNITY HEALTH NURSING

Placement : 1st Year

Hours of Instructions

Theory 150 hours

Practical 650 hours

Total 800 hours

Course Description

The course is designed to assist students in developing expertise and in- depth understanding in the field of Community Health Nursing. It would help students to appreciate holistic life style of individuals, families & groups and develop skills to function as Community Health Nurse specialist/practitioner. It would further enable student to function as an educator, manager and researcher in the field of Community Health nursing.

Objectives

At the end of the course, the student will be able to:

1. Appreciate the history and development in the field of Community Health and Community Health Nursing.
2. Appreciate role of individuals and families in promoting health of the Community.
3. Perform physical, developmental and nutritional assessment of individuals, families and groups.
4. Apply the concepts of promotive, preventive, curative and rehabilitative aspects of health while providing care to the people.
5. Apply nursing process approach while providing care to individuals, families, groups and community.
6. Integrate the concepts of family centered nursing approach while providing care to the community.
7. Recognize and participate in the management of emergencies, epidemics and disasters.
8. Apply recent technologies and care modalities while delivering community health nursing care.
9. Appreciate legal and ethical issues pertaining to community health nursing care.
10. Conduct community health nursing care projects.
11. Participate in planning, implementation and evaluation of various national health and family welfare programmes at local, state and the national level.
12. Incorporate evidence based nursing practice and identify the areas of research in the community settings.

13. Participate effectively as a member of Community Health team.
14. Coordinate and collaborate with various agencies operating in the community by using inter-sectoral approach.
15. Teach community health nursing to undergraduates, in-service nurses and the community health workers.
16. Demonstrate leadership and managerial abilities in community health nursing practice

Course Content

Unit	Hours	Content
I	10	Introduction □ Historical development of Community Health and Community health Nursing- World and India, various health and family welfare committees □ Current status, trends and challenges of Community Health Nursing □ Health status of the Community-community diagnosis □ Scope of Community health Nursing practice □ Ethical and legal issues □ Socio-cultural issues in Community health Nursing □ National Policies, plans and programmes • National health policy • National Population policy • National Health and welfare Programmes • National Health goals/ indicators/ Millennium developmental goals(MDG)/ Strategies • Planning process: Five year plans • National Rural Health Mission • Panchayat raj institutions
II	10	Health □ Concepts, issues □ Determinants □ Measurements □ Alternate systems for health promotion and management of health problems □ Health economics □ Health technology □ Genetics and health □ Waste disposal □ Eco system
III	15	Population dynamics and control □ Demography □ Transition and theories of population □ National population policy □ National population programmes □ Population control and related programmes □ Methods of family limiting and spacing □ Research, Census, National Family Health Survey

Unit	Hours	Content
IV	30	Community health Nursing □ Philosophy, Aims, Objectives, Concepts, Scope, Principles, Functions □ Community health Nursing theories and models □ Quality assurance: Community health Nursing standards, competencies, Monitoring community health nursing, nursing audits □ Family nursing and Family centered nursing approach □ Family health nursing process ○ Family health assessment ○ Diagnosis ○ Planning ○ Intervention ○ Evaluation □ Nursing care for special groups: children, adolescents, adults, women, elderly, physically and mentally challenged- Urban and rural population at large □ Community nutrition □ Concept, role and responsibilities of community health Nurse practitioners/nurse midwifery practitioners-decision making skills, professionalism, legal issues
V	45	Maternal and neonatal care □ IMNCI(Integrated Management of Neonatal And Childhood Illnesses) module □ Skilled Birth Attendant (SBA) module
VI	15	□ Disaster nursing (INC module on Reaching out: Nursing Care in emergencies)
VII	10	Information, education and communication □ IEC/BCC: Principles and strategies □ Communication Skills □ Management information and evaluation system: Records and reports □ Information technology □ Tele-medicine and tele-nursing □ Journalism □ Mass media □ Folk media
VIII	15	Health care delivery system: Urban, rural, tribal and difficult areas □ Health organization: National, State, District, CHC, PHC, Sub Centre, Village - Functions, Staffing, pattern of assistance, layout, drugs, equipments and supplies,Roles and Responsibilities of DPHNO □ Critical review of functioning of various levels, evaluation studies, recommendations and nursing perspectives □ Alternative systems of medicine □ Training and supervision of health workers

Unit	Hours	Content
		□ Health agencies: NGO's, Roles and functions □ Inter-sectoral coordination □ Public private partnership □ Challenges of health care delivery system

Practical

Total = 660 Hours
1 Week = 30 Hours

S.No.	Deptt./Unit	No. of Week	Total Hours
1	Sub-centre, PHC, CHC	12	360 Hours
2	District family welfare bureau	1	30 Hours
3	Urban centers	6	180 Hours
4	Field visits	3	90 Hours
	Total	22 Weeks	660 Hours

Student Activities

- Identification of community leaders and resource persons (community mapping)
- Community health survey
- Community health nursing process- individual, family and special groups and community
- Counseling
- Health education – campaign, exhibition, folk media, preparation of IEC materials
- Organising and participating in special clinics/camps and national health and welfare programmes-Organise atleast one health and family welfare mela/fair (all stalls of national health and family welfare activities should be included)
- Estimation of Vital health statistics -Exercise
- Drill for disaster preparedness
- Organise atleast one in-service education to ANM's/LHV/PHN/HW
- Nutrition – Exercise on nutritional assessment on dietary planning, demonstration and education for various age groups
- Filling up of Records, reports and registers maintained at SC/PHC/CHC
- Assist women in self breast examination
- Conduct antenatal examination
- Conduct vaginal examination
- Conduct deliveries
- Post natal visits
- Perform Episiotomy and suturing
- Prepare Pap smear
- Conduct Insertion/Removal of IUD
- Blood Slide preparation
- Field visits

Maintenance of log book for various activities

NURSING MANAGEMENT

Placement : II Year

Hours of Instruction
Theory 150 Hours
Practical 150 Hours
Total : 300 Hours

Course Description

This course is designed to assist students to develop a broad understanding of Principles, concepts, trends and issues related to nursing management. Further, it would provide opportunity to students to understand, appreciate and acquire skills in planning, supervision and management of nursing services at different levels to provide quality nursing services.

Objectives

At the end of the course, students will be able to:

1. Describe the philosophy and objectives of the health care institutions at various levels.
2. Identify trends and issues in nursing
3. Discuss the public administration, health care administration vis a vis nursing administration
4. Describe the principles of administration applied to nursing
5. Explain the organization of health and nursing services at the various levels/institutions.
6. Collaborate and co-ordinate with various agencies by using multi-sectoral approach
7. Discuss the planning, supervision and management of nursing workforce for various health care settings.
8. Discuss various collaborative models between nursing education and nursing service to improve the quality of nursing care
9. Identify and analyse legal and ethical issues in nursing administration
10. Describe the process of quality assurance in nursing services.
11. Demonstrate leadership in nursing at various levels

Course Content

Unit	Hours	Content
I	10	Introduction □ Philosophy, purpose, elements, principles and scope of administration □ Indian Constitution, Indian Administrative system vis a vis health care delivery system: National, State and Local □ Organisation and functions of nursing services and education at National, State , District and institutions: Hospital and Community □ Planning process: Five year plans, Various Committee Reports on health, State and National Health policies, national population policy, national policy on AYUSH and plans,
II	10	Management □ Functions of administration □ Planning and control □ Co-ordination and delegation □ Decision making – decentralization basic goals of decentralization. □ Concept of management Nursing management □ Concept, types, principles and techniques □ Vision and Mission Statements □ Philosophy, aims and objective □ Current trends and issues in Nursing Administration □ Theories and models Application to nursing service and education
III	15	Planning □ Planning process: Concept, Principles, Institutional policies □ Mission, philosophy, objectives, □ Strategic planning □ Operational plans □ Management plans □ Programme evaluation and review technique(PERT), Gantt chart, Management by objectives(MBO) □ Planning new venture □ Planning for change □ Innovations in nursing Application to nursing service and education
IV	15	Organisation □ Concept , principles, objectives, Types and theories, Minimum requirements for organisation, Developing an organizational Structure, levels, organizational Effectiveness and organizational Climate, □ Organising nursing services and patient care: Methods of patient assignment- Advantages and disadvantages, primary nursing care, □ Planning and Organising: hospital, unit and ancillary services(specifically central sterile supply department, laundry, kitchen, laboratory services, emergency etc)

Unit	Hours	Content
		□ Disaster management: plan, resources, drill, etc Application to nursing service and education
V	15	Human Resource for health □ Staffing • Philosophy • Norms: Staff inspection unit(SIU), Bajaj Committee, High power committee, Indian nursing council (INC) • Estimation of nursing staff requirement- activity analysis • Various research studies □ Recruitment: credentialing, selection, placement, promotion □ Retention □ Personnel policies □ Termination □ Staff development programme □ Duties and responsibilities of various category of nursing personnel Applications to nursing service and education
VI	15	Directing □ Roles and functions □ Motivation: Intrinsic, extrinsic, Creating motivating climate, Motivational theories □ Communication : process, types, strategies, Interpersonal communication, channels, barriers, problems, Confidentiality, Public relations □ Delegation; common delegation errors □ Managing conflict: process, management, negotiation, consensus □ Collective bargaining: health care labour laws, unions, professional associations, role of nurse manager □ Occupational health and safety Application to nursing service and education
VII	10	Material management □ Concepts, principles and procedures □ Planning and procurement procedures : Specifications □ ABC analysis, □ VED (very important and essential daily use) analysis □ Planning equipments and supplies for nursing care: unit and hospital □ Inventory control □ Condemnation Application to nursing service and education
VIII	15	Controlling □ Quality assurance – Continuous Quality Improvement • Standards • Models • Nursing audit

Unit	Hours	Content
		□ Performance appraisal: Tools, confidential reports, formats, Management, interviews □ Supervision and management: concepts and principles □ Discipline: service rules, self discipline, constructive versus destructive discipline, problem employees, disciplinary proceedings- enquiry etc □ Self evaluation or peer evaluation, patient satisfaction, utilization review Application to nursing service and education
IX	15	Fiscal planning □ Steps □ Plan and non-plan, zero budgeting, mid-term appraisal, capital and revenue □ Budget estimate, revised estimate, performance budget □ Audit □ Cost effectiveness □ Cost accounting □ Critical pathways □ Health care reforms □ Health economics □ Health insurance □ Budgeting for various units and levels Application to nursing service and education
X	10	Nursing informatics □ Trends □ General purpose □ Use of computers in hospital and community □ Patient record system □ Nursing records and reports □ Management information and evaluation system (MIES) □ E- nursing, Telemedicine, telenursing □ Electronic medical records
XI	10	Leadership □ Concepts, Types, Theories □ Styles □ Manager behaviour □ Leader behaviour □ Effective leader: Characteristics, skills □ Group dynamics □ Power and politics □ lobbying □ Critical thinking and decision making □ Stress management Applications to nursing service and education

Unit	Hours	Content
XII	10	Legal and ethical issues Laws and ethics □ Ethical committee □ Code of ethics and professional conduct □ Legal system: Types of law, tort law, and liabilities □ Legal issues in nursing: negligence, malpractice, invasion of privacy, defamation of character □ Patient care issues, management issues, employment issues □ Medico legal issues □ Nursing regulatory mechanisms: licensure, renewal, accreditation □ Patients rights, Consumer protection act(CPA) □ Rights of special groups: children, women, HIV, handicap, ageing □ Professional responsibility and accountability □ Infection control □ Standard safety measures

PRACTICALS

1. Prepare prototype personal files for staff nurses, faculty and cumulative records
2. Preparation of budget estimate, Revised estimate and performance budget
3. Plan and conduct staff development programme
4. Preparation of Organisation Chart
5. Developing nursing standards/protocols for various units
6. Design a layout plan for speciality units /hospital, community and educational institutions
7. Preparation of job description of various categories of nursing personnel
8. Prepare a list of equipments and supplies for speciality units
9. Assess and prepare staffing requirement for hospitals, community and educational institutions
10. Plan of action for recruitment process
11. Prepare a vision and mission statement for hospital, community and educational institutions
12. Prepare a plan of action for performance appraisal
13. Identify the problems of the speciality units and develop plan of action by using problem solving approach
14. Plan a duty roster for speciality units/hospital, community and educational institutions
15. Prepare: anecdotes, incident reports, day and night reports, handing and taking over reports, enquiry reports, nurses notes, Official letters, curriculum vitae, presentations etc
16. Prepare a plan for disaster management
17. Group work
18. Field appraisal report

CLINICAL SPECIALITY – II

COMMUNITY HEALTH NURSING

Placement : II Year

Hours of Instruction
Theory- 150 hours
Practicals- 950 hours
Total- 1100 hrs

Course Description

This course is designed to assist students in developing expertise and in- depth understanding in the field of community health nursing. It will help students to develop advanced skills for nursing intervention in various aspects of community health care settings. It will enable the student to function as community health Nurse practitioner/specialist. It will further enable the student to function as educator, manager and researcher in the field of community health nursing.

Objectives

At the end of the course the students will be able to:

1. Appreciate trends and issues related to community health Nursing - reproductive and child health, school health, Occupational health, international health, rehabilitation, geriatric and mental health.
2. Apply epidemiological concepts and principles in community health nursing practice
3. Perform community health assessment and plan health programmes
4. Describe the various components of Reproductive and child health programme.
5. Demonstrate leadership abilities in organizing community health nursing services by using inter-sectoral approach.
6. Describe the role and responsibilities of community health nurse in various national health and family welfare programmes
7. Participate in the implementation of various national health and family welfare programme
8. Demonstrate competencies in providing family centered nursing care independently
9. Participate/Conduct research for new insights and innovative solutions to health problems
10. Teach and supervise nurses and allied health workers.
11. Design a layout of sub center/Primary health center/Community health centre and develop standards for community health nursing practice.

Content Outlines

Unit	Hours	Content
I	20	Epidemiology □ Introduction • Concept, scope, definition, trends, History and development of modern Epidemiology • Contribution of epidemiology • Implications □ Epidemiological methods □ Measurement of health and disease: □ Health policies □ Epidemiological approaches • Study of disease causatives • Health promotion • Levels of prevention □ Epidemiology of • Communicable diseases • Non-communicable diseases □ Emerging and re-emerging diseases Epidemics □ National Integrated disease Surveillance Programme □ Health information system □ Epidemiology study and reports □ Role of Community health nurse
Unit II	40	National Health and Family Welfare Programmes □ Objectives, Organisation/manpower/resources, Activities, Goals, inter-sectoral approach, implementation, item/purpose, role and responsibilities of community health nurse: • National Vector Borne Disease Control Programm (NVBDGP) • National Filaria Control Programme • National Leprosy Eradication Programme • Revised national TB Control Programme • National Programme for Control of Blindness • National Iodine Deficiency disorders Control Programme • National Mental Health Programme • National AIDS Control Programme • National Cancer Control Programme • RCH I and II • Non-communicable disease programmes • NRHM - Health Schemes: * ESI * CGHS * Health Insurance

Unit	Hours	Content
III	15	School Health □ Introduction: definition, concepts, objectives,. □ Health assessment, Screening, identification, referral and follow up, □ Safe environment □ Services, programmes and plans- first aid, treatment of minor ailments □ Inter-sectoral coordination □ Adolescent health □ Disaster, disaster preparedness, and management □ Guidance and counseling □ School health records - maintenance and its importance □ Roles and responsibilities of community health nurse
IV	15	International health □ Global burden of disease □ Global health rules to halt disease spread □ Global health priorities and programmes □ International quarantine □ Health tourism □ International cooperation and assistance □ International travel and trade □ Health and food legislation, laws, adulteration of food □ Disaster management □ Migration □ International health agencies –World Health organizations, World health assembly, UNICEF, UNFPA, SIDA, US AID, DANIDA, DFID. AusAID etc □ International health issues and problems □ International nursing practice standards □ International health vis-a vis national health □ International health days and their significance
V	15	Education and administration □ Quality assurance □ Standards, Protocols, Policies, Procedures □ Infection control; Standard safety measures □ Nursing audit □ Design of Sub-Centre/Primary Health Centre/Community health center □ Staffing; Supervision and monitoring-Performance appraisal □ Budgeting □ Material management □ Role and responsibilities of different categories of personnel in community health □ Referral chain- community outreach services □ Transportation □ Public relations □ Planning in-service educational programme and teaching

Unit	Hours	Content
		□ Training of various categories of health workers- preparation of manuals
VI	10	Geriatric □ Concept, trends, problems and issues □ Aging process, and changes □ Theories of ageing □ Health problems and needs □ Psycho-physiological stressors and disorders □ Myths and facts of aging □ Health assessment □ Home for aged-various agencies □ Rehabilitation of elderly □ Care of elderly □ Elderly abuse □ Training and supervision of care givers □ Government welfare measures Programmes for elderly- Role of NGOs □ Roles and responsibilities of Geriatric nurse in the community
VII	10	Rehabilitation □ Introduction: Concepts, principles, trends, issues, □ Rehabilitation team □ Models, Methods □ Community based rehabilitation □ Ethical issues □ Rehabilitation Council of India □ Disability and rehabilitation- Use of various prosthetic devices □ Psychosocial rehabilitation □ Rehabilitation of chronic diseases □ Restorative rehabilitation □ Vocational rehabilitation □ Role of voluntary organizations □ Guidance and counseling □ Welfare measures □ Role and responsibilities of community health nurse
Unit VIII	10	Community mental health □ Magnitude, trends and issues □ National Mental Health Program- Community mental health program □ The Changing Focus of care □ The Public Health Model □ Case Management- Collaborative care □ Crisis intervention □ Welfare agencies □ Population at Risk □ The community as Client • Primary Prevention

Unit	Hours	Content
		• Secondary prevention • Tertiary Prevention □ Community based rehabilitation □ Human rights of mentally ill □ Substance use □ Mentally challenged groups □ Role of community health nurse
IX	15	Occupational health □ Introduction: Trends, issues, Definition, Aims, Objectives, Workplace safety □ Ergonomics and Ergonomic solutions □ Occupational environment- Physical, social, Decision making, Critical thinking □ Occupational hazards for different categories of people- physical, chemical, biological, mechanical, , Accidents, □ Occupational diseases and disorders □ Measures for Health promotion of workers; Prevention and control of occupational diseases, disability limitations and rehabilitation □ Women and occupational health □ Occupational education and counseling □ Violence at workplace □ Child labour □ Disaster preparedness and management □ Legal issues: Legislation, Labour unions, ILO and WHO recommendations, Factories act, ESI act □ Role of Community health nurse, Occupational health team

Practical

Total = 960 Hours 1
Week = 30 Hours

S.No.	Deptt./Unit	No. of Week	Total Hours
1	Urban and Rural community	17	510 Hours
2	School Health	3	90 Hours
3	International health	2	60 Hours
4	Administration(SC/PHC/CHC)	2	60 Hours
5	Occupational health	2	60 Hours
6	Community Mental Health	2	60 Hours
7	Home for aged and Hospice	2	60 Hours
8	Rehabilitation	2	60 Hours
	Total	32 Weeks	960 Hours

Categorisation of practical activities Observed

- MCH office and DPHNO
- CHC/ First Referral Unit(FRU)
- Child guidance clinic
- Institute/Unit for mentally challenged
- District TB centre
- AIDS control society
- Filariasis clinic
- RCH clinic
- STD clinic
- Leprosy clinic
- Community based rehabilitation unit
- Cancer centers
- Palliative care
- Home of old age
- Mental health units
- De-addiction centres
- School health services
- Industry
- Selected industrial health centers
- ESI unit
- Municipality/ corporation office

Assisted

- Laparoscopic sterilization
- Vasectomy
- All clinics related to RCH
- Monitoring of national health and family welfare programmes

Performed

- Conduct various clinics
- School health assessment.
- Health survey.
- Health assessment
- Drug administration as per the protocols
- Treatment of minor ailments
- Investigating outbreak of epidemic.
- Screening for leprosy, TB and non-communicable disease
- Presumptive and radical treatment for Malaria.
- Counselling
- Report writing
- Referrals
- Writing a project proposal
- Material management- requisition for indent, condemnation, inventory maintenance,
- Training and Supervision of various categories of personnel
- Liaison with NGO's

**STAFFING PATTERN RELAXED TILL
2012**

Qualifications & Experience Of Teachers Of College Of Nursing

Sr. No.	Post, Qualification & Experience
1	Professor-cum-Principal - Masters Degree in Nursing - 10 years of experience and minimum of 5 years of teaching experience <u><i>Desirable :</i></u> <i>Independent published work of high standard / doctorate degree / M.Phil.</i>
2	Professor-cum-Vice Principal - Masters Degree in Nursing - 10 years of experience and minimum of 5 years of teaching experience <u><i>Desirable :</i></u> <i>Independent published work of high standard / doctorate degree / M.Phil.</i>
3	Reader / Associate Professor - Master Degree in Nursing. - 7 years of experience and minimum of 3 years teaching experience <u><i>Desirable :</i></u> <i>Independent published work of high standard /doctorate degree / M.Phil.</i>
4	Assistant Professor /Lecturer - Master Degree in Nursing. - 3 years experience

Pay scales- as per UGC scales



SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION AND RESEARCH

(A Deemed to be University declared under Section 3 of UGC Act 1956)

Comprising Sri Devaraj Urs Medical College

[Constituent unit of Sri Devaraj Urs Educational Trust for Backward Classes (Regd.)]

TAMAKA, KOLAR-563 103, KARNATAKA, INDIA

Ph: 918152-243003, +91 9448395232, Fax : +918152 - 243008 E-mail - registrar@sduaher.ac.in / office@sduaher.ac.in. Website: www.sduaher.ac.in

No. SDUAHER/KLR/ADMN/ 3186 /2024-25

30.09.2024

REVISED NOTIFICATION

Ref:1 INC Notification No: 1-6/LT/2024-INC, dated: 20-09-2024

2 Approval of the Hon'able Vice Chancellor, dated:30-09-2024

In continuation of this office notification dated 29-07-2024, the Calendar of events for Admission of **M.Sc (N)** Program for the academic year **2024-25** is hereby notified as follows:

SL.NO	DESCRIPTION OF EVENTS	SCHEDULE
PART-I		
01	Last date of admission	30 th October 2024
02	Commencement of academic session	18 th September 2024
03	Online submission of list of students to the Registrar SDUAHER	5 th November 2024
04	Getting admission registered certified by the Registrar SDUAHER	15 th November 2024 Before 3.30pm
05	Last date for admission approval statement	30 November 2024
06	Submission of I A marks	17 th July 2025
07	Examination	2 nd week of August 2025
08	Declaration of results	On or before 4 st week of August 2025
SUBMISSION OF SYNOPSIS AND DESSERTATION		
09	Last date for submission of synopsis to SDUAHER	20 th January 2025
10	Last date for submission of Dissertation to SDUAHER	20 th June 2026
11	Last date for submission of Dissertation to SDUAHER with fine	30 th June 2026

Registrar

Copy to:

1. P.A to Vice Chancellor, SDUAHER
2. The Finance Officer, SDUAHER
3. The Controller of Examinations, SDUAHER
4. The Principal, Sri Devaraj Urs College of Nursing, Tamaka, Kolar
5. Office Copy

Sri Devaraj Urs Academy of Higher
Education and Research
Tamaka, Kolar - 563 103.

Sri Devaraj Urs Academy of Higher Education and Research

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Ph.918152-243003,+91 9448395232,[E-mail -registrar@sduaher.ac.in/office@sduaher.ac.in](mailto:registrar@sduaher.ac.in) Website: www.sduaher.ac.in

M.Sc. Nursing Course Regulations and Curriculum

for Medical Surgical Nursing

(With effect from 2024-2025 batches)



SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION AND RESEARCH

Constituent Unit, Sri Devaraj Urs College of Nursing

A Deemed To Be University

Declared under section 3 of UGC Act 1956

MHRD GOI NO.F, 9-36/2006-U.3 (A), Dt.25th may 2007

Post box No.62, TAMAKA, KOLAR-563103, KARNAKATAKA, INDIA

Ph.08152-210604, 210605, 243244: Fax: 08152-243008

Website: www.sduaher.ac.in Email -[registrar@sduaher.ac.in/office@sduaher.ac.in](mailto:registrar@sduaher.ac.in)

CONTENT

Sl. No.	Content	
1	Philosophy	
2	Aim	
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4	Other Staff (Maximum Requirement)	
5	Eligibility Criteria/Admission Requirements	
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9	Scheme of Examination	
	First Year	
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13	Nursing Research & Statistics	
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	- Cardio Vascular & Thoracic Nursing	
	- Medical Surgical Nursing – Critical Care Nursing	
	- Medical Surgical Nursing – Oncology Nursing	
	- Medical Surgical Nursing - Neurosciences Nursing	
	- Medical Surgical Nursing - Nephro- Urology Nursing	
	- Medical Surgical Nursing -Orthopedic Nursing	
	- Medical Surgical Nursing - Gastro Enterology Nursing	
16	Annexure – I (Staffing Pattern Relaxed till 2012)	



Sri Devaraj Urs Academy of Higher Education and Research

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Ph.918152-243003,+91 9448395232,[E-mail -registrar@sduahe.ac.in/office@sduahe.ac.in](mailto:registrar@sduahe.ac.in) Website: www.sduahe.ac.in

NOTIFICATION

Sub: Approved of M.Sc (N) curriculum under the faculty of nursing

Ref: 1) INC notification file No: 1-6/LT/2023-INC, Dated: 26-12-2023

2) Proceedings of 46th Academic council meeting, Dated: 26-02-2024

3) Proceedings of 77th Board of Management meeting, Dated: 28-03-2024

4)No.SDUAHER/KLR/ADMN/238/2024-25, Dated: 18-04-2024

Sri Devaraj Urs Academy of Higher Education and Research, Kolar was established in the year 2007 under section 3 of the UGC Act, 1956. Sri Devaraj Urs College of Nursing becomes a constituent unit of SDUAHER from 1st July 2024. The academic council and board of management of SDUAHER approved M.Sc Nursing curriculum from the academic year 2024-25 in conformity with Indian Nursing Council regulations and curriculum for M.Sc (N) programme, Regulations 2006.

(Dr. Muninaraayana C)

Registrar

Philosophy

National Health Policy(NHP) 2002 emphasizes the need to prepare nurses to function in super-speciality areas who are required in tertiary care institutions, entrusting some limited public health functions to nurses after providing adequate training, and increase the ratio of degree holding vis a vis diploma holding nurses.

It is observed that there is an acute shortage of nursing faculty in under graduate and post graduate nursing programme in India

Indian Nursing Council believes that:

Post Graduate programme is essential to prepare nurses to improve the quality of nursing education and practice in India. .

Post graduate programme in nursing builds upon and extends competence acquired at the graduate levels, emphasizes application of relevant theories into nursing practice, education, administration and development of research skills.

The programme prepares nurses for leadership position in nursing and health fields who can function as nurse specialists, consultants, educators, administrators and researchers in a wide variety of professional settings in meeting the National priorities and the changing needs of the society.

This programme provides the basis for the post masteral programme in nursing. Further the programme encourages accountability and commitment to life long learning which fosters improvement of quality care.

Aim

The aim of the postgraduate program in nursing is to prepare graduates to assume responsibilities as nurse specialists, consultants, educators, administrators in a wide variety of professional settings

Objectives

On Completion of the two year M.Sc Nursing programme, the graduate will be able to:-

1. Utilize/apply the concepts, theories and principles of nursing science
2. Demonstrate advance competence in practice of nursing
3. Practice as a nurse specialist.
4. Demonstrate leadership qualities and function effectively as nurse educator and manager.
5. Demonstrate skill in conducting nursing research, interpreting and utilizing the findings from health related research.

6. Demonstrate the ability to plan and effect change in nursing practice and in the health care delivery system.
7. Establish collaborative relationship with members of other disciplines
8. Demonstrate interest in continued learning for personal and professional advancement.

Other Staff (Minimum requirements)

(To be reviewed and revised and rationalized keeping in mind the mechanization and contract service)

- Ministerial

a)	Administrative Officer	1
c)	Office Superintendent	1
d)	PA to Principal	1
e)	Accountant/Cashier	1

- Upper Division Clerk 2

- Lower Division Clerk 2

- Store Keeper 1

a)	Maintenance of stores	1
b)	Classroom attendants	2
c)	Sanitary staff	As per the physical space
d)	Security Staff	As per the requirement

- Peons/Office attendants 4

- Library

a)	Librarian	2
b)	Library Attendants	As per the requirement

- Hostel

a)	Wardens	2
b)	Cooks, Bearers, Sanitary Staff	As per the requirement
c)	Ayas /Peons	As per the requirement
d)	Security Staff	As per the requirement
e)	Gardeners & Dhobi (desirable)	Depends on structural facilities

Eligibility Criteria/Admission Requirements:

1. The candidate should be a Registered Nurse and Registered midwife or equivalent with any State Nursing Registration Council.
2. The minimum education requirements shall be the passing of :
B.Sc. Nursing / B.Sc. Hons. Nursing / Post Basic B.Sc. Nursing with minimum of 55% aggregate marks.
3. The candidate should have undergone in B.Sc. Nursing / B.Sc. Hons. Nursing / Post Basic B.Sc. Nursing in an institution which is recognized by Indian Nursing Council.
4. Minimum one year of work experience after Basic B.Sc. Nursing.
5. Minimum one year of work experience prior or after Post Basic B.Sc. Nursing.
6. Candidate shall be medically fit.
7. 5% relaxation of marks for SC/ST candidates may be given.

Entrance/Selection test

Selection of the candidates should be based on the merit of the entrance examination held by University or competent authority.

Regulations for examination:

Eligibility for appearing for the examination:

75% of the attendance for theory and practicals. However 100% of attendance for practical before the award of degree

Classification of results:

- 50% pass in each of the theory and practical separately.
- 50-59% Second division
- 60-74% first division
- 75% and above is distinction
- For declaring the rank aggregate of 2 years marks to be considered

If the candidate fails in either practicals or theory paper he/she has to re - appear for both the papers (theory and practical)

Maximum no. of attempts per subject is three (3) inclusive of first attempt. The maximum period to complete the course successfully should not exceed 4 years

Candidate who fails in any subject, shall be permitted to continue the studies into the second year. However the candidate shall not be allowed to appear for the Second year examination till such time that he/she passes all subjects of the first year M.Sc nursing examination

Practicals

- 4 hours of practical examination per student.
- Maximum number of 10 students per day per speciality.
- The examination should be held in clinical area only for clinical specialities
- One internal and external should jointly conduct practical examination
- Examiner – Nursing faculty teaching respective speciality area in M.Sc nursing programme with minimum 3 years experience after M.Sc nursing.

Dissertation

Evaluation of the dissertation should be done by the examiner prior to viva

Duration: Viva-voce -minimum 30 minutes per student

Guidelines for Dissertation

Tentative Schedule for dissertation

S. No.	Activities	Scheduled Time
1.	Submission of the research proposal	End of 9 th month of 1 st year
2.	Submission of dissertation – Final	End of 9 th month of II nd Year

Note: - Administrative approval and ethical clearance should be obtained

A. Research Guides

a) *Qualification of Guide*

Main guide : Nursing faculty / nursing expert in the same clinical speciality holding Ph.D./M.Phil/M.Sc. Nursing with a minimum of 3 years experience in teaching in the Post Graduate Programme in Nursing.

Co-Guide : A Co-Guide is a nursing faculty/expert in the field of study (may be from outside the college but should be within the city.)

b) *Guide – Students Ratio*

Maximum of 1:4 (including as co-guide)

c) *Research Committee*

There should be a research committee in each college comprising of minimum 5 members chaired by the Principal, College of Nursing.

Duration

Duration of the course is 2 years for M.Sc. (N)

Available	52 weeks
Vacation	4 weeks
Examination	2 weeks
Gazetted holidays	3 weeks
Total weeks available	43 weeks
40 hours per week	1720 hours
Total hours for 2 years	3440 hours

Course of Instruction

	Theory (hrs)	Practical (hrs)
1st year		
Nursing education	150	150
Advance nursing practice	150	200
Nursing Research and statistics	150	100
*Clinical speciality –I	150	650

Total	600	1100
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II nd Year

Nursing Management	150	150
Nursing Research(Dissertation)		300
*Clinical Speciality-II	150	950
Total	300	1400

Educational visit 2 weeks

***Clinical Speciality** – Medical Surgical Nursing (Cardio Vascular & Thoracic Nursing, Critical care Nursing, Oncology Nursing, Neurosciences Nursing, Nephro-Urology Nursing, Orthopedic Nursing, Gastro Enterology Nursing,)Obstetric & Gynaecological Nursing, Child Health (Paediatric) Nursing, Mental Health(Psychiatric) Nursing, Community Health Nursing, Psychiatric (Mental Health) Nursing etc.

Note: Students have to maintain log book for each activity during the course of study

Scheme of Examination

	Theory			Practical		
1st year	Hours	Internal	External	Hours	Internal	External
Nursing education	3	25	75		50	50
Advance nursing practice	3	25	75			
Nursing Research and statistics	3	25**	75*			
Clinical speciality -I	3	25	75		100	100
Total		100	300		150	150
II nd Year						
Nursing Management	3	25	75			
Dissertation & Viva					100	100
Clinical Speciality-II	3	25	75		100	100
Total		50	150		200	200

* Nursing research=50 and statistics=25

**Nursing research=15 and statistics=10

1. Minimum pass marks shall be 50 % in each of the Theory and practical papers separately.
2. A candidate must have minimum of 80% attendance (irrespective of the kind of absence) in theory and practical in each subject for appearing for examination.
3. A candidate must have 100% attendance in each of the practical areas before award of degree
4. A candidate has to pass in theory and practical exam separately in each of the paper.
5. If a candidate fails in either theory or practical paper he/she has to re-appear for both the papers (Theory and practical).
6. Maximum no. of attempts permitted for each paper is 3 including first attempt.

7. The maximum period to complete the course successfully should not exceed 4 (four) years
8. A candidate failing in more than two subjects will not be promoted to the IInd year.
9. No candidate shall be admitted to the subsequent IInd year examination unless the candidate has passed the Ist year examination.
10. Maximum number of candidates for all practical examination should not exceed 10 per day.
11. Provision of Supplementary examination should be made.
12. All practical examinations must be held in the respective clinical areas.
13. One internal and One external examiners(outside the University) should jointly conduct practical examination for each student
14. An examiner should be M.Sc (N) in concerned subject and have minimum of 3 (three) years post graduate teaching experience.
15. One internal and One external examiners(outside the University) should evaluate dissertation and jointly conduct viva-voce for each student
16. For Dissertation Internal examiner should be the guide and external examiner should be Nursing faculty / nursing expert in the same clinical speciality holding Ph.D./M.Phil/M.Sc. Nursing with a minimum of 3 years experience in guiding the research projects for Post Graduate students of Nursing.

Admission Strength

Annual admission strength for M.Sc (N) Programme should have prior sanction/permission from the Indian Nursing Council on the basis of clinical, physical facilities and teaching faculty.

Health Services

There should be provisions for the following health services for the students.

- (a) An annual medical examination.
- (b) Vaccination against Tetanus, hepatitis B or any other communicable disease as considered necessary.
- (c) Free medical care during illness and / provision of health insurance should be made.
- (d) A complete health record should be kept in respect of each individual students. The question of continuing the training of a student, with long term chronic illness, will be decided by the individual college.

CURRICULUM

NURSING EDUCATION

Placement : 1st Year

Hours of Instruction
Theory 150 Hours
Practical 150 Hours
Total : 300 Hours

Course Description

This course is designed to assist students to develop a broad understanding of Fundamental Principles, concepts, trends and issues related to education and nursing education. Further, it would provide opportunity to students to understand, appreciate and acquire skills in teaching and evaluation, curriculum development, implementation, maintenance of standards and accreditation of various nursing educational programs.

Objectives

At the end of the course, students will be able to :

1. Explain the aims of education, philosophies, trends in education and health: its impact on nursing education.
2. Describe the teaching learning process.
3. Prepare and utilize various instructional media and methods in teaching learning process.
4. Demonstrate competency in teaching, using various instructional strategies.
5. Critically analyze the existing nursing educational programs, their problems, issues and future trends.
6. Describe the process of curriculum development, and the need and methodology of curriculum change, innovation and integration.
7. Plan and conduct continuing nursing education programs.
8. Critically analyze the existing teacher preparation programs in nursing.
9. Demonstrate skill in guidance and counseling.
10. Describe the problems and issues related to administration of nursing curriculum including selection and organization of clinical experience.
11. Explain the development of standards and accreditation process in nursing education programs.
12. Identify research priorities in nursing education.
13. Discuss various models of collaboration in nursing education and services.

14. Explain the concept, principles, steps, tools and techniques of evaluation
15. Construct, administer and evaluate various tools for assessment of knowledge, skill, and attitude.

Course Content

Units	Hours		Course Content
	Theory	Practical	
I	10		Introduction : □ Education :Definition, aims, concepts, philosophies & their education implications, □ Impact of Social, economical, political & technological changes on education: • Professional education • Current trends and issues in education • Educational reforms and National Educational policy, various educational commissions-reports • Trends in development of nursing education in India
II	20	30	Teaching – Learning Process □ Concepts of teaching and learning: Definition, theories of teaching and learning, relationship between teaching and learning. □ Educational aims and objectives; types, domains, levels, elements and writing of educational objectives □ Competency based education(CBE) and outcome based education(OBE) □ Instructional design: Planning and designing the lesson, writing lesson plan : meaning, its need and importance, formats. □ Instruction strategies – Lecture, discussion, demonstration, simulation, laboratory, seminar, panel, symposium, problem solving, problem based learning (PBL), workshop, project, role- play(socio- drama), clinical teaching methods, programmed instruction, self directed learning(SDL), micro teaching, computer assisted instruction(CAI), computer assisted learning (CAL)

Units	Hours		Course Content
	Theory	Practical	
III	10	10	Instructional media and methods □ Key concepts in the selection and use of media in education □ Developing learning resource material using different media □ Instructional aids – types, uses, selection, preparation, utilization. □ Teacher's role in procuring and managing instructional Aids – Project and non-projected aids, multi media, video-tele conferencing etc
IV	10		Measurement and evaluation: □ Concept and nature of measurement and evaluation, meaning, process, purposes, problems in evaluation and measurement. □ Principles of assessment, formative and summative assessment- internal assessment external examination, advantages and disadvantages. □ Criterion and norm referenced evaluation,
V	12	10	Standardized and non-standardized tests : □ Meaning, characteristics, objectivity, validity, reliability, usability, norms, construction of tests- • Essay, short answer questions and multiple choice questions. • Rating scales, checklist, OSCE/OSPE(Objective structured clinical/practical examination) • Differential scales, and summated scales, sociometry, anecdotal record, attitude scale, critical incident technique □ Question bank-preparation, validation, moderation by panel, utilization □ Developing a system for maintaining confidentiality
VI	8	5	Administration, Scoring and Reporting □ Administering a test; scoring, grading versus marks □ Objective tests, scoring essay test, methods of scoring, Item analysis.
VII	12	6	Standardized Tools □ Tests of intelligence aptitude, interest, personality, achievement, socio-economic status scale, tests for special mental and physical abilities and disabilities.

Units	Hours		Course Content
	Theory	Practical	
VIII	5	6	Nursing Educational programs □ Perspectives of nursing education: Global and national. □ Patterns of nursing education and training programmes in India. Non-university and University programs: ANM, GNM, Basic B.Sc. Nursing, Post Certificate B.Sc. Nursing, M.Sc(N) programs, M.Phil and Ph.D) in Nursing, post basic diploma programs, nurse practitioner programs.
IX	12	25	Continuing Education in Nursing □ Concepts – Definition, importance, need scope, principles of adult learning, assessments of learning needs, priorities, resources. □ Program planning, implementation and evaluation of continuing education programs. □ Research in continuing education. □ Distance education in nursing.
X	10	10	Curriculum Development □ Definition, curriculum determinants, process and steps of curriculum development, Curriculum models, Types and framework. □ Formulation of philosophy, objectives, selection and organization of learning experiences; master plan, course plan, unit plan. □ Evaluation strategies, process of curriculum change, role of students, faculty, administrators, statutory bodies and other stakeholders. □ Equivalency of courses: Transcripts, credit system.
XI	8	4	Teacher preparation □ Teacher – roles & responsibilities, functions, characteristics, competencies, qualities, □ Preparation of professional teacher □ Organizing professional aspects of teacher preparation programs □ Evaluation: self and peer □ Critical analysis of various programs of teacher education in India.

Units	Hours		Course Content
	Theory	Practical	
XII	10	5	Guidance and counseling □ Concept, principles, need, difference between guidance and counseling , trends and issues. □ Guidance and counseling services : diagnostic and remedial. □ Coordination and organization of services. □ Techniques of counseling : Interview, case work, characteristics of counselor, problems in counseling. □ Professional preparation and training for counseling.
XIII	15	10	Administration of Nursing Curriculum □ Role of curriculum coordinator – planning, implementation and evaluation. □ Evaluation of educational programs in nursing-course and program. □ Factors influencing faculty staff relationship and techniques of working together. □ Concept of faculty supervisor (dual) position. □ Curriculum research in nursing. □ Different models of collaboration between education and service
XIV	10		Management of nursing educational institutions □ Planning, organizing, staffing, budgeting, recruitment, discipline, public relation, performance appraisal, welfare services, library services, hostel,
XV	5	5	□ Development and maintenance of standards and accreditation in nursing education programs. □ Role of Indian Nursing Council, State Registration Nursing Councils, Boards and University. □ Role of Professional associations and unions.

Activities :

- Framing philosophy, aims and objectives.
- Lesson Planning.
- Micro teaching-2.
- Conduct practice teachings using different teaching strategies -10 (like lecture cum discussion, demonstration- lab method, field trips, seminars, project, role play, panel discussion, clinical methods etc)
- Preparation and utilization of instructional Aids using different media.
- Develop course plans, unit plans, rotation plans.
- Conduct a continuing education workshop.
- Annotated bibliography.
- Critical evaluation of any nursing education program offered by a selected institution.
- Planning and Organizing field visits.

- Educational visits.
- Field visits (INC/SNRC) to get familiar with recognition/registration process.
- Construct, administer and evaluate tools (objective & essay type test, observation checklist, rating scale etc)
- Observe and practice application of various non-standardized tests (intelligence, Aptitude, Personality, Sociometry, physical & mental disabilities tests.)

Methods of Teaching

- Lecture cum discussion
- Demonstration/ Return demonstration
- Seminar / Presentations
- Project work
- Field visits
- Workshop

Methods of evaluation

- Tests
- Presentation
- Project work
- Written assignments

Internal Assessment

Techniques	Weightage
Test- (2 tests)	50
Assignment	25
Seminar/presentation	25

	100

Practical – Internal assessment

Learning resource material	25
Practice Teaching	50
Conduct Workshop /Short Term Course	25

Practical – external assessment

Practice teaching- 1-	50
Preparation/use of learning resource material-1	25
Construction of tests/rotation plan.	25

ADVANCE NURSING PRACTICE

Placement: 1ST Year

Hours of Instruction
Theory 150 Hours
Practical 200 Hours
Total : 350 Hours

Course Description

The course is designed to develop an understanding of concepts and constructs of theoretical basis of advance nursing practice and critically analyze different theories of nursing and other disciplines.

Objectives:

At the end of the course the students will be able to:

1. Appreciate and analyze the development of nursing as a profession.
2. Describe ethical, legal, political and economic aspects of health care delivery and nursing practice.
3. Explain bio- psycho- social dynamics of health, life style and health care delivery system.
4. Discuss concepts, principles, theories, models, approaches relevant to nursing and their application.
5. Describe scope of nursing practice.
6. Provide holistic and competent nursing care following nursing process approach.
7. Identify latest trends in nursing and the basis of advance nursing practice.
8. Perform extended and expanded role of nurse.
9. Describe alternative modalities of nursing care.
10. Describe the concept of quality control in nursing.
11. Identify the scope of nursing research.
12. Use computer in patient care delivery system and nursing practice.
13. Appreciate importance of self development and professional advancement.

Course Content

Unit	Hours	Content
I	10	Nursing as a Profession □ History of development of nursing profession, characteristics, criteria of the profession, perspective of nursing profession-national, global □ Code of ethics(INC), code of professional conduct(INC), autonomy and accountability, assertiveness, visibility of nurses, legal considerations, □ Role of regulatory bodies □ Professional organizations and unions-self defense, individual and collective bargaining □ Educational preparations, continuing education, career opportunities, professional advancement & role and scope of nursing education. □ Role of research, leadership and management. □ Quality assurance in nursing (INC). □ Futuristic nursing.
II	5	Health care delivery □ Health care environment, economics, constraints, planning process, policies, political process vis a vis nursing profession. □ Health care delivery system- national, state, district and local level. □ Major stakeholders in the health care system-Government, non-govt, Industry and other professionals. □ Patterns of nursing care delivery in India. □ Health care delivery concerns, national health and family welfare programs, inter-sectoral coordination, role of non-governmental agencies. □ Information, education and communication (IEC). □ Tele-medicine.
III	10	Genetics □ Review of cellular division, mutation and law of inheritance, human genome project ,The Genomic era. □ Basic concepts of Genes, Chromosomes & DNA. □ Approaches to common genetic disorders. □ Genetic testing – basis of genetic diagnosis, Pre symptomatic and predisposition testing, Prenatal diagnosis & screening, Ethical, legal & psychosocial issues in genetic testing. □ Genetic counseling. □ Practical application of genetics in nursing.
IV	10	Epidemiology □ Scope, epidemiological approach and methods, □ Morbidity, mortality, □ Concepts of causation of diseases and their screening, □ Application of epidemiology in health care delivery, Health surveillance and health informatics □ Role of nurse

Unit	Hours	Content
V	20	Bio-Psycho social pathology □ Pathophysiology and Psychodynamics of disease causation □ Life processes, homeostatic mechanism, biological and psycho-social dynamics in causation of disease, life style □ Common problems: Oxygen insufficiency, fluid and electrolyte imbalance, nutritional problems, hemorrhage and shock, altered body temperature, unconsciousness, sleep pattern and its disturbances, pain, sensory deprivation. □ Treatment aspects: pharmacological and pre- post operative care aspects, □ Cardio pulmonary resuscitation. □ End of life Care □ Infection prevention (including HIV) and standard safety measures, bio-medical waste management. □ Role of nurse- Evidence based nursing practice; Best practices □ Innovations in nursing
VI	20	Philosophy and Theories of Nursing □ Values, Conceptual models, approaches. □ Nursing theories: Nightingale's, Henderson's, Roger's, Peplau's, Abdella's, Lewine's, Orem's, Johnson's, King's, Neuman's, Roy's, Watson's, etc and their applications, □ Health belief models, communication and management, etc □ Concept of Self health. □ Evidence based practice model.
VIII	10	Nursing process approach □ Health Assessment- illness status of patients/clients (Individuals, family, community), Identification of health- illness problems, health behaviors, signs and symptoms of clients. □ Methods of collection, analysis and utilization of data relevant to nursing process. □ Formulation of nursing care plans, health goals, implementation, modification and evaluation of care.
IX	30	Psychological aspects and Human relations □ Human behavior, Life processes & growth and development, personality development, defense mechanisms, □ Communication, interpersonal relationships, individual and group, group dynamics, and organizational behavior, □ Basic human needs, Growth and development, (Conception through preschool, School age through adolescence, Young & middle adult, and Older adult) □ Sexuality and sexual health. □ Stress and adaptation, crisis and its intervention, □ Coping with loss, death and grieving, □ Principles and techniques of Counseling.

Unit	Hours	Content
X	10	Nursing practice □ Framework, scope and trends. □ Alternative modalities of care, alternative systems of health and complimentary therapies. □ Extended and expanded role of the nurse, in promotive, preventive, curative and restorative health care delivery system in community and institutions. □ Health promotion and primary health care. □ Independent practice issues,- Independent nurse-midwifery practitioner. □ Collaboration issues and models-within and outside nursing. □ Models of Prevention, □ Family nursing, Home nursing, □ Gender sensitive issues and women empowerment. □ Disaster nursing. □ Geriatric considerations in nursing. □ Evidence based nursing practice- Best practices □ Trans-cultural nursing.
XI	25	Computer applications for patient care delivery system and nursing practice □ Use of computers in teaching, learning, research and nursing practice. □ Windows, MS office: Word, Excel, Power Point, □ Internet, literature search, □ Statistical packages, □ Hospital management information system: softwares.

Practical

Clinical posting in the following areas:

- Specialty area- in-patient unit - 2 weeks
- Community health center/PHC - 2 weeks
- Emergency/ICU - 2 weeks

Activities

- Prepare Case studies with nursing process approach and theoretical basis
- Presentation of comparative picture of theories
- Family case- work using model of prevention
- Annotated bibliography
- Report of field visits (5)

Methods of Teaching

- Lecture cum discussion
- Seminar
- Panel discussion
- Debate
- Case Presentations
- Exposure to scientific conferences
- Field visits

Methods of evaluation :

- Tests
- Presentation
- Seminar
- Written assignments

Advance nursing Procedures

Definition, Indication and nursing implications;

- CPR, TPN, Hemodynamic monitoring, Endotracheal intubation, Tracheostoma, mechanical ventilation, Pacemaker, Hemodialysis, Peritoneal dialysis, LP, BT Pleural and abdominal paracentesis OT techniques, Health assessment, Triage, Pulse oxymetry

Internal Assessment

Techniques	Weightage
Test- (2 tests)	50
Assignment	25
Seminar/presentation	25

	100

CLINICAL SPECIALITY – I

MEDICAL SURGICAL NURSING

Placement: 1st Year

Hours of instruction
Theory: 150 Hours
Practical: 650 Hours Total
: 800 Hours

Course Description

This course is common for the students undergoing clinical speciality-II in neuro science nursing/cardiovascular & thoracic nursing/critical care nursing/oncology nursing/orthopaedic and rehabilitation nursing/nephro & urology nursing, gastroenterology nursing/ geriatric nursing.

It is designed to assist students in developing expertise and in depth knowledge in the field of medical Surgical Nursing. It will help students to appreciate the patient as a holistic individual and develop skill to function as a specialized Medical-Surgical Nurse. It will further enable the student to function as educator, manager and researcher in the field of Medical – Surgical Nursing.

Objectives

At the end of the course the students will be able to:

1. Appreciate the trends & issues in the field of Medical – Surgical Nursing as a speciality.
2. Apply concepts & theories related to health promotion.
3. Appreciate the client as a holistic individual.
4. Perform physical, psychosocial assessment of Medical – Surgical patients.
5. Apply Nursing process in providing care to patients.
6. Integrate the concept of family centered nursing care with associated disorder such as genetic, congenital and long-term illness.
7. Recognize and manage emergencies with Medical- Surgical patients.
8. Describe various recent technologies & treatment modalities in the management of critically ill patients.
9. Appreciate the legal & ethical issues relevant to Medical – Surgical Nursing.
10. Prepare a design for layout and management of Medical – Surgical Units.

11. Appreciate the role of alternative systems of Medicine in care of patients.
12. Incorporate evidence based Nursing practice and identify the areas of research in the field of Medical – Surgical Nursing.
13. Recognize the role of Nurse practitioner as a member of the Medical – Surgical health team.
14. Teach Medical – Surgical Nursing to undergraduate nursing students & in-service nurses.

COURSE CONTENT:

Unit	Hours	Content
I	5	Introduction: □ Historical development of Medical- Surgical Nursing in India. □ Current status of health and disease burden in India. □ Current concept of health. □ Trends & issues in Medical – Surgical Nursing. □ Ethical & cultural issues in Medical – Surgical Nursing. □ Rights of patients. □ National health policy, special laws & ordinances relating to older people. □ National goals. □ Five year plans. □ National health programs related to adult health.
II	20	Health Assessment of patients □ History taking. □ Physical examination of various systems. □ Nutritional assessment. □ Related investigations and diagnostic assessment.
III	5	Care in hospital settings: □ Ambulatory care. □ Acute and Critical care. □ Long term care. □ Home Health Care. □ Characteristics, care models, practice settings, interdisciplinary team. □ Hospitalization- effects of hospitalization on the patient & family. □ Stressors & reactions related to disease process. □ Nursing care using Nursing process approach.
IV	10	Management of patients with disorders of Gastro intestinal tract □ Review of anatomy and physiology. □ Common Disorders-etiology, Patho physiology, Clinical manifestations, complications, prognosis. □ Health assessment- History taking, physical examination, investigation and diagnostic assessment. □ Treatment modalities and trends. □ Nursing management. □ Related research studies. □ Evidence based nursing practice. □ Rehabilitation and follow-up.

Unit	Hours	Content
V	10	Management of patients with disorders of nervous system □ Review of anatomy and physiology. □ Common Disorders- etiology, Patho physiology, Clinical manifestations, complications, prognosis. □ Health assessment-History taking, physical examination, investigation and diagnostic assessment. □ Treatment modalities and trends. □ Nursing management. □ Related research studies. □ Evidence based nursing practice. □ Rehabilitation and follow-up.
VI	10	Management of patients with disorders of respiratory system □ Review of anatomy and physiology. □ Common Disorders- etiology, Patho physiology, Clinical manifestations, complications, prognosis. □ Health assessment-History taking, physical examination, investigation and diagnostic assessment. □ Treatment modalities and trends. □ Nursing management. □ Related research studies. □ Evidence based nursing practice. □ Rehabilitation and follow-up.
VII	10	Management of patients with disorders of cardio vascular system □ Review of anatomy and physiology. □ Common Disorders- etiology, Patho physiology, Clinical manifestations, complications, prognosis. □ Health assessment-History taking, physical examination, investigation and diagnostic assessment. □ Treatment modalities and trends. □ Nursing management. □ Related research studies. □ Evidence based nursing practice. □ Rehabilitation and follow-up.
VIII	5	Management of patients with disorders of blood □ Review of anatomy and physiology. □ Common Disorders- etiology, Patho physiology, Clinical manifestations, complications, prognosis. □ Health assessment-History taking, physical examination, investigation and diagnostic assessment. □ Treatment modalities and trends. □ Nursing management. □ Related research studies □ Evidence based nursing practice □ Rehabilitation and follow-up
IX	10	Management of patients with disorders of genito urinary system □ Review of anatomy and physiology. □ Common Disorders- etiology, Patho physiology, Clinical manifestations, complications, prognosis.

Unit	Hours	Content
		□ Health assessment-History taking, physical examination, investigation and diagnostic assessment. □ Treatment modalities and trends. □ Nursing management. □ Related research studies. □ Evidence based nursing practice. □ Rehabilitation and follow-up.
X	10	Management of patients with disorders of endocrine system □ Review of anatomy and physiology. □ Common Disorders- etiology, Patho physiology, Clinical manifestations, complications, prognosis. □ Health assessment-History taking, physical examination, investigation and diagnostic assessment. □ Treatment modalities and trends. □ Nursing management. □ Related research studies. □ Evidence based nursing practice. □ Rehabilitation and follow-up.
XI	10	Management of patients with disorders of musculo-skeletal system □ Review of anatomy and physiology. □ Common Disorders- etiology, Patho physiology, Clinical manifestations, complications, prognosis. □ Health assessment-History taking, physical examination, investigation and diagnostic assessment. □ Treatment modalities and trends. □ Nursing management. □ Related research studies. □ Evidence based nursing practice. □ Rehabilitation and follow-up.
XII	8	Management of patients with disorders of integumentary system □ Review of anatomy and physiology. □ Common Disorders- etiology, Patho physiology, Clinical manifestations, complications, prognosis. □ Health assessment-History taking, physical examination, investigation and diagnostic assessment. □ Treatment modalities and trends. □ Nursing management. □ Related research studies. □ Evidence based nursing practice. □ Rehabilitation and follow-up.
XIII	5	Management of patients with disorders of Eye and ENT □ Review of anatomy and physiology. □ Common Disorders-etiology, Patho physiology, Clinical manifestations, complications, prognosis. □ Health assessment-History taking, physical examination, investigation and diagnostic assessment. □ Treatment modalities and trends.

Unit	Hours	Content
		□ Nursing management. □ Related research studies. □ Evidence based nursing practice. □ Rehabilitation and follow-up.
XIV	8	Management of patients with disorders of reproductive system □ Review of anatomy and physiology. □ Common Disorders- etiology, Patho physiology, Clinical manifestations, complications, prognosis. □ Health assessment-History taking, physical examination, investigation and diagnostic assessment. □ Treatment modalities and trends. □ Nursing management. □ Related research studies. □ Evidence based nursing practice. □ Rehabilitation and follow-up.
XV	8	Geriatric nursing □ Nursing Assessment-History and Physical assessment. □ Ageing; □ Demography; Myths and realities. □ Concepts and theories of ageing. □ Cognitive Aspects of Ageing. □ Normal biological ageing. □ Age related body systems changes. □ Psychosocial Aspects of Aging. □ Medications and elderly. □ Stress & coping in older adults. □ Common Health Problems & Nursing Management; □ Psychosocial and Sexual. □ Abuse of elderly. □ Role of nurse for care of elderly: ambulation, nutritional, communicational, psychosocial and spiritual. □ Role of nurse for caregivers of elderly. □ Role of family and formal and non formal caregivers. □ Use of aids and prosthesis (hearing aids, dentures, □ Legal & Ethical Issues. □ Provisions and Programmes for elderly; privileges, Community Programs and health services; □ Home and institutional care. □ Issues, problems and trends.
XVI	8	Management of patients with communicable and sexually transmitted diseases: □ Review of immune system. □ Common Disorders of immune system – HIV/AIDS. □ Review of infectious disease process. □ Communicable Diseases- etiology, Patho physiology, Clinical manifestations, complications, prognosis. □ Health assessment-History taking, physical examination, investigation and diagnostic assessment. □ Treatment modalities and trends.

Unit	Hours	Content
		□ Nursing management. □ Related research studies. □ Evidence based nursing practice. □ Rehabilitation and follow-up.
XVII	8	Emergency, trauma and multi-system organ failure □ DIC (disseminated intravascular coagulation) □ Trauma, burns, poisoning □ Etiology, Patho physiology, Clinical manifestations, complications, prognosis. □ Health assessment-History taking, physical examination, investigation and diagnostic assessment. • Treatment modalities and trends. • Nursing management. • Related research studies. • Evidence based nursing practice. • Rehabilitation and follow-up.

Practical

Total = 660 Hours
1 Week = 30 Hours

S.No.	Dept/Unit	No. of Week	Total Hours
	General Medical Ward	4	120 Hours
	General Surgical Ward	4	120 Hours
	ICUs	4	120 Hours
	Oncology	2	60 Hours
	Ortho	2	60 Hours
	Cardio	2	60 Hours
	Emergency Department	2	60 Hours
	Neuro	2	60 Hours
	Total	22 Weeks	660 Hours

Student Activities:

- Clinical presentations
- History taking
- Health Assessment
- Nutritional Assessment
- Health Education related to disease conditions
- Case studies
- Project work
- Field visit

NURSING RESEARCH AND STATISTICS

Placement: 1st Year

Hours of Instruction
Theory 150 Hours
Practical 100 Hours
Total : 250 Hours

Part-A : Nursing Research

Theory 100 Hours
Practical 50 Hours
Total : 150 Hours

Course Description:

The course is designed to assist the students to acquire an understanding of the research methodology and statistical methods as a basis for identifying research problem, planning and implementing a research plan. It will further enable the students to evaluate research studies and utilize research findings to improve quality of nursing practice, education and management.

General Objectives:

At the end of the course, the students will be able to:

1. Define basic research terms and concepts.
2. Review literature utilizing various sources
3. Describe research methodology
4. Develop a research proposal.
5. Conduct a research study.
6. Communicate research findings
7. Utilize research findings
8. Critically evaluate nursing research studies.
9. Write scientific paper for publication.

Content Outline

Unit	Hours		Course Content
	Theory	Practical	
I	10		Introduction: □ Methods of acquiring knowledge – problem solving and scientific method. □ Research – Definition, characteristics, purposes, kinds of research □ Historical Evolution of research in nursing □ Basic research terms □ Scope of nursing research: areas, problems in nursing, health and social research □ Concept of evidence based practice □ Ethics in research □ Overview of Research process
II	5	5	Review of Literature □ Importance, purposes, sources, criteria for selection of resources and steps in reviewing literature.
III	12		Research Approaches and designs □ Type: Quantitative and Qualitative □ Historical, survey and experimental –Characteristics, types advantages and disadvantages □ Qualitative: Phenomenology, grounded theory, ethnography
IV	10	5	Research problem: □ Identification of research problem □ Formulation of problem statement and research objectives □ Definition of terms □ Assumptions and delimitations □ Identification of variables □ Hypothesis – definition, formulation and types.
V	5	5	Developing theoretical/conceptual framework. □ Theories: Nature, characteristics, Purpose and uses □ Using, testing and developing conceptual framework, models and theories.
VI	6		Sampling □ Population and sample □ Factors influencing sampling □ Sampling techniques □ Sample size □ Probability and sampling error □ Problems of sampling

Unit	Hours		Course Content
	Theory	Practical	
VII	20	10	Tools and methods of Data collection: □ Concepts of data collection □ Data sources, methods/techniques quantitative and qualitative. □ Tools for data collection – types, characteristics and their development □ Validity and reliability of tools □ Procedure for data collection
VIII	5		Implementing research plan □ Pilot Study, review research plan (design)., planning for data collection, administration of tool/interventions, collection of data
IX	10	10	Analysis and interpretation of data □ Plan for data analysis: quantitative and qualitative □ Preparing data for computer analysis and presentation. □ Statistical analysis □ Interpretation of data □ Conclusion and generalizations □ Summary and discussion
X	10		Reporting and utilizing research findings: □ Communication of research results; oral and written □ Writing research report purposes, methods and style- vancouver, American Psychological Association(APA), Campbell etc □ Writing scientific articles for publication: purposes & style
XI	3	8	Critical analysis of research reports and articles
XII	4	7	Developing and presenting a research proposal

Activities:

- Annotated Bibliography of research reports and articles.
- Review of literature of selected topic and reporting
- Formulation of problem statement, objective and hypothesis
- Developing theoretical/conceptual framework.
- Preparation of a sample research tool
- Analysis and interpretation of given data
- Developing and presenting research proposal
- Journal club presentation
- Critical evaluation of selected research studies
- Writing a scientific paper.

Method of Teaching

- Lecture-cum-discussion
- Seminar/Presentations
- Project
- Class room exercises
- Journal club

Methods of Evaluation

- Quiz, Tests (Term)
- Assignments/Term paper
- Presentations
- Project work

Internal Assessment

Techniques	Weightage (15marks)
Term Test(2 tests)	40%
Assignment	20%
Presentation	20%
Project work	20%
Total	100%

Part –B : Statistics

Hours of Instruction
Theory 50 Hours
Practical 50 Hours Total
: 100 Hours

Course Description

At the end of the course, the students will be able to develop an understanding of the statistical methods and apply them in conducting research studies in nursing.

General Objectives

At the end of the course the students will be able to:

1. Explain the basic concepts related to statistics
2. Describe the scope of statistics in health and nursing
3. Organize, tabulate and present data meaningfully.
4. Use descriptive and inferential statistics to predict results.
5. Draw conclusions of the study and predict statistical significance of the results.
6. Describe vital health statistics and their use in health related research.
7. Use statistical packages for data analysis

Unit	Hours		Course Content
	Theory	Practical	
I	7	4	Introduction: □ Concepts, types, significance and scope of statistics, meaning of data, □ sample, parameter □ type and levels of data and their measurement □ Organization and presentation of data – Tabulation of data; □ Frequency distribution □ Graphical and tabular presentations.
II	4	4	Measures of central tendency: □ Mean, Median, Mode
III	4	5	Measures of variability; □ Range, Percentiles, average deviation, quartile deviation, standard deviation
IV	3	2	Normal Distribution: □ Probability, characteristics and application of normal probability curve; sampling error.

Unit	Hours		Course Content
	Theory	Practical	
V	6	8	Measures of relationship: □ Correlation – need and meaning □ Rank order correlation; □ Scatter diagram method □ Product moment correlation □ Simple linear regression analysis and prediction.
VI	5	2	Designs and meaning: □ Experimental designs □ Comparison in pairs, randomized block design, Latin squares.
VII	8	10	Significance of Statistic and Significance of difference between two Statistics (Testing hypothesis) □ Non parametric test – Chi-square test, Sign, median test, Mann Whitney test. □ Parametric test – ‘t’ test, ANOVA, MANOVA, ANCOVA
VIII	5	5	Use of statistical methods in psychology and education: □ Scaling – Z Score, Z Scaling □ Standard Score and T Score □ Reliability of test Scores: test-retest method, parallel forms, split half method.
IX	4	2	Application of statistics in health: □ Ratios, Rates, Trends □ Vital health statistics – Birth and death rates. □ Measures related to fertility, morbidity and mortality
X	4	8	Use of Computers for data analysis □ Use of statistical package.

Activities

- Exercises on organization and tabulation of data,
- Graphical and tabular presentation of data
- Calculation of descriptive and inferential statistics(chi square, t-test, correlation)
- Practice in using statistical package
- Computing vital health statistics

Methods of Teaching:

- Lecture-cum-discussion
- Demonstration – on data organization, tabulation, calculation of statistics, use of statistical package, Classroom exercises, organization and tabulation of data,

- Computing Descriptive and inferential statistics; vital and health statistics and use of computer for data entry and analysis using statistical package.

Methods of Evaluation

- Test, Classroom statistical exercises.

Internal Assessment

Techniques

Weightage 10 marks

Test – (2 tests)

100%

NURSING MANAGEMENT

Placement : II Year

Hours of Instruction
Theory 150 Hours
Practical 150 Hours
Total : 300 Hours

Course Description

This course is designed to assist students to develop a broad understanding of Principles, concepts, trends and issues related to nursing management. Further, it would provide opportunity to students to understand, appreciate and acquire skills in planning, supervision and management of nursing services at different levels to provide quality nursing services.

Objectives

At the end of the course, students will be able to:

1. Describe the philosophy and objectives of the health care institutions at various levels.
2. Identify trends and issues in nursing
3. Discuss the public administration, health care administration vis a vis nursing administration
4. Describe the principles of administration applied to nursing
5. Explain the organization of health and nursing services at the various levels/institutions.
6. Collaborate and co-ordinate with various agencies by using multi-sectoral approach
7. Discuss the planning, supervision and management of nursing workforce for various health care settings.
8. Discuss various collaborative models between nursing education and nursing service to improve the quality of nursing care
9. Identify and analyse legal and ethical issues in nursing administration
10. Describe the process of quality assurance in nursing services.
11. Demonstrate leadership in nursing at various levels

Course Content

Unit	Hours	Content
I	10	Introduction □ Philosophy, purpose, elements, principles and scope of administration □ Indian Constitution, Indian Administrative system vis a vis health care delivery system: National, State and Local □ Organisation and functions of nursing services and education at National, State , District and institutions: Hospital and Community □ Planning process: Five year plans, Various Committee Reports on health, State and National Health policies, national population policy, national policy on AYUSH and plans,
II	10	Management □ Functions of administration □ Planning and control □ Co-ordination and delegation □ Decision making – decentralization basic goals of decentralization. □ Concept of management Nursing management □ Concept, types, principles and techniques □ Vision and Mission Statements □ Philosophy, aims and objective □ Current trends and issues in Nursing Administration □ Theories and models Application to nursing service and education
III	15	Planning □ Planning process: Concept, Principles, Institutional policies □ Mission, philosophy, objectives, □ Strategic planning □ Operational plans □ Management plans □ Programme evaluation and review technique(PERT), Gantt chart, Management by objectives(MBO) □ Planning new venture □ Planning for change □ Innovations in nursing Application to nursing service and education
IV	15	Organisation □ Concept , principles, objectives, Types and theories, Minimum requirements for organisation, Developing an organizational Structure, levels, organizational Effectiveness and organizational Climate, □ Organising nursing services and patient care: Methods of patient assignment- Advantages and disadvantages, primary nursing care, □ Planning and Organising: hospital, unit and ancillary services(specifically central sterile supply department, laundry, kitchen, laboratory services, emergency etc)

Unit	Hours	Content
		□ Disaster management: plan, resources, drill, etc Application to nursing service and education
V	15	Human Resource for health □ Staffing • Philosophy • Norms: Staff inspection unit(SIU), Bajaj Committee, High power committee, Indian nursing council (INC) • Estimation of nursing staff requirement- activity analysis • Various research studies □ Recruitment: credentialing, selection, placement, promotion □ Retention □ Personnel policies □ Termination □ Staff development programme □ Duties and responsibilities of various category of nursing personnel Applications to nursing service and education
VI	15	Directing □ Roles and functions □ Motivation: Intrinsic, extrinsic, Creating motivating climate, Motivational theories □ Communication : process, types, strategies, Interpersonal communication, channels, barriers, problems, Confidentiality, Public relations □ Delegation; common delegation errors □ Managing conflict: process, management, negotiation, consensus □ Collective bargaining: health care labour laws, unions, professional associations, role of nurse manager □ Occupational health and safety Application to nursing service and education
VII	10	Material management □ Concepts, principles and procedures □ Planning and procurement procedures : Specifications □ ABC analysis, □ VED (very important and essential daily use) analysis □ Planning equipments and supplies for nursing care: unit and hospital □ Inventory control □ Condemnation Application to nursing service and education
VIII	15	Controlling □ Quality assurance – Continuous Quality Improvement • Standards • Models • Nursing audit

Unit	Hours	Content
		□ Performance appraisal: Tools, confidential reports, formats, Management, interviews □ Supervision and management: concepts and principles □ Discipline: service rules, self discipline, constructive versus destructive discipline, problem employees, disciplinary proceedings- enquiry etc □ Self evaluation or peer evaluation, patient satisfaction, utilization review Application to nursing service and education
IX	15	Fiscal planning □ Steps □ Plan and non-plan, zero budgeting, mid-term appraisal, capital and revenue □ Budget estimate, revised estimate, performance budget □ Audit □ Cost effectiveness □ Cost accounting □ Critical pathways □ Health care reforms □ Health economics □ Health insurance □ Budgeting for various units and levels Application to nursing service and education
X	10	Nursing informatics □ Trends □ General purpose □ Use of computers in hospital and community □ Patient record system □ Nursing records and reports □ Management information and evaluation system (MIES) □ E- nursing, Telemedicine, telenursing □ Electronic medical records
XI	10	Leadership □ Concepts, Types, Theories □ Styles □ Manager behaviour □ Leader behaviour □ Effective leader: Characteristics, skills □ Group dynamics □ Power and politics □ lobbying □ Critical thinking and decision making □ Stress management Applications to nursing service and education

Unit	Hours	Content
XII	10	Legal and ethical issues Laws and ethics □ Ethical committee □ Code of ethics and professional conduct □ Legal system: Types of law, tort law, and liabilities □ Legal issues in nursing: negligence, malpractice, invasion of privacy, defamation of character □ Patient care issues, management issues, employment issues □ Medico legal issues □ Nursing regulatory mechanisms: licensure, renewal, accreditation □ Patients rights, Consumer protection act(CPA) □ Rights of special groups: children, women, HIV, handicap, ageing □ Professional responsibility and accountability □ Infection control □ Standard safety measures

PRACTICALS

1. Prepare prototype personal files for staff nurses, faculty and cumulative records
2. Preparation of budget estimate, Revised estimate and performance budget
3. Plan and conduct staff development programme
4. Preparation of Organisation Chart
5. Developing nursing standards/protocols for various units
6. Design a layout plan for speciality units /hospital, community and educational institutions
7. Preparation of job description of various categories of nursing personnel
8. Prepare a list of equipments and supplies for speciality units
9. Assess and prepare staffing requirement for hospitals, community and educational institutions
10. Plan of action for recruitment process
11. Prepare a vision and mission statement for hospital, community and educational institutions
12. Prepare a plan of action for performance appraisal
13. Identify the problems of the speciality units and develop plan of action by using problem solving approach
14. Plan a duty roster for speciality units/hospital, community and educational institutions
15. Prepare: anecdotes, incident reports, day and night reports, handing and taking over reports, enquiry reports, nurses notes, Official letters,

curriculum vitae, presentations etc

16. Prepare a plan for disaster management
17. Group work
18. Field appraisal report

CLINICAL SPECIALITY – II

MEDICAL SURGICAL NURSING

SUB SPECIALITY – CARDIO VASCULAR AND THORACIC NURSING

Placement : II year

Hours of Instruction

Theory : 150 hours.

Practical : 950 hours.

Total : 1100 hours.

Course Description

This course is designed to assist students in developing expertise and in- depth understanding in the field of cardiovascular and thoracic nursing. It will help students to develop advanced skills for nursing intervention in various cardio medical and surgical conditions. It will enable the student to function as Cardio vascular and Thoracic Nurse practitioner/specialist. It will further enable the student to function as educator, manager and researcher in the field of cardio vascular and thoracic nursing.

Objectives

At the end of the course the students will be able to:

1. Appreciate trends and issues related to cardio vascular and thoracic Nursing.
2. Describe the epidemiology, etiology, pathophysiology and diagnostic assessment of cardio vascular and thoracic conditions
3. Participate in national health programs for health promotion, prevention and rehabilitation of patients with cardio vascular and thoracic conditions
4. Perform physical, psychosocial & spiritual assessment
5. Assist in various diagnostic, therapeutic and surgical procedures
6. Apply nursing process in providing comprehensive care to patients with cardio vascular and thoracic conditions
7. Demonstrate advance skills/competence in managing patients with cardio vascular and thoracic conditions including Advance Cardiac Life Support.
8. Describe the various drugs used in cardio vascular and thoracic conditions and nurses responsibility
9. Demonstrate skill in handling various equipments/gadgets used for critical care of cardio vascular and thoracic patients
10. Appreciate team work & coordinate activities related to patient care.
11. Practice infection control measures.
12. Identify emergencies and complications & take appropriate measures

13. Discuss the legal and ethical issues in cardio vascular and thoracic nursing
14. Assist patients and their family to cope with emotional distress, grief, anxiety and spiritual needs.
15. Appreciate the role of alternative system of medicine in care of patient
16. Incorporate evidence based nursing practice and identify the areas of research in the field of cardio vascular and thoracic nursing
17. Identify the sources of stress and manage burnout syndrome among health care providers.
18. Teach and supervise nurses and allied health workers.
19. Design a layout of ICCU and ICTU and develop standards for cardio vascular and thoracic nursing practice.

Content Outline

Unit	Hours	Content
I	5	Introduction □ Historical development, trends and issues in the field of cardiology. □ Cardio vascular and thoracic conditions – major health problem. □ Concepts, principles and nursing perspectives □ Ethical and legal issues □ Evidence based nursing and its application in cardio vascular and thoracic nursing(to be incorporated in all the units)
II	5	Epidemiology □ Risk factors: hereditary, psycho social factors, hypertension, smoking, obesity, diabetes mellitus etc □ Health promotion, disease prevention, Life style modification □ National health programs related to cardio vascular and thoracic conditions □ Alternate system of medicine □ Complementary therapies
III	5	Review of anatomy and physiology of cardio vascular and respiratory system □ Review of anatomy and physiology of heart, lung, thoracic cavity and blood vessels. Embryology of heart and lung. □ Coronary circulation □ Hemodynamics and electro physiology of heart. □ Bio-chemistry of blood in relation to cardio pulmonary function.
IV	20	Assessment and Diagnostic Measures: □ History taking □ Physical assessment • Heart rate variability: Mechanisms , measurements, pattern, factors, impact of interventions on HRV □ Diagnostic tests • Hemodynamic monitoring: Technical aspects, monitoring, functional hemodynamic indices, ventricular function indices,

Unit	Hours	Content
		output measurements (Arterial and swan Ganz monitoring). Blood gases and its significance, oxygen supply and demand • Radiologic examination of the chest: interpretation, chest film findings • Electro cardiography(ECG) : electrical conduction through the heart, basic electrocardiography, 12 lead electrocardiogram, axis determination - ECG changes in: intraventricular conduction abnormalities- Arrhythmias, ischemia, injury and infarction, atrial and ventricular enlargement, electrolyte imbalance, • Echocardiography: technical aspects, special techniques, echocardiography of cardiac structures in health and disease, newer techniques • Nuclear and other imaging studies of the heart: Magnetic Resonance Imaging. • Cardio electrophysiology procedures: diagnostic studies, interventional and catheter ablation, nursing care • Exercise testing: indications and objectives, safety and personnel, pretest considerations, selection, interpretation, test termination, recovery period • Cardiac catheterization: indications, contraindications, patient preparation, procedure, interpretation of data • Pulmonary function test: Bronchoscopy and graphies • Interpretation of diagnostic measures • Nurse's role in diagnostic tests □ Laboratory tests using blood: Blood specimen collection, Cardiac markers, Blood lipids, Hematologic studies, Blood cultures, Coagulation studies, Arterial blood gases, Blood Chemistries, cardiac enzyme studies, Serum Concentration of Selected drugs. □ Interpretation and role of nurse
V	25	Cardiac disorders and nursing management: □ Etiology, clinical manifestations, diagnosis, prognosis, related pathophysiology, treatment modalities and nursing management of: • Hypertension • Coronary Artery Disease. • Angina of various types. • Cardiomegaly • Myocardial Infarction, Congestive cardiac failure • Heart Failure, Pulmonary Edema, Shock. • Rheumatic heart disease and other Valvular Diseases • Inflammatory Heart Diseases, Infective Endocarditis, Myocarditis, Pericarditis. • Cardiomyopathy, dilated, restrictive, hypertrophic. • Arrhythmias, heart block Associated illnesses

Unit	Hours	Content
VI	10	Altered pulmonary conditions □ Etiology, clinical manifestations, diagnosis, prognosis, related pathophysiology, treatment modalities and nursing management of: • Bronchitis • Bronchial asthma • Bronchiectasis • Pneumonias • Lung abscess, lung tumour • Pulmonary tuberculosis, fibrosis, pneumoconiosis etc • Pleuritis, effusion • Pneumo, haemo and pyothorax • Interstitial Lung Disease • Cystic fibrosis • Acute and Chronic obstructive pulmonary disease (conditions leading to) • Cor pulmonale • Acute respiratory failure • Adult respiratory distress syndrome • Pulmonary embolism • Pulmonary Hypertension
VII	10	Vascular disorders and nursing management □ Etiology, clinical manifestations, diagnosis, prognosis, related pathophysiology, treatment modalities and nursing management of: • Disorders of arteries • Disorders of the aorta • Aortic Aneurysms, • Aortic dissection • Raynaud's phenomenon • Peripheral arterial disease of the lower extremities • Venous thrombosis • Varicose veins • Chronic venous insufficiency and venous leg ulcers • Pulmonary embolism
VIII	10	Cardio thoracic emergency interventions □ CPR- BLS and ALS □ Use of ventilator, defibrillator , pacemaker □ Post resuscitation care. □ Care of the critically ill patients □ Psychosocial and spiritual aspects of care □ Stress management; ICU psychosis □ Role of nurse
IX	10	Nursing care of a patient with obstructive airway □ Assessment □ Use of artificial airway □ Endotracheal intubation, tracheostomy and its care □ Complication, minimum cuff leak, securing tubes Oxygen delivery systems. □ Nasal Cannula

Unit	Hours	Content
		□ Oxygen mask, Venturi mask □ Partial rebreathing bag □ Bi-PAP and C-PAP masks □ Uses, advantages, disadvantages, nursing implications of each. Mechanical Ventilation □ Principles of mechanical ventilation □ Types of mechanical ventilation and ventilators. □ Modes of ventilation, advantage, disadvantage, complications. □ PEEP therapy, indications, physiology, and complications. Weaning off the ventilator. □ Nursing assessment and interventions of ventilated patient.
X	10	Congenital Heart Diseases, □ Etiology, clinical manifestations, diagnosis, prognosis, related pathophysiology, treatment modalities and nursing management of: • Embryological development of heart. • Classification – cyanotic and acyanotic heart disease. • Tetralogy of Fallots. • Atrial Septal Defect, Ventricular Septal Defect., Eisenmenger's complex. • Patent ductus arteriosus, AP window • Truncus Arteriosus. • Transposition of great arteries. • Total Anomaly of Pulmonary Venous Connection. • Pulmonary stenosis, atresia. • Coarctation of aorta. • Ebstein's anomaly • Double outlet right ventricle, Single ventricle, Hypoplastic left heart syndrome.
XI	10	Pharmacology □ Review □ Pharmacokinetics □ Analgesics/Anti inflammatory agents □ Antibiotics, antiseptics □ Drug reaction & toxicity □ Drugs used in cardiac emergencies □ Blood and blood components • Antithrombolytic agents • Inotropic agents • Beta-blocking agents • Calcium channel blockers. • Vaso constrictors • Vaso dilators • ACE inhibitors. • Anticoagulents • Antiarrhythmic drugs. • Anti hypertensives • Diuretics • Sedatives and tranquilizers. • Digitalis.

Unit	Hours	Content
		• Antilipemics □ Principles of drug administration, role and responsibilities of nurses and care of drugs
XII	20	Nursing Care of patient undergoing cardio thoracic surgery □ Indications, selection of patient □ Preoperative assessment and preparation; counselling. □ Intraoperative care: Principles of open heart surgery, equipment, anaesthesia, cardiopulmonary by pass. □ Surgical procedures for Coronary Artery Bypass Grafting, recent advances and types of grafts, Valve replacement or reconstruction, cardiac transplant, Palliative surgery and different Stents, vascular surgery, other recent advances. □ Thoracic surgery: lobectomy, pneumonectomy, tumour excision etc □ Immediate postoperative care : assessment, post operative problems and interventions : Bleeding, Cardiac tamponade, Low cardiac output, Infarction, Pericardial effusion, Pleural effusion, Pneumothorax, Haemothorax, Coagulopathy, Thermal imbalance, Inadequate., ventilation/perfusion, Neurological problems, renal problems, Psychological problems. □ Chest physiotherapy □ Nursing interventions- life style modification, complementary therapy/alternative systems of medicine. □ Intermediate and late post operative care after CABG, valve surgery, others. Follow up care
XIII	5	Cardiac rehabilitation □ Process □ Physical evaluation □ Life style modification □ Physical conditioning for cardiovascular efficiency through exercise □ Counseling □ Follow up care
XIV	5	Intensive Coronary Care Unit/intensive cardio thoracic unit: □ Quality assurance • Standards, Protocols, Policies, Procedures • Infection control; Standard safety measures • Nursing audit • Design of ICCU/ICTU • Staffing; cardiac team • Burn out syndrome □ Nurse's role in the management of I.C.C.U and ICTU. □ Mobile coronary care unit. □ Planning inservice educational programme and teaching

Practical's

Total – 960 Hours
1 Weeks = 30 Hours

S.No.	Deptt/ Unit	No. of Week	Total Hours
1	Cardio thoracic -Medical	4	120 Hours
	-Surgical	4	120 Hours
2.	OTs (Cardiac and thoracic)	4	120 Hours
3.	Casualty	2	60 Hours
4.	Diagnostic labs including cath lab	2	60 Hours
5.	ICCU	4	120 Hours
6.	ICU	4	120 Hours
7.	CCU	4	120 Hours
8.	Paediatric Intensive	2	60 Hours
9.	OPD	2	60 Hours
	Total	32 Weeks	960 Hours

Essential Nursing Skills Procedures

Observed

1. Echo cardiogram
2. Ultrasound
3. Monitoring JVP , CVP
4. CT SCAN
5. MRI
6. Pet SCAN
7. Angiography
8. Cardiac cathetrisation
9. Angioplasty
10. Various Surgeries
11. Any other

I. Procedures Assisted

1. Arterial blood gas analysis
2. Thoracentesis
3. Lung biopsy
4. Computer assisted tomography (CAT Scan)
5. M.R.I.
6. Pulmonary angiography
7. Bronchoscopy
8. Pulmonary function test
9. ET tube insertion
10. Tracheostomy tube insertion
11. Cardiac catheterisation
12. Angiogram
13. Defibrillation
14. Treadmill test

15. Echo cardiography
16. Doppler ultrasound
17. Cardiac surgery
18. Insertion of chest tube
19. CVP Monitoring
20. Measuring pulmonary artery pressure by Swan-Ganz Catheter
21. Cardiac Pacing

II. Procedures Performed

1. Preparation of assessment tool for CT client (Cardiac, thoracic and vascular).
2. ECG – Recording, Reading, Identification of abnormalities
3. Oxygen therapy – Cylinder, central supply,
Catheter, nasal cannula, mask, tent
Through ET and Tracheostomy tube
Manual resuscitation bag
4. Mechanical ventilation
5. Spirometer
6. Tuberculin skin test
7. Aerosol therapy
8. Nebulizer therapy
9. Water seal drainage
10. Chest physiotherapy including – Breathing Exercises
Coughing Exercises
Percussion & Vibration
11. Suctioning – Oropharyngeal, nasotracheal, Endotracheal
Through tracheostomy tube
12. Artificial airway cuff maintenance
13. CPR
14. Care of client on ventilator
15. Identification of different – Arrhythmias
Abnormal pulses, respirations
B.P. Variation
Heart sounds
Breath sounds
16. Pulse oxymetry
17. Introduction of intracath
18. Bolus I.V. Injection
19. Life line
20. Maintenance of “Heplock”
21. Subcutaneous of Heparin
22. Obtaining leg measurements to detect early swelling in thrombophlebetes
23. Identification of Homans signs
24. Buergen – Allen exercises

CLINICAL SPECIALITY – II

MEDICAL SURGICAL NURSING - CRITICAL CARE NURSING

Placement: II Year

Hours of instruction Theory:
150 hours
Practical: 950 hours Total
: 1100 hours

Course Description

This course is designed to assist students in developing expertise and in- depth knowledge in the field of Critical care Nursing. It will help students to develop advanced skills for nursing intervention in caring for critically ill patients. It will enable the student to function as critical care nurse practitioner/ specialist. It will further enable the student to function as educator, manager and researcher in the field of Critical Care Nursing.

Objectives

At the end of the course the students will be able to

1. Appreciate trends and issues related to Critical Care Nursing.
2. Describe the epidemiology, etiology, pathophysiology and diagnostic assessment of critically ill patients
3. Describe the various drugs used in critical care and nurses responsibility
4. Perform physical, psychosocial & spiritual assessment
5. Demonstrate advance skills/competence in managing critically ill patients including Advance Cardiac Life Support.
6. Demonstrate skill in handling various equipments/gadgets used for critical care
7. Provide comprehensive care to critically ill patients.
8. Appreciate team work & coordinate activities related to patient care.
9. Practice infection control measures.
10. Assess and manage pain .
11. Identify complications & take appropriate measures.
12. Discuss the legal and ethical issues in critical care nursing
13. Assist patients and their family to cope with emotional distress, spiritual, grief and anxiety
14. Assist in various diagnostic, therapeutic and surgical procedures
15. Incorporate evidence based nursing practice and identify the areas of research in the field of critical care nursing

16. Identify the sources of stress and manage burnout syndrome among health care providers.
17. Teach and supervise nurses and allied health workers.
18. Design a layout of ICU and develop standards for critical care nursing practice.

Course Content

Unit	Hours	Content
I	5	Introduction to Critical Care Nursing □ Historical review- Progressive patient care(PPC) □ Review of anatomy and physiology of vital organs, fluid and electrolyte balance □ Concepts of critical care nursing □ Principles of critical care nursing □ Scope of critical care nursing □ Critical care unit set up including equipments supplies, use and care of various type of monitors & ventilators □ Flow sheets
II	10	Concept of Holistic care applied to critical care nursing practice □ Impact of critical care environment on patients:- • Risk factors, Assessment of patients, Critical care psychosis, prevention & nursing care for patients affected with psychophysiological & psychosocial problems of critical care unit, Caring for the patient's family, family teaching □ The dynamics of healing in critical care unit:-therapeutic touch, Relaxation, Music therapy, Guided Imagery, acupressure □ Stress and burnout syndrome among health team members
III	14	Review □ Pharmacokinetics □ Analgesics/Anti inflammatory agents □ Antibiotics, antiseptics □ Drug reaction & toxicity □ Drugs used in critical care unit (inclusive of ionotropic, life saving drugs) □ Drugs used in various body systems □ IV fluids and electrolytes □ Blood and blood components □ Principles of drug administration, role of nurses and care of drugs
IV	5	Pain Management □ Pain & Sedation in Critically ill patients □ Theories of pain, Types of pain, Pain assessment, Systemic responses to pain □ pain management-pharmacological and non-pharmacological measures □ Placebo effect

Unit	Hours	Content
V	5	Infection control in intensive care unit Nosocomial infection in intensive care unit; methyl resistant staphylococcus aureus (MRSA), Disinfection, Sterilization, Standard safety measures, Prophylaxis for staff
VI	10	Gastrointestinal System Causes, Pathophysiology, Clinical types, Clinical features, diagnosis, Prognosis, Management: Medical, Surgical and Nursing management of:-Acute Gastrointestinal Bleeding, Abdominal injury, Hepatic Disorders:-Fulminant hepatic failure, Hepatic encephalopathy, Acute Pancreatitis, Acute intestinal obstruction, perforative peritonitis
VII	10	Renal System - Causes, pathophysiology, Clinical types, Clinical features, diagnosis, Prognosis, Management: Medical, Surgical and Nursing management of:-Acute Renal Failure, Chronic Renal Failure, Acute tubular necrosis, Bladder trauma - Management Modalities: Hemodialysis, Peritoneal Dialysis, Continuous Ambulatory Peritoneal Dialysis, Continuous arterio venous hemodialysis, Renal Transplant,
VIII	10	Nervous System - Causes, pathophysiology, Clinical types, Clinical features, diagnosis, Prognosis, Management: Medical, Surgical and Nursing management of:-Common Neurological Disorders:-Cerebrovascular disease, Cerebrovascular accident, Seizure disorders, GuilleinBarre-Syndrome, Myasthenia Gravis, Coma, Persistent vegetative state, Encephalopathy, Head injury, Spinal Cord injury - Management Modalities: Assessment of Intracranial pressure, Management of intracranial hypertension, Craniotomy - Problems associated with neurological disorders: Thermo regulation, Unconsciousness, Herniation syndrome
IX	5	Endocrine System Causes, Pathophysiology, Clinical types, Clinical features, diagnosis, Prognosis, Management: Medical, Surgical and Nursing Management of :-Hypoglycemia, Diabetic Ketoacidosis, Thyroid crisis, Myxoedema, Adrenal crisis, Syndrome of Inappropriate/ hypersecretion of Antidiuretic Hormone (SIADH)
X	15	Management of other Emergency Conditions - Mechanism of injury, Thoracic injuries, Abdominal injuries, pelvic fractures, complications of trauma, Head injuries - Shock: Shock syndrome, Hypovolemic, Cardiogenic, Anaphylactic, Neurogenic and Septic shock - Systemic inflammatory Response: The inflammatory response, Multiple organ dysfunction syndrome - Disseminated Intravascular Coagulation - Drug Overdose and Poisoning, - Acquired Immunodeficiency Syndrome (AIDS)

Unit	Hours	Content
		□ Ophthalmic: Eye injuries, Glaucoma, retinal detachment □ Ear Nose Throat: Foreign bodies, stridor, bleeding, quincy, acute allergic conditions □ Psychiatric emergencies;, suicide, □ crisis intervention
XI	20	Cardiovascular emergencies □ Principles of Nursing in caring for patient's with Cardiovascular disorders □ Assessment: Cardiovascular system: Heart sounds, Diagnostic studies:- Cardiac enzymes studies, Electrocardiographic monitoring, Holter monitoring, Stress test. Echo cardiography, Coronary angiography, Nuclear medicine studies □ Causes, Pathophysiology, Clinical types, Clinical features, Diagnostic Prognosis, Management : Medical, Surgical & Nursing management of:- Hypertensive crisis, Coronary artery disease, Acute Myocardial infarction, Cardiomyopathy, Deep vein thrombosis, Valvular diseases, Heart block, Cardiac arrhythmias & conduction disturbances, Aneurysms, Endocarditis, Heart failure Cardio pulmonary resuscitation BCLS/ ACLS □ Management Modalities: Thrombolytic therapy, Pacemaker – temporary & permanent, Percutaneous transluminal coronary angioplasty, Cardioversion, Intra Aortic Balloon pump monitoring, Defibrillations, Cardiac surgeries, Coronary Artery Bypass Grafts (CABG/MICAS), Valvular surgeries, Heart Transplantation, Autologous blood transfusion, Radiofrequency Catheter Ablation
XII	15	Respiratory System □ Acid-base balance & imbalance □ Assessment : History & Physical Examination □ Diagnostic Tests:Pulse Oximetry, End –Tidal Carbon Dioxide Monitoring, Arterial blood gas studies, chest radiography, pulmonary Angiography, Bronchoscopy, Pulmonary function Test, Ventilation perfusion scan, Lung ventilation scan □ Causes Pathophysiology, Clinical types, Clinical features, Prognosis, Management: Medical, Surgical and Nursing management of Common pulmonary disorders:-Pneumonia, Status asthmaticus, interstitial lung disease, Pleural effusion, Chronic obstructive pulmonary disease, Pulmonary tuberculosis, Pulmonary edema, Atelectasis, Pulmonary embolism, Acute respiratory failure, Acute respiratory distress syndrome (ARDS), Chest Trauma Haemothorax, Pneumothorax □ Management Modalities:-Airway Management □ Ventilatory Management:-Invasive, non- invasive, long term mechanical ventilations □ Bronchial Hygiene:-Nebulization, deep breathing exercise, chest physiotherapy, postural drainage, Inter Costal Drainage, Thoracic surgeries

Unit	Hours	Content
XIII	7	Burns □ Clinical types, classification, pathophysiology, clinical features, assessment, diagnosis, prognosis, Management: Medical, Surgical & Nursing management of burns □ Fluid and electrolyte therapy – calculation of fluids and its administration □ Pain management □ Wound care □ Infection control □ Prevention and management of burn complications □ Grafts and flaps □ Reconstructive surgery □ Rehabilitation
XIV	5	Obstetrical Emergencies □ Causes, Pathophysiology, Clinical types, clinical features, diagnostic Prognosis, Management: Medical, Surgical and Nursing management of :Antepartum haemorrhage, Preeclampsia, eclampsia, Obstructed labour and ruptured uterus, Post partum haemorrhage, Puerperal sepsis, Obstetrical shock
XV	10	Neonatal Paediatric emergencies □ Causes, pathophysiology, Clinical types, Clinical features, diagnostic, Prognosis , Management: medical, surgical and Nursing management of • Neonatal emergencies □ Asphyxia Neonatarum, Pathological Jaundice in Neonates, Neonatal seizures, Metabolic disorders, Intra cranial Hemorrhage, Neonatal Sepsis, RDS/HMD (Respiratory Distress Syndrome/Hyaline Membrane Disease), Congenital disorders:- • Cyanotic heart disease, tracheo oesophageal fistula, congenital hypertrophic pyloric stenosis, imperforate anus • Pediatric emergencies □ Dehydration, Acute broncho pneumonia, Acute respiratory distress syndrome, Poisoning, Foreign bodies, seizures, traumas, Status asthmaticus
XVI	2	Legal and ethical issues in critical care-Nurse's role □ Brain death □ Organ donation & Counselling □ Do Not Resuscitate(DNR) □ Euthanasia □ Living will
XVII	2	Quality assurance □ Standards, Protocols, Policies, Procedures □ Infection control; Standard safety measures □ Nursing audit □ Staffing □ Design of ICU/CCU

Practical

Total = 960 Hours
1 Week = 30 Hours

S.No.	Deptt./Unit	No. of Week	Total Hours
3	Burns ICU	2	60 Hours
5	Medical ICU	8	240 Hours
6	Surgical ICU	12	360 Hours
9	CCU	2	60 Hours
10	Emergency Department	3	90 Hours
12	Dialysis Unit	1	30 Hours
13	Transplant Room	2	60 Hours
14	Paediatric/ NICU	2	60 Hours
	Total	32 Weeks	960 Hours

ESSENTIAL CRITICAL CARE NURSING SKILLS

I. Procedures Observed

1. CT Scan
2. MRI
3. EEG
4. Hemodialysis
5. Endoscopic Retrograde cholangio Pancreaticogram(ERCP)
6. Heart/ Neuro/GI./ Renal Surgeries

II. Procedures Assisted

1. Advanced life support system
2. Basic cardiac life support
3. Arterial line/arterial pressure monitoring/blood taking
4. Arterial blood gas
5. ECG recording
6. Blood transfusion
7. IV cannulation therapy
8. Arterial Catheterization
9. Chest tube insertion
10. Endotracheal intubations
11. Ventilation

12. Insertion of central line/cvp line
13. Connecting lines for dialysis

III. Procedure Performed

1. Airway management
 - a. Application of oropharyngeal airway
 - b. Oxygen therapy
 - c. CPAP (Continuous Positive Airway pressure)
 - d. Care of tracheostomy
 - e. Endotracheal extubation
2. Cardiopulmonary resuscitation, Basic cardiac life support, ECG
3. Monitoring of critically ill patients – clinically with monitors, capillary refill time (CRT) assessment of jaundice, ECG.
4. Gastric lavage
5. Assessment of critically ill patients
Identification & assessment of risk factors, Glasgow coma scale, and dolls eye movement, arterial pressure monitoring, cardiac output/pulmonary artery pressure monitoring, and detection of life threatening abnormalities
6. Admission & discharge of critically ill patients
7. Nutritional needs – gastrostomy feeds, pharyngeal feeds, jejunostomy feeds, TPN, formula preparation & patient education.
8. Assessment of patient for alteration in blood sugar levels monitoring blood sugar levels periodically & administering insulin periodically.
9. Administration of drugs: IM, IV injection, IV cannulation & fixation of infusion pump, calculation of dosages, use of insulin syringes/ tuberculin, monitoring fluid therapy, blood administration.
10. Setting up dialysis machine and starting, monitoring and closing dialysis
11. Procedures for prevention of infections:
Hand washing, disinfection & sterilization surveillance, and fumigation universal precautions.
12. Collection of specimen.
13. Setting, use & maintenance of basic equipment, ventilator, O2 analyzer, monitoring equipment, transducers, defibrillator, infusion & syringe pumps, centrifuge machine.

IV Other Procedures:

CLINICAL SPECIALITY-II

MEDICAL SURGICAL NURSING- ONCOLOGY NURSING

Placement : II Year

Hours of Instruction
Theory : 150 hours
Practicals : 950 hours
Total : 1100 hours

Course Description

This course is designed to assist students in developing expertise and in- depth understanding in the field of oncology Nursing. It will help students to develop advanced skills for nursing intervention in various oncological conditions. It will enable the student to function as oncology nurse practitioner/specialist and provide quality care. It will further enable the student to function as educator, manager, and researcher in the field of oncology nursing

Objectives

1. Explain the prevention, screening and early detection of cancer
2. Describe the epidemiology, etiology, pathophysiology and diagnostic assessment of oncological disorders of various body systems
3. Describe the psychosocial effects of cancer on patients and families.
4. Demonstrate skill in administering/assisting in various treatment modalities used for patients with cancer
5. Apply nursing process in providing holistic care to patients with cancer.
6. Apply specific concepts of pain management
7. Appreciate the care of death and dying patients and value of bereavement support.
8. Describe the philosophy, concept and various dimensions of palliative care
9. Appreciate the role of alternative systems of medicine in care of cancer patients
10. Appreciate the legal & ethical issues relevant to oncology nursing
11. Recognize and manage Oncological emergencies
12. Counsel the patients with cancer and their families
13. Incorporate evidence based nursing practice and identify the areas of research in the field of oncology nursing
14. Recognize the role of oncology nurse practitioner as a member of oncology team
15. Collaborate with other agencies and utilize resources in caring for cancer patients.

16. Teach and supervise nurses and allied health workers.
17. Design a layout and develop standards for management of oncology units/hospitals and nursing care.

Content outline

Unit	Hours.	Content
I	4	Introduction □ Epidemiology-Incidence, Prevalence – Global, National, State and Local □ Disease burden, concept of cancer, risk factors □ Historical perspectives □ Trends and issues □ Principles of cancer management □ Roles and responsibilities of oncology nurse
II	5	The Nature of Cancer □ Normal cell biology □ The Immune system □ Pathological and pathophysiological changes in tissues • Biology of the cancer cell • Clone formation Transformation • Tumor stem lines • Structure of a solid tumor • Products produced by the tumor • Systemic effects of tumor growth
III	4	Etiology of Cancer □ Carcinogenesis, □ Theories of cancer causation □ Risk factors □ Carcinogens – genetic factors, chemical carcinogens, radiation, viruses, Immune system failure, rapid tissue proliferation □ Hormone changes, diet, emotional factors.
IV	10	Diagnostic Evaluation □ Health assessment: History taking, physical examination, □ Staging and grading of tumors, □ TNM Classification □ Common diagnostic tests • Blood investigation: Haemetological, Bio-chemical, Tumor markers, Hormonal assay • Cytology:Fine needle aspiration cytology(FNAC) • Histopathology: Biopsy • Radiological assessment: MRI, Ultrasound, Computed tomography, Mammography, Positron emission tomography(PET), Radio nuclide imaging, Functional metabolism imaging • Endoscopies Nurses responsibilities in diagnostic measures

Unit	Hours.	Content
V	10	Levels of prevention and care □ Primary prevention – Guidelines for cancer detection, general measures, Warning signs of cancer, □ Self examination-Oral, Breast, Testicular □ Secondary prevention – early diagnosis. □ Screening □ Tertiary prevention – disability limitation, □ Rehabilitation :Mobility , Speech, Bowel and bladder, Ostomies etc □ Patient and family education, □ Discharge instruction, follow-up care and use of community resources.
VI	25	Cancer Treatment Modalities and Nurse's Role □ Surgery • Principles of surgical oncology • Current surgical strategy, • Determining surgical risk • Special surgical techniques • Pre-intra-postoperative nursing care • Acute and chronic surgical complications • Future directions and advances □ Chemotherapy • Principles and classification of chemotherapeutics • Pharmacology of antineoplastic drugs- Mechanism of action, Absorption, protein binding, Bio-transformation, excretion, common side effects, drug toxicity • Calculating drug doses, • Therapeutic response to chemotherapy-Tumor variables, drug resistance, • Safety precautions □ Radiation Therapy • Physics of radiotherapy • Types of ionizing rays • Radiation equipments:Linear accelerator, cobalt, Implants,Isotopes, • Types of therapies: Oral, Brachy therapy, tele therapy, selectron therapy • Effects of radiation on the body tissue, • Radiation biology – cell damage hypoxic cells, alteration of tumor kinetics. • Approaches to radiation therapy – • External radiotherapy • Internal radiotherapy – unsealed, • Sealed sources. • Effectiveness of radiotherapy-Radiosensitivity, treatment effects • Complications of radiotherapy • Radiation safety: Standards of Bhaba Atomic Research Centre(BARC)

Unit	Hours.	Content
		□ Bone Marrow Transplantation /Stem Cell Transplantation • Types, indications, transplantation procedure, complications and nursing management • Types and donor sources • Preparation and care of donor and recipient • Bone marrow bank • Legal and ethical issues □ Immunotherapy (Biotherapy) • Concepts and principles • Classification of agents • Treatment and applications □ Gene Therapy • Current Concepts and practices □ Alternative and Complementary Therapies • Current practices
VII	10	□ Pain management:- Theories, types and • Nature of cancer pain • Pathophysiology of pain • Pain threshold □ Assessment of pain • Principles of cancer pain control • Pharmacological: Opioid and non-opioid analgesic therapy • Patient controlled analgesia(PCA) • Other invasive techniques of pain control • Recent developments in Cancer pain □ Non- Pharmacological pain relief technique- • Complementary therapies(Music, massage, meditation, relaxation techniques, biofeed back etc) • Psychological intervention in pain control • Alternative system of medicines Role of nurse
VIII	5	Palliative care □ Definition and scope, philosophy □ Concept and elements of palliative care □ Global and Indian perspective of palliative care □ Quality of life issues □ Communication skill □ Nursing perspective of palliative care and its elements □ Home care □ Hospice care Role of nurse in palliative care

Unit	Hours.	Content
IX	2	□ Infection control: • Process of infection, risk of hospitalization, nosocomial infections- prevention and control of infection in acute, long term care facility and community based care • Standard safety measures
X	30	Nursing Care of Patients With Specific Malignant Disorders □ Malignancies of G.I. system-oral, oesophagus, stomach, rectal, liver & pancreas, care of ostomies/stoma □ Respiratory malignancies □ Genito urinary system malignancies- prostate Bladder, renal testicular malignancies, □ Gynecological malignancies-cervix, uterus, ovary □ Hematological malignancies-Lymphomas, Leukemias. □ Malignancies of musculoskeletal system □ Endocrine malignancies □ Skin □ Head and Neck -brain tumors □ Other malignancies – Breast cancer, AIDS related Malignancies (Kaposi's Sarcoma)
XI	10	Paediatric malignancies □ Leukemia, Lymphoma, Neuro- blastoma □ Wilm's tumor, Soft tissue sarcoma, Retinoblastoma □ Nursing Management of children with Paediatric Malignancies
XII	15	Nursing Management of Physiological Conditions and Symptoms Of Cancer Patient □ <u>Nutrition</u>: - effects of cancer on nutritional Status and its consequences:- Anemia, Cachexia, Xerostomia, mucositis, Dysphagia , nausea and vomiting, constipation, diarrhoea, electrolyte imbalances, taste alterations □ Impaired mobility: Decubitus ulcer, pathologic fractures, thrombophlebitis, pulmonary embolism, contractures, footdrop Other symptoms □ Dyspepsia & hiccup, dyspnoea □ intestinal obstruction, □ Fungating wounds □ Anxiety & depression, insomnia □ Lymph edema Impact of cancer on sexuality: □ Effects of radiotherapy/ chemotherapy/surgery on sexuality of the cancer patient □ Nursing management of cancer patients experiencing sexual dysfunction □ Sexual counseling

Unit	Hours.	Content
XIII	10	Cancer Emergencies □ Disseminated intravascular coagulation(DIC), □ Malignant pleural effusion □ Neoplastic cardiac tamponade and septic shock spinal cord compression □ Superior venacava syndrome □ Metabolic emergency: hyper and hypo calcemia □ Surgical emergency □ Urological emergency □ Hemorrhage □ Organ obstruction □ Brain metastasis □ Nurses role in managing oncologic emergencies
XIV	8	Psycho-Social Aspects of Nursing Care □ Psychological responses of patients with cancer □ Psychosocial assessment – □ Crisis intervention, coping mechanisms □ Stress management, spiritual/cultural care and needs □ Counseling: individual and family □ Maximizing quality of life of patient and family Ethical, moral and legal issues- □ End of life care □ Grief and grieving process □ Bereavement support □ Care of Nurses who care for the dying.
XV	2	Layout and Design of an oncology institution/ ward, OPD, chemotherapy unit, Bone marrow transplantation unit, Pain clinic etc □ Practice Standards of oncology nursing • Policies and Procedures □ Establishing Standing orders and Protocols Quality Assurance Programme in oncology units □ Nursing audit

Clinical Experience

S. No.	Deptt./ Unit	No. of Week	Total Hours
1	Medical Oncology ward	6	180 Hours
2	Surgical Oncology ward	6	180 Hours
3	Bone marrow transplantation Unit	2	60 Hours
4	Operation Theatre	2	60 Hours
5	Radiotherapy Unit	2	60 Hours
6	Chemotherapy Unit	4	120 Hours
7	Out patient department and pain clinic	2	60 Hours
8	Pediatric Oncology ward	2	60 Hours
9	Palliative Care ward	2	60 Hours
10	Community oncology	2	60 Hours
11	Hospice	1	30 Hours
12	Other field visits	1	30 Hours
	Total	32 Weeks	960 Hours

Procedures Observed

1. CT Scan
2. MRI
3. PET Scan(Positron Emission Tomography)
4. Ultra sound
5. Mammography
6. Radio Nuclide Imaging
7. Bone Scan
8. Thyroid Function Test
9. Functional and Metabolic Imaging
10. Transportation of radioactive materials
11. Others

Procedures Assisted

1. IV cannulation – Open method
2. Chemotherapy
3. Radiotherapy – Brachytherapy – Low Density Radiation, High Density Radiation.
4. Interstitial implantation
5. Bio-therapy and Gene therapy
6. Teletherapy – Treatment planning
7. Bone marrow aspiration and biopsy
8. Biopsy – tissue
9. FNAC – Fine Needle Aspiration Cytology and biopsy

10. Advance Cardiac life support
11. Endotracheal intubation
12. Defibrillation Ventilation
13. Tracheostomy
14. Thoracentesis
15. Paracentesis
16. Lumbar Puncture
17. Arterial Blood Gas
18. Nerve Block
19. Chest tube insertion
20. Intercostal drainage
21. CVP monitoring

Procedure Performed

1. Screening for cancer
2. Assessment of pain
3. Assessment of Nutritional status
4. Care of Tracheostomy
5. Endotracheal intubation
6. Gastric gavage
7. Pap smear
8. IV cannulation
9. Care of surgical flaps
10. Care of ostomies
11. Blood transfusion and component therapy
12. Counseling
13. Practice standard safety measures
14. Care of dead body and mortuary formalities

Other procedures

(As per the institutional protocol):

1. Alternative therapies

CLINICAL SPECIALITY – II

MEDICAL SURGICAL NURSING- NEUROSCIENCES NURSING

Placement : II Years

Hours of Instruction
Theory – 150 Hours
Practical- 950 Hours
Total : 1100 Hours

Course Description

This course is designed to assist students in developing expertise and in- depth knowledge in the field of neurology and neurosurgical Nursing. It will help students to develop advanced skills for nursing intervention in caring for patients with neurological and neurosurgical disorders. It will enable the student to function as neuroscience nurse practitioner/ specialist. It will further enable the student to function as educator, manager and researcher in the field of neurology and neurosurgical Nursing.

Objectives

At the end of the course the students will be able to

1. Appreciate trends and issues related to neurology and neurosurgical Nursing.
2. Review the anatomy and physiology of nervous system
3. Describe the epidemiology, etiology, pathophysiology and diagnostic assessment of patients with neurological and neurosurgical disorders
4. Perform neurological assessment and assist in diagnostic procedures
5. Describe the concepts and principles of neuroscience nursing
6. Describe the various drugs used in neurosciences and nurses responsibility
7. Assist in various therapeutic and surgical procedures in neuroscience nursing
8. Demonstrate advance skills/competence in managing patients with neurological and neurosurgical disorder following nursing process approach
9. Identify psychosocial problems of patients with disabilities and assist patients and their family to cope with emotional distress, spiritual, grief and anxiety
10. Participate in preventive, promotive and rehabilitative services for neurological and neurosurgical patients.
11. Explain the legal and ethical issues related to brain death, organ transplantation and practice of neuroscience nursing
12. Incorporate evidence based nursing practice and identify the areas of research in the field of neuroscience nursing

13. Organise and conduct inservice education program for nursing personnel.
14. Develop standards of care for quality assurance in neuroscience nursing practice
15. Identify the sources of stress and manage burnout syndrome among health care providers.
16. Teach and supervise nurses and allied health workers.
17. Plan and develop physical layout of neuro intensive care unit

Course Content

Unit	Hours	Content
I	5	Introduction □ Introduction to neuroscience(neurological and neurosurgical) nursing • History-Development in neurological and neurosurgical nursing, Service & education • Emerging trends and issues in neurology and neuro surgery and its implication to nursing. • neurological and neurosurgical problems – • Concepts, principles and nursing perspectives • Ethical and legal issues • Evidence based nursing and its application in neurological and neurosurgical nursing
II	5	Epidemiology □ Major health problems- □ Risk factors associated with neurological conditions- Hereditary, Psychosocial factors, smoking, alcoholism, dietary habits, cultural and ethnic considerations, occupational and infections. □ Health promotion, disease prevention, life style modification and its implications to nursing Alternate system of medicine/complementary therapies
III	10	Review of Anatomy and physiology □ Embryology □ Structure and functions of Nervous system- CNS, ANS, cerebral circulation , cranial and spinal nerves and reflexes, motor and sensory functions □ Sensory organs

Unit	Hours	Content
IV	15	Assessment and diagnostic measures □ Assessment • History taking • Physical assessment, psychosocial assessment • Neurological assessments, Glasgow coma scale interpretation & its relevance to nursing. • Common assessment abnormalities □ Diagnostic measures • Cerebro spinal fluid analysis • Radiological studies-Skull and spine X-ray Cerebral Angiography, CT Scan, Single Photon Emission Computer Tomography(SPECT), MRI (Magnetic Resonance Imaging), MRA, MRS, Functional MRI, Myelography, PET (Positron Emission Test), Interventional radiology. • Electorgraphic studies- Electro encephalo graphy, MEG, EMG, video EEG, • Nerve conduction studies-Evoked potentials, visual evoked potentials, brain stem auditory evoked potentials, somatosensory evoked potentials • Ultrasound studies-Carotid duplex, transcranial Doppler sonography, • Immunological studies • Biopsies – muscle, nerve and Brain. Interpretation of diagnostic measures Nurse's role in diagnostic tests
V	5	Meeting Nutritional needs of neurological patients □ Basic nutritional requirements □ Metabolic changes following injury and starvation □ Nutritional assessment □ Common neurological problems that interfere with nutrition and strategies for meeting their nutritional needs □ Special metabolic and electrolyte imbalances □ Chronic fatigue syndrome
VI	5	Drugs used in neurological and neurosurgical disorders □ Classification □ Indications, contraindications, actions and effects, toxic effects Role of nurse

Unit	Hours	Content
VII	10	Traumatic conditions. □ Causes, pathophysiology, Clinical types, Clinical features, diagnosis, Prognosis, Management: medical, surgical and Nursing management of • Cranio cerebral injuries. • Spinal & Spinal cord injuries. • Peripheral nerve injuries. • Unconsciousness
VIII	10	Cerebro vascular disorders. □ Causes, pathophysiology, Clinical types, Clinical features, diagnosis, Prognosis, Management: medical, surgical and Nursing management of • Stroke & arterio venous thrombosis. • Haemorrhagic embolus. • Cerebro vascular accidents. • Intracranial aneurysm. • Subarchnoid Haemorrhage. • Arterio venous fistula. • Brain tumours □ Diseases of cranial nerves; Trigeminal neuralgia, Facial palsy, Bulbar palsy.
IX	10	Degenerating and demyelinating disorders □ Causes, pathophysiology, Clinical types, Clinical features, diagnostic, Prognosis, Management: medical, surgical and Nursing management of • Motor neuron diseases. • Movement disorders- Tics, dystonia, chorea, wilson's disease, essential tremors • Dementia. • Parkinson's disease. • Multiple sclerosis. • Alzheimer's
X	10	Neuro infections □ Causes, pathophysiology, Clinical types, Clinical features, diagnostic, Prognosis, Management: medical, surgical and Nursing management of Neuro infections • Meningitis-types • Encephalitis. • Poliomyelitis. • Parasitic infections. • Bacterial infections • Neurosyphilis. • HIV & AIDS. • Brain abscess.

Unit	Hours	Content
XI	10	Paroxysmal disorders. □ Causes, pathophysiology, Clinical types, Clinical features, diagnosis, Prognosis , Management: medical, surgical and Nursing management of • Epilepsy and seizures. • Status epilepticus. • Syncope. • Menier's syndrome. • Cephalgia.
XII	10	Developmental disorders. □ Causes, pathophysiology, Clinical types, Clinical features, diagnostic, Prognosis , Management: medical, surgical and Nursing management of • Hydrocephalus. • Craniosynostosis. • spina bifida- Meningocele, Meningomyelocele encephalocele • syringomyelia. • Cerebro vascular system anomalies. • Cerebral palsies. • Down's syndrome
XIII	10	Neuro muscular disorders. □ Causes, pathophysiology, Clinical types, Clinical features, diagnostic, Prognosis , Management: medical, surgical and Nursing management of • Polyneuritis – G B Syndrome. • Muscular dystrophy. • Myasthenia gravis. • Trigeminal neuralgia. • Bell's palsy. • Menier's disease • Carpal tunnel syndrome • Peripheral neuropathies
XIV	5	Neoplasms – surgical conditions. □ Causes, pathophysiology, Clinical types, Clinical features, diagnostic, Prognosis , Management: medical, surgical and Nursing management of • Space occupying lesions -types • Common tumors of CNS,
XV	5	Other disorders □ Causes, pathophysiology, Clinical types, Clinical features, diagnostic, Prognosis , Management: medical, surgical and Nursing management of □ Metabolic disorders- diabetes, insipidus, metabolic encephalopathy □ Sleep disorders □ Auto immune disorders- multiple sclerosis, inflammatory myopathies

Unit	Hours	Content
XVI	10	Neuro emergencies □ Causes, pathophysiology, Clinical types, Clinical features, diagnostic, Prognosis , Management: medical, surgical and Nursing management of • Increased intracranial pressure • Unconscious • Herniation syndrome • Seizures • Severe head injuries • Spinal injuries • Cerebro vascular accidents
XVII	5	Rehabilitation. □ Concept and Principles of Rehabilitation. □ Factors affecting quality of life and coping □ Rehabilitation in acute care setting, and following stroke, head injury and degenerative disorders of brain □ Physiotherapy. □ Counselling □ Care giver's role Speech & Language.- Neurogenic communication disorders, Speech therapy
XVIII	5	Ethical and legal issues in neuroscience nursing □ Brain death and organ transplantation □ Euthanasia □ Negligence and malpractice □ Nosocomial infections
XIX	5	□ Quality assurance in neurologic nursing practice □ Role of advance practitioner in neurological nursing □ Professional practice standards □ Quality control in neurologic nursing □ Nursing audit □ Neuro ICU • Philosophy, aims and objectives • Policies, staffing pattern, design and physical plan of neuro ICU • Team approach, functions • Psychosocial aspects in relation to staff and clients of neuro ICU, • In-service education

Practical

Total = 960 Hours 1
Week = 30 Hours

S.No.	AREA OF POSTING	No. of Week	Total Hours
1	O.P.D.	2	60
2	Casualty	2	60
3	Diagnostics	2	60
4	Neuro psychiatry	1	30
5	Neuro Medical wards	4	120
6	Paediatric Neuro ward	2	60
7	Neuro surgical wards	4	120
8	Head Injury ward	3	90
9	ICU- neuro medicine	4	120
10	I.C.U.- neuro surgical	4	120
11	Rehabilitation	2	60
12	Operation Theatre	2	60
	Total	32 Weeks	960 Hours

ESSENTIAL NEURO NURSING SKILLS

I. Procedures Observed

1. CT scan
2. MRI
3. PET
4. EEG
5. EMG
6. Sleep pattern studies/Therapy
7. Radiographical studies
8. Neuro surgeries
9. Nerve conduction studies
10. Ultrasound studies
11. Any other

II. Procedures Assisted

1. Advanced Cardiac life support
2. Lumbar Puncture
3. Biopsies – muscle, nerve and Brain
4. Arterial Blood Gas
5. ECG Recording
6. Blood transfusion
7. IV cannulation – open method

8. Endotracheal intubation
9. Ventilation
10. Tracheostomy
11. ICP monitoring
12. Gama Knife
13. Cerebral angiography
14. Myelography
15. Neuro surgeries

III. Procedures Performed:

1. Airway management
 - a. Application of Oro Pharyngeal Airway
 - b. Care of Tracheostomy
 - c. Conduct Endotracheal Intubation
 - d. use of AMBU bag, artificial respirators
 - e. Setting of Ventilators and Care of patients on ventilators
2. Cardio Pulmonary Resuscitation -Defibrillation
3. Neurological assessment -Glasgow coma scale
4. Gastric Lavage
5. IV Cannulation
6. Administration of emergency IV Drugs, fluid
7. Care of patients with incontinence, bladder training
Catheterization
8. Care of patients on traction related to the neurological conditions
9. Blood Administration.
10. Muscle strengthening exercises
11. Guidance and counseling
12. Monitoring – management and care of monitors.

IV. Other Procedures:

CLINICAL SPECIALITY – II

MEDICAL SURGICAL NURSING- NEPHRO-UROLOGY NURSING

Placement : II Year

Hour of Instruction
Theory : 150 Hours
Practical : 950 Hours
Total : 1100 Hours

Course Description

This course is designed to assist students in developing expertise and in- depth understanding in the field of Nephro and urological Nursing. It will help students to develop advanced skills for nursing intervention in various nephro and urological conditions. It will enable the student to function as nephro and urology nurse practitioner/specialist and provide quality care. It will further enable the student to function as educator, manager, and researcher in the field of nephro and urology nursing

Objectives

At the end of the course the students will be able to:

1. Appreciate trends and issues related to **nephro and urological** nursing
2. Describe the epidemiology, etiology, pathophysiology and diagnostic assessment of **nephro and urological** conditions
3. Perform physical, psychosocial & spiritual assessment
4. Assist in various diagnostic, therapeutic and surgical interventions
5. Provide comprehensive nursing care to patients with **nephro and urological conditions**
6. Describe the various drugs used in **nephro and urological** conditions and nurses responsibility
7. Demonstrate skill in handling various equipments/gadgets used for patients with **nephro and urological** conditions
8. Appreciate team work & coordinate activities related to patient care.
9. Practice infection control measures.
10. Identify emergencies and complications & take appropriate measures
11. Assist patients and their family to cope with emotional distress, grief, anxiety and spiritual needs
12. Discuss the legal and ethical issues in **nephro and urological** nursing
13. Identify the sources of stress and manage burnout syndrome among health care providers

14. Appreciate the role of alternative system of medicine in the care of patient
15. Incorporate evidence based nursing practice and identify the areas of research in the field of **nephro and urological** nursing
16. Teach and supervise nurses and allied health workers.
17. Design a layout of kidney transplant unit and dialysis unit
18. Develop standards of nephro urological nursing practice

Course Content

Unit	Hours	Content
I	5	Introduction □ Historical development: trends and issues in the field of nephro and urological nursing. □ nephro and urological problems □ Concepts, principles and nursing perspectives □ Ethical and legal issues □ Evidence based nursing and its application in nephro and urological nursing(to be incorporated in all the units)
II	5	Epidemiology □ Major health problems- urinary dysfunction, urinary tract infections, Glomerular disorders, obstructive disorders and other urinary disorders □ Risk factors associated with nephro and urological conditions- Hereditary, Psychosocial factors, smoking, alcoholism, dietary habits, cultural and ethnic considerations □ Health promotion, disease prevention, life style modification and its implications to nursing Alternate system of medicine/complementary therapies
III	5	Review of anatomy and physiology of urinary system □ Embryology □ Structure and functions □ Renal circulation □ Physiology of urine formation □ Fluid and electrolyte balance □ Acid base balance □ Immunology specific to kidney
IV	20	Assessment and diagnostic measures □ History taking □ Physical assessment, psychosocial assessment □ Common assessment abnormalities-dysurea, frequency, enuresis, urgency, hesitancy, hematuria, pain, retention, burning on urination, pneumaturia, incontinence, nocturia, polyurea, anuria, oliguria, □ Diagnostic tests-urine studies, blood chemistry, radiological procedures-KUB, IVP, nephrotomogram, retrograde pyelogram, renal arteriogram, renal ultrasound, CT scan, MRI, cystogram, renal

Unit	Hours	Content
		scan, biopsy, endoscopy-cystoscopy, urodynamics studies- cystometrogram, urinary flow study, sphincter electromyography, voiding pressure flow study, videourodynamics, Whitaker study Interpretation of diagnostic measures Nurse's role in diagnostic tests
V	5	Renal immunopathy/Immunopathology □ General Concept of immunopathology □ Immune mechanism of glomerular vascular disease □ Role of mediator systems in glomerular vascular disease
VI	15	Urological Disorders and Nursing Management □ Etiology, clinical manifestations, diagnosis, prognosis, related pathophysiology, medical, surgical and nursing management of □ Urinary tract infections- pyelonephritis, lower urinary tract infections, □ Disorders for ureters, bladder and urethra □ Urinary tract infections- □ Urinary dysfunctions- urinary retention, urinary incontinence, urinary reflux, □ Bladder disorders- neoplasms, calculi, neurogenic bladder, trauma, congenital abnormalities □ Benign prostatic hypertrophy(BPH) □ Ureteral disorders: ureteritis, ureteral trauma, congenital anomalies of ureters □ Urethral disorders- tumours, trauma, congenital anomalies of ureters,
VII	25	Glomerular disorders and nursing management □ Etiology, clinical manifestations, diagnosis, prognosis, related pathophysiology, medical, surgical and nursing management of □ Glomerular nephritis- chronic, acute, nephritic syndrome □ Acute Renal failure and chronic renal failure. □ Renal calculi □ Renal tumours-benign and malignant □ Renal trauma □ Renal abscess □ Diabetic nephropathy □ Vascular disorders □ Renal tuberculosis □ Polycystic □ Congenital disorders □ Hereditary renal disorders
VIII	10	□ Management of Renal emergencies □ Anuria □ Acute Renal failure □ Poisoning □ Trauma □ Urine retention

Unit	Hours	Content
		□ Acute graft rejection □ Hematuria □ Nurse's role
IX	10	Drugs used in urinary disorders □ Classification □ Indications, contraindications, actions and effects, toxic effects □ Role of nurse
X	10	Dialysis □ Dialysis- Historical, types, Principles, goals • Hemodialysis- vascular access sites- temporary and permanent • Peritoneal dialysis □ Dialysis Procedures- steps, equipments, maintenance, □ Role of nurse- pre dialysis, intra and post dialysis □ Complications- □ Counseling □ patient education □ Records and reports
XI	10	□ Kidney transplantation □ Nursing management of a patient with Kidney transplantation □ Kidney transplantations- a historical review □ Immunology of graft rejections □ The recipient of a renal transplant □ Renal preservations □ Human Leucocytic Antigen(HLA) typing matching and cross matching in renal transplantation □ Surgical techniques of renal transplantations □ Chronic renal transplant rejection □ Complication after KTP: Vascular and lymphatic, Uroloical, cardiovascular, liver and neurological, infectious complication □ KTP in children and management of pediatric patient with KTP □ KTP in developing countries □ Results of KTP □ Work up of donor and recipient for renal transplant □ Psychological aspect of KTP and organ donations □ Ethics in transplants □ Cadaveric transplantation
XII	5	□ Rehabilitation of patient with nephrological problems □ Risk factors and prevention □ Rehabilitation of patients on dialysis and after kidney transplant □ Rehabilitation of patients after urinary diversions □ Family and patient teaching
XIII	10	Pediatric urinary disorders □ Etiology, clinical manifestations, diagnosis, prognosis, related pathophysiology, medical , surgical and nursing management of children with Renal Diseases -UTI, ureteral reflux, glomerulo nephritis, nephrotic syndrome infantile nephrosis, cystic kidneys, familial factors in renal diseases in childhood, Haemolytic uraemic

Unit	Hours	Content
		syndrome. Benign recurrent haematuria, nephropathy, wilms' tumour
XIV	5	Critical care units- dialysis , KTP unit ❑ Philosophy, aims and objectives ❑ Policies, staffing pattern, design and physical plan of Dialysis and KTP units ❑ Team approach, functions ❑ Psychosocial aspects in relation to staff and clients of ICU, dialysis unit ❑ In-service education ❑ Ethical and legal issues
XV	5	❑ Quality assurance in nephrological nursing practice ❑ Role of advance practioner in nephrological nursing ❑ Professional practice standards ❑ Quality control in nephrological nursing ❑ Nursing audit

Practicals

Total = 960 Hours 1
Week = 30 Hours

S. No.	Deptt./ Unit	No. of Week	Total Hours
1	Nephrology Ward	6	180 Hours
2	Pediatrics	2	60 Hours
3	Critical Care Unit	2	60 Hours
4	Urology Ward	6	180 Hours
5	Dialysis Unit	4	120 Hours
6	Kidney Transplantation Unit	2	60 Hours
7	URO OT	2	60 Hours
8	Emergency Wards	2	60 Hours
9	Uro Nephro OPDs	4	120 Hours
10	Diagnostic Labs	2	60 Hours
	Total	32 Weeks	960 Hours

Procedures observed

I. Procedures Observed

1. CT Scan
2. MRI
3. Radiographic studies
4. Urodynamics
5. Hemodialysis
6. Renal Surgeries

II. Procedures Assisted

1. Blood transfusion
2. I V cannulation therapy
3. Arterial Catheterization
4. Insertion of central line/cvp line
5. Connecting lines for dialysis
6. Peritoneal dialysis
7. Renal biopsy
8. Endoscopies- Bladder, urethra

III. Procedure Performed

1. Health assessment
2. Insertion of urethral and suprapubic catheters
3. Urine analysis

4. Catheterisation
5. Peritoneal dialysis
6. Bladder irrigation
7. Care of ostomies
8. Care of urinary drainage
9. Bladder training
10. Care of vascular access
11. Setting up dialysis machine and starting, monitoring and closing dialysis
12. Procedures for prevention of infections:
13. Hand washing, disinfection & sterilization surveillance, and fumigation universal precautions.
14. Collection of specimen.
15. Administration of drugs: IM, IV injection, IV cannulation & fixation of infusion pump, calculation of dosages, blood administration. monitoring -fluid therapy, electrolyte imbalance,
16. Nutritional needs , diet therapy & patient education.
17. Counselling

IV. OTHER PROCEDURES:

CLINICAL SPECIALITY – II

MEDICAL SURGICAL NURSING - ORTHOPEDIC NURSING

Placement : II Year

Hours of Instruction
Theory : 150 Hours
Practical : 950 Hours
Total : 1100 Hours

Course Description

This course is designed to assist students in developing expertise and in- depth understanding in the field of orthopedic nursing. It will help students to develop advanced skills for nursing intervention in various orthopedic conditions. It will enable the student to function as orthopedic nurse practitioner/specialist providing quality care. It will further enable the student to function as educator, manager, and researcher in the field of orthopedic nursing.

Objectives

At the end of the course the students will be able to:

1. Appreciate the history and developments in the field of orthopedic nursing
2. Identify the psycho-social needs of the patient while providing holistic care.
3. Perform physical and psychological assessment of patients with orthopedic conditions and disabilities.
4. Describe various disease conditions and their management
5. Discuss various diagnostic tests required in orthopedic conditions
6. Apply nursing process in providing care to patients with orthopedic conditions and those requiring rehabilitation.
7. Recognize and manage orthopedic emergencies.
8. Describe recent technologies and treatment modalities in the management of patients with orthopedic conditions and those requiring rehabilitation.
9. Integrate the concept of family centered, long term care and community based rehabilitation to patients with orthopedic conditions.
10. Counsel the patients and their families with orthopedic conditions
11. Describe various orthotic and prosthetic appliances
12. Appreciate the legal and ethical issues pertaining to patients with orthopedic conditions and those requiring rehabilitation.
13. Appreciate the role of alternative system of medicine in care of patients with orthopedic conditions

14. Incorporate evidence based nursing practice and identify the areas of research in the field of orthopedic nursing.
15. Recognize the role of orthopedic nurse practitioner and as a member of the orthopedic and rehabilitation team.
16. Teach orthopedic nursing to undergraduate students and in-service nurses.
17. Prepare a design and layout of orthopedic and rehabilitative units.

Course Content

Unit	Hours	Content
I	5	Introduction □ Historical perspectives – History and trends in orthopedic nursing □ Definition and scope of orthopedic nursing □ Anatomy and physiology of Musculo-skeletal system □ Posture, Body landmarks Skeletal system Muscular system. □ Nervous system - Main nerves □ Healing of - Injury, bone injury, □ Repair of ligaments □ Systemic response to injury □ Ergonomics, Body mechanics, biomechanical measures □ Orthopedic team
II	8	Assessment of Orthopedic Patient □ Health Assessment: History, physical examination- Inspection, palpation, movement, Measurement, muscle strength Testing. □ Diagnostic studies – Radiological studies, Muscle enzymes, serologic studies
III	10	Care of patients with devices □ Splints, braces, various types of plaster cast □ Various types of tractions, □ Various types of orthopedic beds and mattresses □ Comfort devices □ Implants in orthopedic □ Prosthetics and Orthotics
IV	15	Injuries Trauma & Injuries □ Causes, pathophysiology, clinical types, clinical features, diagnosis, prognosis, management, medical surgical and nursing management of : • Early management of Trauma • Fractures • Injuries of the □ Shoulder and arm □ Elbow, fore arm, wrist, hand □ Hip, thigh, knee, leg, ankle, foot □ Spine

Unit	Hours	Content
		□ Head injury □ Chest injury • Polytrauma • Nerve injuries • Vascular injuries • Soft tissue injuries • Sports injuries • Amputation
V	8	Infections of Bones and Joints □ Causes, pathophysiology, clinical types, clinical features, diagnosis, prognosis, management, medical surgical and nursing management of : • Tuberculosis • Osteomyelitis • Arthritis • Leprosy
VI	5	Bone Tumours □ Causes, pathophysiology, clinical types, clinical features, diagnosis, prognosis, management, medical surgical and nursing management of: • Bone tumors – Benign, Malignant and metastatic • Different types of therapies for tumors
VII	10	Deformities □ Causes, pathophysiology, clinical types, clinical features, diagnosis, prognosis – medical surgical and nursing management of: Scoliosis, Kyphosis, Lordosis □ Congenital disorders: Congenital dislocation of hip(CDH), Dislocation of patella, knee, □ Varus and valgus deformities, □ Deformities of digits, □ Congenital torticollis. □ Meningocele, meningocele, spina bifida, □ Chromosomal disorders. □ Computer related deformities
VIII	5	Disorders of the spine □ Intervertebral disc prolapse, Fracture of the spine □ Low back disorder – Low back pain, PND, spinal stenosis, spondylosis
IX	5	Nutritional/Metabolic and Endocrine Disorders □ Causes, pathophysiology, clinical types, clinical features, diagnosis, prognosis, medical surgical and nursing management of: • Rickets, • Scurvy, • Hyper vitaminosis A and D, • Osteomalacia,

Unit	Hours	Content
		• Osteoporosis • Paget's disease, • gout, • Gigantism, • Dwarfism, • Acromegaly. • Therapeutic diets for various orthopedic disorders
X	8	Neuro-Muscular Disorders: □ Causes, pathophysiology, clinical types, clinical features, diagnosis, prognosis, medical surgical and nursing management of: • Poliomyelitis, Cerebral Palsy • Myasthenia gravis • Spina bifida. • Peripheral nerve lesion, • Paraplegia, Hemiplegia, Quadriplegia. • Muscular dystrophy
XI	8	Chronic/Degenerative Diseases of Joints and Autoimmune Disorders: □ Causes, pathophysiology, clinical types, clinical features, diagnosis, prognosis – medical surgical and nursing management of: • Osteo Arthritis • Rheumatoid Arthritis • Ankylosing spondylitis. • Spinal disorders. • Systemic Lupus Erythematosus
XII	5	Orthopedic Disorders in Children: □ General and special consideration on pediatric orthopedics □ Genetic disorders □ Congenital anomalies □ Growth disorders □ Genetic counseling □ Nurses role in genetic counseling
XIII	5	Geriatric Problems □ Geriatric population, types of disabilities, causes, treatment and Management – Hospitalization, rest, physiotherapy, involvement of family members, social opportunities. □ Care at home – involvement of family and community, follow up care and rehabilitation
XIV	6	Pharmacokinetics □ Principles of drug administration □ Analgesics and anti inflammatory agents □ Antibiotics, Antiseptics, □ Drugs used in orthopedics and neuromuscular disorders □ Blood and blood components □ Care of drugs and nurses role

Unit	Hours	Content
XV	30	Nurses Role in Orthopedic Conditions □ Gait analysis □ Urodynamic studies □ Prevention of physical deformities □ Alteration of body temperature regulatory system and immune systems □ Immobilization – cast, splints, braces and tractions □ Prevention and care of problems related to immobility □ Altered sleep patterns □ Impaired communication □ Self care and activities of daily living □ Bladder and bowel rehabilitation □ Sensory function rehabilitation □ Psychological reaction related to disabilities and disorders. □ Coping of individual and family with disabilities and disorders □ Maintaining sexuality □ Spirituality – A rehabilitative prospective Orthopedic Reconstructive Surgeries □ Replacement surgeries – Hip, Knee, Shoulder □ Spine surgeries □ Grafts and flaps surgery □ Deformity correction. Physiotherapy □ Concepts, Principles, purpose, • Mobilization – Exercises: types, re-education in walking: Crutch walking, wheel chair, Transfer techniques, • Types of gaits: Non-weight bearing, partial weight bearing, four point crutch, tripod, walking with sticks, calipers • Forms of therapies: Hydrotherapy, electrotherapy, wax bath, heat therapy, ice, helio therapy, radiant heat, • Chest physiotherapy
XVI	8	Rehabilitation □ Principles of rehabilitation, definition, philosophy, process, □ Various types of therapies □ Special therapies and alternative therapies □ Rehabilitation counseling □ Preventive and restorative measures. □ Community based rehabilitation (CBR) □ Challenges in rehabilitation. □ Role of the nurse in rehabilitation, □ Legal and ethical issues in rehabilitation nursing □ Occupational therapy
XVII	5	National Policies and Programmes □ National programmes for rehabilitation of persons with disability - National Institutes, artificial limbs manufacturing Corporation, District Rehabilitation Centers and their schemes □ Regional rehabilitation centers etc.

Unit	Hours	Content
		□ Public policy in rehabilitation nursing □ The persons with disabilities act 1995, □ Mental rehabilitation and Multiple disabilities act 1992, □ The National Trust Rules 1999 and 2000 □ Rehabilitation Council of India □ Legal and ethical aspects in orthopedic nursing □ Rehabilitation health team and different categories of team members.
XVIII	4	Quality assurance □ Standards, Protocols, Policies, Procedures □ Nursing audit □ Staffing □ Design of orthopedic, physiotherapy and rehabilitation unit

Practicals

1. Clinical practice in Orthopedic, physiotherapy and Rehabilitation Units.
2. Application of tractions and plaster casts and removal of tractions and plaster casts and other appliances.
3. Apply Theories and Nursing Process in the management of patients with orthopedic conditions.
4. Provide various types of physical and rehabilitative therapies
5. Provide health education on related disease conditions.
6. Unit management and plan - designing

Clinical Experience

Total = 960 Hours
1 Week = 30 Hours

S. No.	Deptt./Unit	No. of Week	Total Hours
1	Orthopedic Ward	8	240 Hours
2	Orthopedic Operation theatre	4	120 Hours
3	Neurosurgical Ward	2	60 Hours
4	Orthopedic O.P.D.	4	120 Hours
5	Casualty/Emergency and Trauma	4	120 Hours
6	Rehabilitation Units	2	60 Hours
7	Physiotherapy Unit	4	120 Hours
8	Paediatric /paediatric surgery unit	2	60 Hours
9	Field Visit	2	60 Hours
	Total	32 Weeks	960 Hours

Procedures Observed

1. X Ray
2. Ultrasound
3. MRI
4. C T Scan/bone scan
5. Arthroscopy
6. Electrothermally – assisted capsule shift or ETAC (Thermal capsulorrhaphy)
7. Fluroscopy
8. Electromyography
9. Myelography
10. Discography
11. Others

Procedures Assisted

1. Blood Transfusion
2. IV cannulation and therapy
3. Ventilation
4. Various types of tractions
5. Orthopedic surgeries – Arthrocentesis, Arthroscopy, Bone lengthening, Arthrodesis, grafting, Fractures fixation, reconstructive, reimplantation, replantation, spinal decompression, transplantation of bone, muscle or articular cartilage, autografting, allografting.
6. Injection – Intra articular, intra osseous.
7. Advance Life Support

Peocedures Performed

1. Interpretation of X ray films.
2. Application and removal of splints, casts, and braces.
3. Care of tractions – skin and skeletal traction, pin site care.
4. Cold therapy.
5. Heat therapy
6. Hydrotherapy
7. Therapeutic exercises
8. Use of TENS (Transcutaneous electrical nerve stimulation)
9. Techniques of transportation
10. Crutch walking, walkers, wheel chair.
11. Use of devices for activities of daily living and prevention of deformities.
12. Administration of drugs: IV injection, IV cannulation, and Blood transfusion.
13. Procedures for prevention of infections: disinfection and sterilization, surveillance, fumigation.
14. Special skin/ part preparations for orthopedic surgeries.
15. Surgical dressings – Debridement.
16. Bladder and bowel training

Other Procedures

CLINICAL SPECIALITY - II

MEDICAL SURGICAL NURSING - GASTRO ENTEROLOGY NURSING

Placement : II Year

Hours of Instruction

Theory : 150 hrs.

Practical : 950 hrs.

Total : 1100 hrs.

Course Description

This course is designed to assist students in developing expertise and in- depth understanding in the field of gastro enterology Nursing. It will help students to develop advanced skills for nursing intervention in various gastro enterology conditions. It will enable the student to function as gastro enterology nurse practitioner/specialist and provide quality care. It will further enable the student to function as educator, manager, and researcher in the field of gastro enterology nursing

Objectives

At the end of the course the students will be able to

1. Appreciate trends and issues related to gastro enterology nursing
2. Describe the epidemiology, etiology, pathophysiology and diagnostic assessment of gastrointestinal conditions
3. Participate in national health programs for health promotion, prevention and rehabilitation of patients with gastrointestinal conditions
4. Perform physical, psychosocial & spiritual assessment
5. Assist in various diagnostic, therapeutic and surgical procedures
6. Provide comprehensive care to patients with gastrointestinal conditions
7. Describe the various drugs used in gastrointestinal conditions and nurses responsibility
8. Demonstrate skill in handling various equipments/gadgets used for patients with gastrointestinal conditions
9. Appreciate team work & coordinate activities related to patient care.
10. Practice infection control measures.
11. Identify emergencies and complications & take appropriate measures
12. Assist patients and their family to cope with emotional distress, grief, anxiety and spiritual needs
13. Discuss the legal and ethical issues in GE nursing

14. Identify the sources of stress and manage burnout syndrome among health care providers
15. Appreciate the role of alternative system of medicine in care of patient
16. Incorporate evidence based nursing practice and identify the areas of research in the field of gastrointestinal nursing
17. Teach and supervise nurses and allied health workers.
18. Design a layout of Gastro enterology intensive care unit (GEICU) , liver care/transplant unit

Course Content

Unit	Hours	Content
I	5	Introduction □ Historical development: trends and issues in the field of gastro enterology. □ Gastro enterological problems □ Concepts, principles and nursing perspectives □ Ethical and legal issues □ Evidence based nursing and its application in gastrointestinal nursing(to be incorporated in all the units)
II	5	Epidemiology □ Risk factors associated with GE conditions- Hereditary, Psychosocial factors, smoking, alcoholism, dietary habits, cultural and ethnic considerations □ Health promotion, disease prevention, life style modification and its implications to nursing □ National health programmes related to gastro enterology □ Alternate system of medicine/complementary therapies
III	5	Review of anatomy and physiology of gastrointestinal system □ Gastrointestinal system □ Liver, biliary and pancreas □ Gerontologic considerations □ Embryology of GI system □ Immunology specific to GI system
IV	15	Assessment and diagnostic measures □ History taking □ Physical assessment, psychosocial assessment □ Diagnostic tests • Radiological studies:Upper GIT- barium swallow, lower GIT- Barrium enema, • Ultra sound: • Computed tomography • MRI • Cholangiography: Percutaneous transheptatic Cholangiogram(PTC) • Magnetic Resonance Cholangio pancreotography (MRCP) • Nuclear imaging scans(scintigraphy) • Endoscopy

Unit	Hours	Content
		• Colonoscopy • Proctosigmoidoscopy • Endoscopic Retrograde Cholangio pancreatography (ERCP) • Endoscopic ultrasound • Peritonoscopy(Laproscopy) • Gastric emptying studies • Blood chemistries: Serum amylase, serum lipase • Liver biopsy • Miscellaneous tests:Gastric analysis, fecal analysis • Liver function tests: Bile formation and excretion, dye excretion test, Protein metabolism, haemostatic functions- prothrombin vitamin K production, serum enzyme tests,Lipid metabolism-serum cholesterol Interpretation of diagnostic measures Nurse's role in diagnostic tests
V	25	Gastro intestinal disorders and nursing management □ Etiology, clinical manifestations, diagnosis, prognosis, related pathophysiology, medical , surgical and nursing management of • Disorders of the mouth:Dental caries,Peridontal disease,Acute tooth infection, Stomatitis, Thrush (moniliasis),Gingivitis, Leukoplakia, Inflammation of the parotid gland, Obstruction to the flow of saliva,Fracture of the jaw • Disorders of the oesophagus: Reflux oesophagitis, Oesophageal achalasia, Oesoophageal varices, Hiatus hernia, Diverticulum • Disorders of the stomach and duodenum: Gastritis, Peptic ulcer, Dumping of the stomach, Food poisoning, idiopathic gastroparesis, Aerophagia and belching syndrome, Ideopathic cyclic nausea and vomiting, Rumination syndrome, Functional dyspepsia, Chronic Non specific (functional) abdominal pain • Disorders of the small intestine – Malabsorption syndrome – tropical sprue – Gluten – sensitive enteropathy (Coeliac disease) – Inflammatory diseases of intestines and abdomen,: appendicitis, Peritonities, Intestinal obstruction, Abdominal TB, Gastrointestinal polyposis syndrome – Chronic inflammatory bowel disease, Ulcerative colites, crohn's disease – Infestations and infections – Worm infestations, Typhoid, Leptospirosis – Solitary rectal ulcer syndrome – Alteration in bowel elimination (diarrhoea, constipation, fecal impaction, fecal incontinence, Irritable bowel syndrome, Chronic idiopathic constipation, Functional diarrhoea Anorectal Conditions: Hemorrhoids, Anal fissure, Anal fistula, Abscess, Strictures, Rectal prolapse, Pruritis ani, Pelonidal disease, Anal condylomas, Warts

Unit	Hours	Content
VI	15	Disorder of liver, pancreas gall bladder and nursing management □ Disorders of liver biliary tract : □ Viral Hepatitis – A, B, C, D & E □ Toxic hepatitis • Cirrhosis of liver, liver failure, Liver transplantation • Non cirrhotic portal fibrosis • Liver abscess,; • Parasitic and other cysts of the liver • Disorders of the Gall Bladder and Bile Duct: □ Cholecystitis □ Cholelithiasis □ Choledocholithiasis □ Disorders of the pancreas: Pancreatitis, □ Benign tumors of islet cells □ Disorders of the Peritoneum • Infections of the peritoneum □ Surgical peritonitis □ Spontaneous bacterial peritonitis □ Tuberculosis peritonitis □ Disorders of the Diaphragm • Diaphragmatic hernia • Congenital hernias • Paralysis of diaphragm • Tumors of the diaphragm □ Hiccups
VII	15	Gastro intestinal emergencies and nursing interventions □ Etiology, clinical manifestations, diagnosis, prognosis, related pathophysiology, medical , surgical and nursing management of: • Esophageal varices, • Ulcer perforation, • Acute cholecystitis • Diverticulitis • Fulminant hepatic failure • Biliary obstruction • Bowel obstruction • Gastroenteritis • Intussusception • Acute intestinal obstruction, perforation • Acute pancreatitis • Cirrhosis of liver complications • Liver , spleen, stomach pancreatic, mesenteric, bowel and greater vessel injuries • Acute appendicitis /peritonitis • Acute abdomen • Food poisoning
VIII	15	□ Congenital Anomalies of Esophagus • Esophageal atresia • Tracheo esophageal fistula

Unit	Hours	Content
		• Esophageal stenosis • Esophageal duplications • Dysphagia – Lusoria – aberrant right subclavian artery compressing esophagus • Esophageal rings – schalzkiring • Esophageal webs □ Congenital Anomalies of Stomach • Gastric atresia • Micro gastria • Gastric diverticulum • Gastric duplication • Gastric teratoma • Gastric volvulus • Infantile hypertrophic pyloric stenosis • Adult hypertrophic pyloric stenosis □ Congenital Anomalies of Duodenal • Duodenal Atresia or stenosis • Annular pancreas • Duodenal duplication cysts • Malrotation and mid gut volvulus □ Developmental anomalies of the intestine: • Abdominal wall defects (omphalocele and Gastroschisis) • Meckel's diverticulum • Intestinal atresia □ Hirschsprung's disease
IX	15	Pharmo Kinetics □ Drugs used in GIT □ Principles of administration □ Roles responsibilities of nurses □ Drugs in Peptic ulcer disease □ Proton Pump inhibitors □ H₂ Receptor Antagonists □ Cytoprotective Agents: □ Drugs used in Diarrhea □ Drugs used in constipation □ Drugs used in Inflammatory Bowel Disease □ Aminosalicylates □ Corticosteroids □ Immunomodulators □ chemotherapy □ Antibiotics □ Antiemetics: □ Anticholinergics □ Antihistaminics □ Anthelminthics □ Vitamin Supplements

Unit	Hours	Content
X	10	Nutrition and nutritional problems related to GI system □ Nutritional assessment and nursing interventions □ Therapeutic diets □ Adverse reactions between drugs and various foods □ Malnutrition- etiology , clinical manifestations and management □ Tube feeding, parenteral nutrition, total parenteral nutrition □ Obesity- etiology, clinical manifestations and management □ Eating disorders- anorexia nervosa, bulimia nervosa □ Recent advances in nutrition
XI	15	Malignant disorders of gastro intestinal system □ Etiology, clinical manifestations, diagnosis, prognosis, related pathophysiology, medical , surgical, other modalities and nursing management of: • Malignancy of oral cavity ,Lip,Tongue,buccal mucosa, oropharynx, Salivary gland • Esophageal , Gastric , Carcinoma of bowel - Small bowel, Colorectal and Anal carcinoma, • Liver, biliary tract and Pancreatic carcinoma
XII	5	Administration and management of GE unit □ Design & layout □ Staffing, □ Equipment, supplies, □ Infection control; Standard safety measures □ Quality Assurance:-Nursing audit –records /reports, Norms, policies and protocols □ Practice standards
XIII	5	Education and training in GE care □ Staff orientation, training and development, □ In-service education program, • Clinical teaching programs

Practicals**Total = 960 Hours****1 Week = 30 Hours**

S.No.	Deptt./Unit	No. of Week	Total Hours
1	Diagnostic labs	2	60 Hours
2	Emergency and casualty	3	90 Hours
3	Liver transplant unit	1	30 Hours
4	GE Medical Ward	6	180 Hours
5	GE Surgical Ward	8	240 Hours
6	OT	2	60 Hours
7	ICU	4	120 Hours
8	Pediatric gastroenterology	2	60 Hours
9	Oncology	2	60 Hours
10	GE OPD	2	60 Hours
	Total	32 Weeks	960 Hours

Procedures Assisted

1. Endoscopy room – Upper G.I. Endoscopy (Diagnostic and therapeutic).
2. Sigmoidoscopy
3. Colonoscopy
4. Polypectomy
5. Endoscopic retrograde cholangio pancreatography (ERCP)
6. Liver biopsy
7. Percutaneous catheter drainage (PCD) of Pseudocyst pancreas
8. Abdominal paracentesis
9. Percutaneous aspiration of liver abscess
10. GE Lab : PT, HbsAg, Markers – A, B, C virus, CBP, ESR, Stool Test

Procedures Performed

1. History and Physical assessment
2. RT intubation / extubation / aspiration/suction
3. Gastric lavage and gavage
4. Bowel wash
5. Therapeutic Diets
6. Ostomy feeding
7. Stoma care
8. Monitoring vital parameters
9. Plan of inservice education programme for nursing staff and Class-IV employees
10. Counseling

**STAFFING PATTERN RELAXED TILL
2012**

Qualifications & Experience Of Teachers Of College Of Nursing

Sr. No.	Post, Qualification & Experience
1	Professor-cum-Principal - Masters Degree in Nursing - 10 years of experience and minimum of 5 years of teaching experience <u><i>Desirable :</i></u> <i>Independent published work of high standard / doctorate degree / M.Phil.</i>
2	Professor-cum-Vice Principal - Masters Degree in Nursing - 10 years of experience and minimum of 5 years of teaching experience <u><i>Desirable :</i></u> <i>Independent published work of high standard / doctorate degree / M.Phil.</i>
3	Reader / Associate Professor - Master Degree in Nursing. - 7 years of experience and minimum of 3 years teaching experience <u><i>Desirable :</i></u> <i>Independent published work of high standard /doctorate degree / M.Phil.</i>
4	Assistant Professor /Lecturer - Master Degree in Nursing. - 3 years experience

Pay scales- as per UGC scales



SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION AND RESEARCH

(A Deemed to be University declared under Section 3 of UGC Act 1956)

Comprising Sri Devaraj Urs Medical College

[Constituent unit of Sri Devaraj Urs Educational Trust for Backward Classes (Regd.)]

TAMAKA, KOLAR-563 103, KARNATAKA, INDIA

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No. SDUAHER/KLR/ADMN/ 3186 /2024-25

30.09.2024

REVISED NOTIFICATION

Ref:1 INC Notification No: 1-6/LT/2024-INC, dated: 20-09-2024

2 Approval of the Hon'able Vice Chancellor, dated:30-09-2024

In continuation of this office notification dated 29-07-2024, the Calendar of events for Admission of M.Sc (N) Program for the academic year 2024-25 is hereby notified as follows:

SL.NO	DESCRIPTION OF EVENTS	SCHEDULE
PART-I		
01	Last date of admission	30 th October 2024
02	Commencement of academic session	18 th September 2024
03	Online submission of list of students to the Registrar SDUAHER	5 th November 2024
04	Getting admission registered certified by the Registrar SDUAHER	15 th November 2024 Before 3.30pm
05	Last date for admission approval statement	30 November 2024
06	Submission of I A marks	17 th July 2025
07	Examination	2 nd week of August 2025
08	Declaration of results	On or before 4 st week of August 2025
SUBMISSION OF SYNOPSIS AND DESSERTATION		
09	Last date for submission of synopsis to SDUAHER	20 th January 2025
10	Last date for submission of Dissertation to SDUAHER	20 th June 2026
11	Last date for submission of Dissertation to SDUAHER with fine	30 th June 2026

Registrar

Copy to:

1. P.A to Vice Chancellor, SDUAHER
2. The Finance Officer, SDUAHER
3. The Controller of Examinations, SDUAHER
4. The Principal, Sri Devaraj Urs College of Nursing, Tamaka, Kolar
5. Office Copy

Sri Devaraj Urs Academy of Higher
Education and Research
Tamaka, Kolar - 563 103.

Sri Devaraj Urs Academy of Higher Education and Research

(A deemed to be university declared under section 3 of UGC Act 1956)

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M.Sc. Nursing Course Regulations and Curriculum for Child Health (Pediatric) Nursing

(With effect from 2024-2025 batches)



SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION AND RESEARCH

Constituent Unit, Sri Devaraj Urs College of Nursing

A Deemed To Be University

Declared under section 3 of UGC Act 1956

MHRD GOI NO.F, 9-36/2006-U.3 (A), Dt.25th may 2007

Post box No.62, TAMAKA, KOLAR-563103, KARNAKATAKA, INDIA

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Website: www.sduaher.ac.in [Email -registrar@sduaher.ac.in/office@sduaher.ac.in](mailto:E-mail-registrar@sduaher.ac.in/office@sduaher.ac.in)

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15	<i>Clinical Specialty –II</i>	
	- Pediatric (Child Health) Nursing	
16	Annexure – I (Staffing Pattern Relaxed till 2012)	



Sri Devaraj Urs Academy of Higher Education and Research

(A deemed to be university declared under section 3 of UGC Act 1956)

Comprising Sri Devaraj Urs Medical College

[Constituent unit of Sri Devaraj Urs Educational Trust for Back Ward Classes (Regd.)]

TAMAKA, KOLAR-563103, KARNAKATAKA, INDIA

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NOTIFICATION

Sub: Approved of M.Sc (N) curriculum under the faculty of nursing

Ref: 1) INC notification file No: 1-6/LT/2023-INC, Dated: 26-12-2023
2) Proceedings of 46th Academic council meeting, Dated: 26-02-2024
3) Proceedings of 77th Board of Management meeting, Dated: 28-03-2024
4)No.SDUAHER/KLR/ADMN/238/2024-25, Dated: 18-04-2024

Sri Devaraj Urs Academy of Higher Education and Research, Kolar was established in the year 2007 under section 3 of the UGC Act, 1956. Sri Devaraj Urs College of Nursing becomes a constituent unit of SDUAHER from 1st July 2024. The academic council and board of management of SDUAHER approved M.Sc Nursing curriculum from the academic year 2024-25 in conformity with Indian Nursing Council regulations and curriculum for M.Sc (N) programme, Regulations 2006.

(Dr. Muninaraayana C)

Registrar

Philosophy

National Health Policy(NHP) 2002 emphasizes the need to prepare nurses to function in super-speciality areas who are required in tertiary care institutions, entrusting some limited public health functions to nurses after providing adequate training, and increase the ratio of degree holding vis a vis diploma holding nurses.

It is observed that there is an acute shortage of nursing faculty in under graduate and post graduate nursing programme in India

Indian Nursing Council believes that:

Post Graduate programme is essential to prepare nurses to improve the quality of nursing education and practice in India. .

Post graduate programme in nursing builds upon and extends competence acquired at the graduate levels, emphasizes application of relevant theories into nursing practice, education, administration and development of research skills.

The programme prepares nurses for leadership position in nursing and health fields who can function as nurse specialists, consultants, educators, administrators and researchers in a wide variety of professional settings in meeting the National priorities and the changing needs of the society.

This programme provides the basis for the post masteral programme in nursing. Further the programme encourages accountability and commitment to life long learning which fosters improvement of quality care.

Aim

The aim of the postgraduate program in nursing is to prepare graduates to assume responsibilities as nurse specialists, consultants, educators, administrators in a wide variety of professional settings

Objectives

On Completion of the two year M.Sc Nursing programme, the graduate will be able to:-

1. Utilize/apply the concepts, theories and principles of nursing science
2. Demonstrate advance competence in practice of nursing
3. Practice as a nurse specialist.
4. Demonstrate leadership qualities and function effectively as nurse educator and manager.
5. Demonstrate skill in conducting nursing research, interpreting and utilizing the findings from health related research.

6. Demonstrate the ability to plan and effect change in nursing practice and in the health care delivery system.
7. Establish collaborative relationship with members of other disciplines
8. Demonstrate interest in continued learning for personal and professional advancement.

Other Staff (Minimum requirements)

(To be reviewed and revised and rationalized keeping in mind the mechanization and contract service)

- Ministerial

a) Administrative Officer	1
c) Office Superintendent	1
d) PA to Principal	1
e) Accountant/Cashier	1

- Upper Division Clerk 2

- Lower Division Clerk 2

- Store Keeper 1

a) Maintenance of stores	1
b) Classroom attendants	2
c) Sanitary staff	As per the physical space
d) Security Staff	As per the requirement

- Peons/Office attendants 4

- Library

a) Librarian	2
b) Library Attendants	As per the requirement

- Hostel

a) Wardens	2
b) Cooks, Bearers, Sanitary Staff	As per the requirement
c) Ayas /Peons	As per the requirement
d) Security Staff	As per the requirement
e) Gardeners & Dhobi (desirable)	Depends on structural facilities

Eligibility Criteria/Admission Requirements:

1. The candidate should be a Registered Nurse and Registered midwife or equivalent with any State Nursing Registration Council.
2. The minimum education requirements shall be the passing of :
B.Sc. Nursing / B.Sc. Hons. Nursing / Post Basic B.Sc. Nursing with minimum of 55% aggregate marks.
3. The candidate should have undergone in B.Sc. Nursing / B.Sc. Hons. Nursing / Post Basic B.Sc. Nursing in an institution which is recognized by Indian Nursing Council.
4. Minimum one year of work experience after Basic B.Sc. Nursing.
5. Minimum one year of work experience prior or after Post Basic B.Sc. Nursing.
6. Candidate shall be medically fit.
7. 5% relaxation of marks for SC/ST candidates may be given.

Entrance/Selection test

Selection of the candidates should be based on the merit of the entrance examination held by University or competent authority.

Regulations for examination:

Eligibility for appearing for the examination:

75% of the attendance for theory and practicals. However 100% of attendance for practical before the award of degree

Classification of results:

- 50% pass in each of the theory and practical separately.
- 50-59% Second division
- 60-74% first division
- 75% and above is distinction
- For declaring the rank aggregate of 2 years marks to be considered

If the candidate fails in either practicals or theory paper he/she has to re - appear for both the papers (theory and practical)

Maximum no. of attempts per subject is three (3) inclusive of first attempt. The maximum period to complete the course successfully should not exceed 4 years

Candidate who fails in any subject, shall be permitted to continue the studies into the second year. However the candidate shall not be allowed to appear for the Second year examination till such time that he/she passes all subjects of the first year M.Sc nursing examination

Practicals

- 4 hours of practical examination per student.
- Maximum number of 10 students per day per speciality.
- The examination should be held in clinical area only for clinical specialities
- One internal and external should jointly conduct practical examination
- Examiner – Nursing faculty teaching respective speciality area in M.Sc nursing programme with minimum 3 years experience after M.Sc nursing.

Dissertation

Evaluation of the dissertation should be done by the examiner prior to viva

Duration: Viva-voce -minimum 30 minutes per student

Guidelines for Dissertation

Tentative Schedule for dissertation

S. No.	Activities	Scheduled Time
1.	Submission of the research proposal	End of 9 th month of 1 st year
2.	Submission of dissertation – Final	End of 9 th month of II nd Year

Note: - Administrative approval and ethical clearance should be obtained

A. Research Guides

a) *Qualification of Guide*

Main guide : Nursing faculty / nursing expert in the same clinical speciality holding Ph.D./M.Phil/M.Sc. Nursing with a minimum of 3 years experience in teaching in the Post Graduate Programme in Nursing.

Co-Guide : A Co-Guide is a nursing faculty/expert in the field of study (may be from outside the college but should be within the city.)

b) *Guide – Students Ratio*

Maximum of 1:4 (including as co-guide)

c) *Research Committee*

There should be a research committee in each college comprising of minimum 5 members chaired by the Principal, College of Nursing.

Duration

Duration of the course is 2 years for M.Sc. (N)

Available	52 weeks
Vacation	4 weeks
Examination	2 weeks
Gazetted holidays	3 weeks
Total weeks available	43 weeks
40 hours per week	1720 hours
Total hours for 2 years	3440 hours

Course of Instruction

	Theory (hrs)	Practical (hrs)
1st year		
Nursing education	150	150
Advance nursing practice	150	200
Nursing Research and statistics	150	100
*Clinical speciality –I	150	650
Total	600	1100

II nd Year

Nursing Management	150	150
Nursing Research(Dissertation)		300
*Clinical Speciality-II	150	950
Total	300	1400

Educational visit 2 weeks

***Clinical Speciality** – Medical Surgical Nursing (Cardio Vascular & Thoracic Nursing, Critical care Nursing, Oncology Nursing, Neurosciences Nursing, Nephro-Urology Nursing, Orthopedic Nursing, Gastro Enterology Nursing,)Obstetric & Gynaecological Nursing, Child Health (Paediatric) Nursing, Mental Health(Psychiatric) Nursing, Community Health Nursing, Psychiatric (Mental Health) Nursing etc.

Note: Students have to maintain log book for each activity during the course of study

Scheme of Examination

	Theory			Practical		
	Hours	Internal	External	Hours	Internal	External
1st year						
Nursing education	3	25	75		50	50
Advance nursing practice	3	25	75			
Nursing Research and statistics	3	25**	75*			
Clinical speciality -I	3	25	75		100	100
Total		100	300		150	150
II nd Year						
Nursing Management	3	25	75			
Dissertation & Viva					100	100
Clinical Speciality-II	3	25	75		100	100
Total		50	150		200	200

* Nursing research=50 and statistics=25

**Nursing research=15 and statistics=10

1. Minimum pass marks shall be 50 % in each of the Theory and practical papers separately.
2. A candidate must have minimum of 80% attendance (irrespective of the kind of absence) in theory and practical in each subject for appearing for examination.
3. A candidate must have 100% attendance in each of the practical areas before award of degree
4. A candidate has to pass in theory and practical exam separately in each of the paper.
5. If a candidate fails in either theory or practical paper he/she has to re-appear for both the papers (Theory and practical).
6. Maximum no. of attempts permitted for each paper is 3 including first attempt.

7. The maximum period to complete the course successfully should not exceed 4 (four) years
8. A candidate failing in more than two subjects will not be promoted to the IInd year.
9. No candidate shall be admitted to the subsequent IInd year examination unless the candidate has passed the Ist year examination.
10. Maximum number of candidates for all practical examination should not exceed 10 per day.
11. Provision of Supplementary examination should be made.
12. All practical examinations must be held in the respective clinical areas.
13. One internal and One external examiners(outside the University) should jointly conduct practical examination for each student
14. An examiner should be M.Sc (N) in concerned subject and have minimum of 3 (three) years post graduate teaching experience.
15. One internal and One external examiners(outside the University) should evaluate dissertation and jointly conduct viva-voce for each student
16. For Dissertation Internal examiner should be the guide and external examiner should be Nursing faculty / nursing expert in the same clinical speciality holding Ph.D./M.Phil/M.Sc. Nursing with a minimum of 3 years experience in guiding the research projects for Post Graduate students of Nursing.

Admission Strength

Annual admission strength for M.Sc (N) Programme should have prior sanction/permission from the Indian Nursing Council on the basis of clinical, physical facilities and teaching faculty.

Health Services

There should be provisions for the following health services for the students.

- (a) An annual medical examination.
- (b) Vaccination against Tetanus, hepatitis B or any other communicable disease as considered necessary.
- (c) Free medical care during illness and / provision of health insurance should be made.
- (d) A complete health record should be kept in respect of each individual students. The question of continuing the training of a student, with long term chronic illness, will be decided by the individual college.

CURRICULUM

NURSING EDUCATION

Placement : 1st Year

Hours of Instruction
Theory 150 Hours
Practical 150 Hours Total
: 300 Hours

Course Description

This course is designed to assist students to develop a broad understanding of Fundamental Principles, concepts, trends and issues related to education and nursing education. Further, it would provide opportunity to students to understand, appreciate and acquire skills in teaching and evaluation, curriculum development, implementation, maintenance of standards and accreditation of various nursing educational programs.

Objectives

At the end of the course, students will be able to :

1. Explain the aims of education, philosophies, trends in education and health: its impact on nursing education.
2. Describe the teaching learning process.
3. Prepare and utilize various instructional media and methods in teaching learning process.
4. Demonstrate competency in teaching, using various instructional strategies.
5. Critically analyze the existing nursing educational programs, their problems, issues and future trends.
6. Describe the process of curriculum development, and the need and methodology of curriculum change, innovation and integration.
7. Plan and conduct continuing nursing education programs.
8. Critically analyze the existing teacher preparation programs in nursing.
9. Demonstrate skill in guidance and counseling.
10. Describe the problems and issues related to administration of nursing curriculum including selection and organization of clinical experience.
11. Explain the development of standards and accreditation process in nursing education programs.
12. Identify research priorities in nursing education.
13. Discuss various models of collaboration in nursing education and services.

14. Explain the concept, principles, steps, tools and techniques of evaluation
15. Construct, administer and evaluate various tools for assessment of knowledge, skill, and attitude.

Course Content

Units	Hours		Course Content
	Theory	Practical	
I	10		Introduction : □ Education :Definition, aims, concepts, philosophies & their education implications, □ Impact of Social, economical, political & technological changes on education: • Professional education • Current trends and issues in education • Educational reforms and National Educational policy, various educational commissions-reports • Trends in development of nursing education in India
II	20	30	Teaching – Learning Process □ Concepts of teaching and learning: Definition, theories of teaching and learning, relationship between teaching and learning. □ Educational aims and objectives; types, domains, levels, elements and writing of educational objectives □ Competency based education(CBE) and outcome based education(OBE) □ Instructional design: Planning and designing the lesson, writing lesson plan : meaning, its need and importance, formats. □ Instruction strategies – Lecture, discussion, demonstration, simulation, laboratory, seminar, panel, symposium, problem solving, problem based learning (PBL), workshop, project, role- play(socio- drama), clinical teaching methods, programmed instruction, self directed learning(SDL), micro teaching, computer assisted instruction(CAI), computer assisted learning (CAL)

Units	Hours		Course Content
	Theory	Practical	
III	10	10	Instructional media and methods □ Key concepts in the selection and use of media in education □ Developing learning resource material using different media □ Instructional aids – types, uses, selection, preparation, utilization. □ Teacher's role in procuring and managing instructional Aids – Project and non-projected aids, multi media, video-tele conferencing etc
IV	10		Measurement and evaluation: □ Concept and nature of measurement and evaluation, meaning, process, purposes, problems in evaluation and measurement. □ Principles of assessment, formative and summative assessment- internal assessment external examination, advantages and disadvantages. □ Criterion and norm referenced evaluation,
V	12	10	Standardized and non-standardized tests : □ Meaning, characteristics, objectivity, validity, reliability, usability, norms, construction of tests- • Essay, short answer questions and multiple choice questions. • Rating scales, checklist, OSCE/OSPE(Objective structured clinical/practical examination) • Differential scales, and summated scales, sociometry, anecdotal record, attitude scale, critical incident technique □ Question bank-preparation, validation, moderation by panel, utilization □ Developing a system for maintaining confidentiality
VI	8	5	Administration, Scoring and Reporting □ Administering a test; scoring, grading versus marks □ Objective tests, scoring essay test, methods of scoring, Item analysis.
VII	12	6	Standardized Tools □ Tests of intelligence aptitude, interest, personality, achievement, socio-economic status scale, tests for special mental and physical abilities and disabilities.

Units	Hours		Course Content
	Theory	Practical	
VIII	5	6	Nursing Educational programs □ Perspectives of nursing education: Global and national. □ Patterns of nursing education and training programmes in India. Non-university and University programs: ANM, GNM, Basic B.Sc. Nursing, Post Certificate B.Sc. Nursing, M.Sc(N) programs, M.Phil and Ph.D) in Nursing, post basic diploma programs, nurse practitioner programs.
IX	12	25	Continuing Education in Nursing □ Concepts – Definition, importance, need scope, principles of adult learning, assessments of learning needs, priorities, resources. □ Program planning, implementation and evaluation of continuing education programs. □ Research in continuing education. □ Distance education in nursing.
X	10	10	Curriculum Development □ Definition, curriculum determinants, process and steps of curriculum development, Curriculum models, Types and framework. □ Formulation of philosophy, objectives, selection and organization of learning experiences; master plan, course plan, unit plan. □ Evaluation strategies, process of curriculum change, role of students, faculty, administrators, statutory bodies and other stakeholders. □ Equivalency of courses: Transcripts, credit system.
XI	8	4	Teacher preparation □ Teacher – roles & responsibilities, functions, characteristics, competencies, qualities, □ Preparation of professional teacher □ Organizing professional aspects of teacher preparation programs □ Evaluation: self and peer □ Critical analysis of various programs of teacher education in India.

Units	Hours		Course Content
	Theory	Practical	
XII	10	5	Guidance and counseling □ Concept, principles, need, difference between guidance and counseling , trends and issues. □ Guidance and counseling services : diagnostic and remedial. □ Coordination and organization of services. □ Techniques of counseling : Interview, case work, characteristics of counselor, problems in counseling. □ Professional preparation and training for counseling.
XIII	15	10	Administration of Nursing Curriculum □ Role of curriculum coordinator – planning, implementation and evaluation. □ Evaluation of educational programs in nursing-course and program. □ Factors influencing faculty staff relationship and techniques of working together. □ Concept of faculty supervisor (dual) position. □ Curriculum research in nursing. □ Different models of collaboration between education and service
XIV	10		Management of nursing educational institutions □ Planning, organizing, staffing, budgeting, recruitment, discipline, public relation, performance appraisal, welfare services, library services, hostel,
XV	5	5	□ Development and maintenance of standards and accreditation in nursing education programs. □ Role of Indian Nursing Council, State Registration Nursing Councils, Boards and University. □ Role of Professional associations and unions.

Activities :

- Framing philosophy, aims and objectives.
- Lesson Planning.
- Micro teaching-2.
- Conduct practice teachings using different teaching strategies -10 (like lecture cum discussion, demonstration- lab method, field trips, seminars, project, role play, panel discussion, clinical methods etc)
- Preparation and utilization of instructional Aids using different media.
- Develop course plans, unit plans, rotation plans.
- Conduct a continuing education workshop.
- Annotated bibliography.
- Critical evaluation of any nursing education program offered by a selected institution.
- Planning and Organizing field visits.

- Educational visits.
- Field visits (INC/SNRC) to get familiar with recognition/registration process.
- Construct, administer and evaluate tools (objective & essay type test, observation checklist, rating scale etc)
- Observe and practice application of various non-standardized tests (intelligence, Aptitude, Personality, Sociometry, physical & mental disabilities tests.)

Methods of Teaching

- Lecture cum discussion
- Demonstration/ Return demonstration
- Seminar / Presentations
- Project work
- Field visits
- Workshop

Methods of evaluation

- Tests
- Presentation
- Project work
- Written assignments

Internal Assessment

Techniques	Weightage
Test- (2 tests)	50
Assignment	25
Seminar/presentation	25

	100

Practical – Internal assessment

Learning resource material	25
Practice Teaching	50
Conduct Workshop /Short Term Course	25

Practical – external assessment

Practice teaching- 1-	50
Preparation/use of learning resource material-1	25
Construction of tests/rotation plan.	25

ADVANCE NURSING PRACTICE

Placement: 1ST Year

Hours of Instruction
Theory 150 Hours
Practical 200 Hours
Total : 350 Hours

Course Description

The course is designed to develop an understanding of concepts and constructs of theoretical basis of advance nursing practice and critically analyze different theories of nursing and other disciplines.

Objectives:

At the end of the course the students will be able to:

1. Appreciate and analyze the development of nursing as a profession.
2. Describe ethical, legal, political and economic aspects of health care delivery and nursing practice.
3. Explain bio- psycho- social dynamics of health, life style and health care delivery system.
4. Discuss concepts, principles, theories, models, approaches relevant to nursing and their application.
5. Describe scope of nursing practice.
6. Provide holistic and competent nursing care following nursing process approach.
7. Identify latest trends in nursing and the basis of advance nursing practice.
8. Perform extended and expanded role of nurse.
9. Describe alternative modalities of nursing care.
10. Describe the concept of quality control in nursing.
11. Identify the scope of nursing research.
12. Use computer in patient care delivery system and nursing practice.
13. Appreciate importance of self development and professional advancement.

Course Content

Unit	Hours	Content
I	10	Nursing as a Profession □ History of development of nursing profession, characteristics, criteria of the profession, perspective of nursing profession-national, global □ Code of ethics(INC), code of professional conduct(INC), autonomy and accountability, assertiveness, visibility of nurses, legal considerations, □ Role of regulatory bodies □ Professional organizations and unions-self defense, individual and collective bargaining □ Educational preparations, continuing education, career opportunities, professional advancement & role and scope of nursing education. □ Role of research, leadership and management. □ Quality assurance in nursing (INC). □ Futuristic nursing.
II	5	Health care delivery □ Health care environment, economics, constraints, planning process, policies, political process vis a vis nursing profession. □ Health care delivery system- national, state, district and local level. □ Major stakeholders in the health care system-Government, non-govt, Industry and other professionals. □ Patterns of nursing care delivery in India. □ Health care delivery concerns, national health and family welfare programs, inter-sectoral coordination, role of non-governmental agencies. □ Information, education and communication (IEC). □ Tele-medicine.
III	10	Genetics □ Review of cellular division, mutation and law of inheritance, human genome project ,The Genomic era. □ Basic concepts of Genes, Chromosomes & DNA. □ Approaches to common genetic disorders. □ Genetic testing – basis of genetic diagnosis, Pre symptomatic and predisposition testing, Prenatal diagnosis & screening, Ethical, legal & psychosocial issues in genetic testing. □ Genetic counseling. □ Practical application of genetics in nursing.
IV	10	Epidemiology □ Scope, epidemiological approach and methods, □ Morbidity, mortality, □ Concepts of causation of diseases and their screening, □ Application of epidemiology in health care delivery, Health surveillance and health informatics □ Role of nurse

Unit	Hours	Content
V	20	Bio-Psycho social pathology □ Pathophysiology and Psychodynamics of disease causation □ Life processes, homeostatic mechanism, biological and psycho-social dynamics in causation of disease, life style □ Common problems: Oxygen insufficiency, fluid and electrolyte imbalance, nutritional problems, hemorrhage and shock, altered body temperature, unconsciousness, sleep pattern and its disturbances, pain, sensory deprivation. □ Treatment aspects: pharmacological and pre- post operative care aspects, □ Cardio pulmonary resuscitation. □ End of life Care □ Infection prevention (including HIV) and standard safety measures, bio-medical waste management. □ Role of nurse- Evidence based nursing practice; Best practices □ Innovations in nursing
VI	20	Philosophy and Theories of Nursing □ Values, Conceptual models, approaches. □ Nursing theories: Nightingale's, Henderson's, Roger's, Peplau's, Abdella's, Lewine's, Orem's, Johnson's, King's, Neuman's, Roy's, Watson's, etc and their applications, □ Health belief models, communication and management, etc □ Concept of Self health. □ Evidence based practice model.
VIII	10	Nursing process approach □ Health Assessment- illness status of patients/clients (Individuals, family, community), Identification of health-illness problems, health behaviors, signs and symptoms of clients. □ Methods of collection, analysis and utilization of data relevant to nursing process. □ Formulation of nursing care plans, health goals, implementation, modification and evaluation of care.
IX	30	Psychological aspects and Human relations □ Human behavior, Life processes & growth and development, personality development, defense mechanisms, □ Communication, interpersonal relationships, individual and group, group dynamics, and organizational behavior, □ Basic human needs, Growth and development, (Conception through preschool, School age through adolescence, Young & middle adult, and Older adult) □ Sexuality and sexual health. □ Stress and adaptation, crisis and its intervention, □ Coping with loss, death and grieving, □ Principles and techniques of Counseling.

Unit	Hours	Content
X	10	Nursing practice □ Framework, scope and trends. □ Alternative modalities of care, alternative systems of health and complimentary therapies. □ Extended and expanded role of the nurse, in promotive, preventive, curative and restorative health care delivery system in community and institutions. □ Health promotion and primary health care. □ Independent practice issues,- Independent nurse-midwifery practitioner. □ Collaboration issues and models-within and outside nursing. □ Models of Prevention, □ Family nursing, Home nursing, □ Gender sensitive issues and women empowerment. □ Disaster nursing. □ Geriatric considerations in nursing. □ Evidence based nursing practice- Best practices □ Trans-cultural nursing.
XI	25	Computer applications for patient care delivery system and nursing practice □ Use of computers in teaching, learning, research and nursing practice. □ Windows, MS office: Word, Excel, Power Point, □ Internet, literature search, □ Statistical packages, □ Hospital management information system: softwares.

Practical

Clinical posting in the following areas:

- Specialty area- in-patient unit - 2 weeks
- Community health center/PHC - 2 weeks
- Emergency/ICU - 2 weeks

Activities

- Prepare Case studies with nursing process approach and theoretical basis
- Presentation of comparative picture of theories
- Family case- work using model of prevention
- Annotated bibliography
- Report of field visits (5)

Methods of Teaching

- Lecture cum discussion
- Seminar
- Panel discussion
- Debate
- Case Presentations
- Exposure to scientific conferences
- Field visits

Methods of evaluation :

- Tests
- Presentation
- Seminar
- Written assignments

Advance nursing Procedures

Definition, Indication and nursing implications;

- CPR, TPN, Hemodynamic monitoring, Endotracheal intubation, Tracheostoma, mechanical ventilation, Pacemaker, Hemodialysis, Peritoneal dialysis, LP, BT Pleural and abdominal paracentesis OT techniques, Health assessment, Triage, Pulse oxymetry

Internal Assessment

Techniques	Weightage
Test- (2 tests)	50
Assignment	25
Seminar/presentation	25

	100

CLINICAL SPECIALTY –I

CHILD HEALTH (PAEDIATRIC) NURSING

Placement : 1st Year

Hours of Instruction Theory
150 Hours
Practical 650 Hours Total
: 800 Hours

Course Description

This course is designed to assist students in developing expertise and in- depth understanding in the field of Pediatric Nursing. It will help students to appreciate the child as a holistic individual and develop skill to function as neonatal and pediatric nurse specialist. It will further enable the student to function as educator, manager, and researcher in the field of Paediatric nursing

Objectives

At the end of the course the students will be able to:

1. Appreciate the history and developments in the field of pediatrics and pediatric nursing as a specialty
2. Apply the concepts of growth and development in providing care to the pediatric clients and their families.
3. Appreciate the child as a holistic individual
4. Perform physical, developmental, and nutritional assessment of pediatric clients
5. Apply nursing process in providing nursing care to neonates & children
6. Integrate the concept of family centered pediatric nursing care with related areas such as genetic disorders, congenital malformations and long term illness.
7. Recognize and manage emergencies in neonates
8. Describe various recent technologies and treatment modalities in the management of high risk neonates
9. Appreciate the legal and ethical issues pertaining to pediatric and neonatal nursing
10. Prepare a design for layout and management of neonatal units
11. Incorporate evidence based nursing practice and identify the areas of research in the field of pediatric/neonatal nursing
12. Recognize the role of pediatric nurse practitioner and as a member of the pediatric and neonatal health team
13. Teach pediatric nursing to undergraduate students & in-service nurses

Course Content

Unit	Hours	Content
I	10	Introduction □ Historical development of Pediatrics and Pediatric Nursing in India; □ Current status of child health in India; □ Trends in Pediatrics and Pediatric Nursing, □ Ethical and cultural issues in pediatric care □ Rights of children □ National health policy for children, special laws and ordinances relating to children. □ National goals, □ Five year plans, □ National health programs related to child health.
II	10 Hrs	Assessment of pediatric clients □ History taking □ Developmental assessment □ Physical assessment □ Nutritional assessment □ Family assessment
III	10	Hospitalized child □ Meaning of hospitalization of the child, preparation for hospitalization, effects of hospitalization on the child and family □ Stressors and reactions related to developmental stages, play activities for ill hospitalized child. □ Nursing care of hospitalized child and family -principles and practices
IV	15	Pre-natal Pediatrics □ Embryological and fetal development, Prenatal factors influencing growth and development of fetus, □ Genetic patterns of common pediatric disorders, chromosomal aberrations, genetic assessment and counseling legal and ethical aspects of genetic, screening and counseling role of nurse in genetic counseling, □ Importance of prenatal care and role of pediatric nurse.
V	15	Growth and Development of children □ Principles of growth and development, □ Concepts and theories of growth and development, □ Developmental tasks and special needs from infancy to adolescence, developmental milestones, □ Assessment of growth and development of pediatric clients, □ Factors affecting growth and development.
VI	15	Behavioral Pediatrics and Pediatric Nursing □ Parent child relationship, □ Basic behavioral pediatric principles and specific behavioral pediatric concepts/disorders- maternal deprivation, failure

Unit	Hours	Content
		to thrive, child abuse, the battered child, □ Common behavioral problems and their management, □ Child guidance clinic.
VII	15	Preventive Pediatrics and Pediatric Nursing □ Concept, aims and scope of preventive pediatrics, □ Maternal health and its influence on child health antenatal aspects of preventive pediatrics, □ Immunization, expanded program on immunization/ universal immunization program and cold chain, □ Nutrition and nutritional requirements of children, changing patterns of feeding, baby- friendly hospital initiative and exclusive breast feeding, □ Health education, nutritional education for children □ Nutritional programs □ National and international organizations related to child health, Role of pediatric nurse in the hospital and community.
VIII	30	Neonatal Nursing □ New born baby- profile and characteristics of the new born, □ Assessment of the new born, □ Nursing care of the new born at birth, care of the new born and family, □ High risk newborn- pre term and term neonate and growth retarded babies, □ Identification and classification of neonates with infections, HIV & AIDS, Ophthalmia neonatorum, congenital syphilis. □ High risk new born- Identification, classification and nursing management □ Organization of neonatal care, services(Levels), transport, neonatal intensive care unit, organization and management of nursing services in NICU.
IX	30	IMNCI (Integrated management of neonatal and childhood illnesses)

Practical

Total = 660Hours
1 Week = 30Hours

S.No.	Deptt./Unit	No. of Week	Total Hours
1	Pediatric Medicine Ward	4	120 Hours
2	Pediatric Surgery Ward	4	120 Hours
3	Labor Room/Maternity Ward	2	60 Hours
4	Pediatric OPD	2	60 Hours
5	NICU	4	120 Hours
6	Creche	1	30 Hours
7	Child Guidance Clinic	1	30 Hours
8	Community	4	120 Hours
	Total	22 Weeks	660 Hours

Student Activities

- Clinical presentations
- Growth & developmental assessment
- Assessment & prescription of nursing interventions for sick children
- Health education related to disease conditions
- Nutritional assessment
- Project work
- Field visits

NURSING RESEARCH AND STATISTICS

Placement: 1st Year

Hours of Instruction
Theory 150 Hours
Practical 100 Hours
Total : 250 Hours

Part-A : Nursing Research

Theory 100 Hours
Practical 50 Hours
Total : 150 Hours

Course Description:

The course is designed to assist the students to acquire an understanding of the research methodology and statistical methods as a basis for identifying research problem, planning and implementing a research plan. It will further enable the students to evaluate research studies and utilize research findings to improve quality of nursing practice, education and management.

General Objectives:

At the end of the course, the students will be able to:

1. Define basic research terms and concepts.
2. Review literature utilizing various sources
3. Describe research methodology
4. Develop a research proposal.
5. Conduct a research study.
6. Communicate research findings
7. Utilize research findings
8. Critically evaluate nursing research studies.
9. Write scientific paper for publication.

Content Outline

Unit	Hours		Course Content
	Theory	Practical	
I	10		Introduction: □ Methods of acquiring knowledge – problem solving and scientific method. □ Research – Definition, characteristics, purposes, kinds of research □ Historical Evolution of research in nursing □ Basic research terms □ Scope of nursing research: areas, problems in nursing, health and social research □ Concept of evidence based practice □ Ethics in research □ Overview of Research process
II	5	5	Review of Literature □ Importance, purposes, sources, criteria for selection of resources and steps in reviewing literature.
III	12		Research Approaches and designs □ Type: Quantitative and Qualitative □ Historical, survey and experimental –Characteristics, types advantages and disadvantages □ Qualitative: Phenomenology, grounded theory, ethnography
IV	10	5	Research problem: □ Identification of research problem □ Formulation of problem statement and research objectives □ Definition of terms □ Assumptions and delimitations □ Identification of variables □ Hypothesis – definition, formulation and types.
V	5	5	Developing theoretical/conceptual framework. □ Theories: Nature, characteristics, Purpose and uses □ Using, testing and developing conceptual framework, models and theories.
VI	6		Sampling □ Population and sample □ Factors influencing sampling □ Sampling techniques □ Sample size □ Probability and sampling error □ Problems of sampling

Unit	Hours		Course Content
	Theory	Practical	
VII	20	10	Tools and methods of Data collection: □ Concepts of data collection □ Data sources, methods/techniques quantitative and qualitative. □ Tools for data collection – types, characteristics and their development □ Validity and reliability of tools □ Procedure for data collection
VIII	5		Implementing research plan □ Pilot Study, review research plan (design)., planning for data collection, administration of tool/interventions, collection of data
IX	10	10	Analysis and interpretation of data □ Plan for data analysis: quantitative and qualitative □ Preparing data for computer analysis and presentation. □ Statistical analysis □ Interpretation of data □ Conclusion and generalizations □ Summary and discussion
X	10		Reporting and utilizing research findings: □ Communication of research results; oral and written □ Writing research report purposes, methods and style- vancouver, American Psychological Association(APA), Campbell etc □ Writing scientific articles for publication: purposes & style
XI	3	8	Critical analysis of research reports and articles
XII	4	7	Developing and presenting a research proposal

Activities:

- Annotated Bibliography of research reports and articles.
- Review of literature of selected topic and reporting
- Formulation of problem statement, objective and hypothesis
- Developing theoretical/conceptual framework.
- Preparation of a sample research tool
- Analysis and interpretation of given data
- Developing and presenting research proposal
- Journal club presentation
- Critical evaluation of selected research studies
- Writing a scientific paper.

Method of Teaching

- Lecture-cum-discussion
- Seminar/Presentations
- Project
- Class room exercises
- Journal club

Methods of Evaluation

- Quiz, Tests (Term)
- Assignments/Term paper
- Presentations
- Project work

Internal Assessment

Techniques	Weightage (15marks)
Term Test(2 tests)	40%
Assignment	20%
Presentation	20%
Project work	20%
Total	100%

Part –B : Statistics

Hours of Instruction
Theory 50 Hours
Practical 50 Hours Total
: 100 Hours

Course Description

At the end of the course, the students will be able to develop an understanding of the statistical methods and apply them in conducting research studies in nursing.

General Objectives

At the end of the course the students will be able to:

1. Explain the basic concepts related to statistics
2. Describe the scope of statistics in health and nursing
3. Organize, tabulate and present data meaningfully.
4. Use descriptive and inferential statistics to predict results.
5. Draw conclusions of the study and predict statistical significance of the results.
6. Describe vital health statistics and their use in health related research.
7. Use statistical packages for data analysis

Unit	Hours		Course Content
	Theory	Practical	
I	7	4	Introduction: □ Concepts, types, significance and scope of statistics, meaning of data, □ sample, parameter □ type and levels of data and their measurement □ Organization and presentation of data – Tabulation of data; □ Frequency distribution □ Graphical and tabular presentations.
II	4	4	Measures of central tendency: □ Mean, Median, Mode
III	4	5	Measures of variability; □ Range, Percentiles, average deviation, quartile deviation, standard deviation
IV	3	2	Normal Distribution: □ Probability, characteristics and application of normal probability curve; sampling error.
Unit	Hours		Course Content

	Theory	Practical	
V	6	8	Measures of relationship: □ Correlation – need and meaning □ Rank order correlation; □ Scatter diagram method □ Product moment correlation □ Simple linear regression analysis and prediction.
VI	5	2	Designs and meaning: □ Experimental designs □ Comparison in pairs, randomized block design, Latin squares.
VII	8	10	Significance of Statistic and Significance of difference between two Statistics (Testing hypothesis) □ Non parametric test – Chi-square test, Sign, median test, Mann Whitney test. □ Parametric test – ‘t’ test, ANOVA, MANOVA, ANCOVA
VIII	5	5	Use of statistical methods in psychology and education: □ Scaling – Z Score, Z Scaling □ Standard Score and T Score □ Reliability of test Scores: test-retest method, parallel forms, split half method.
IX	4	2	Application of statistics in health: □ Ratios, Rates, Trends □ Vital health statistics – Birth and death rates. □ Measures related to fertility, morbidity and mortality
X	4	8	Use of Computers for data analysis □ Use of statistical package.

Activities

- Exercises on organization and tabulation of data,
- Graphical and tabular presentation of data
- Calculation of descriptive and inferential statistics(chi square, t-test, correlation)
- Practice in using statistical package
- Computing vital health statistics

Methods of Teaching:

- Lecture-cum-discussion
- Demonstration – on data organization, tabulation, calculation of statistics, use of statistical package, Classroom exercises, organization and tabulation of data,

- Computing Descriptive and inferential statistics; vital and health statistics and use of computer for data entry and analysis using statistical package.

Methods of Evaluation

- Test, Classroom statistical exercises.

Internal Assessment

Techniques

Weightage 10 marks

Test – (2 tests)

100%

NURSING MANAGEMENT

Placement : II Year

Hours of Instruction
Theory 150 Hours
Practical 150 Hours
Total : 300 Hours

Course Description

This course is designed to assist students to develop a broad understanding of Principles, concepts, trends and issues related to nursing management. Further, it would provide opportunity to students to understand, appreciate and acquire skills in planning, supervision and management of nursing services at different levels to provide quality nursing services.

Objectives

At the end of the course, students will be able to:

1. Describe the philosophy and objectives of the health care institutions at various levels.
2. Identify trends and issues in nursing
3. Discuss the public administration, health care administration vis a vis nursing administration
4. Describe the principles of administration applied to nursing
5. Explain the organization of health and nursing services at the various levels/institutions.
6. Collaborate and co-ordinate with various agencies by using multi-sectoral approach
7. Discuss the planning, supervision and management of nursing workforce for various health care settings.
8. Discuss various collaborative models between nursing education and nursing service to improve the quality of nursing care
9. Identify and analyse legal and ethical issues in nursing administration
10. Describe the process of quality assurance in nursing services.
11. Demonstrate leadership in nursing at various levels

Course Content

Unit	Hours	Content
I	10	Introduction □ Philosophy, purpose, elements, principles and scope of administration □ Indian Constitution, Indian Administrative system vis a vis health care delivery system: National, State and Local □ Organisation and functions of nursing services and education at National, State , District and institutions: Hospital and Community □ Planning process: Five year plans, Various Committee Reports on health, State and National Health policies, national population policy, national policy on AYUSH and plans,
II	10	Management □ Functions of administration □ Planning and control □ Co-ordination and delegation □ Decision making – decentralization basic goals of decentralization. □ Concept of management Nursing management □ Concept, types, principles and techniques □ Vision and Mission Statements □ Philosophy, aims and objective □ Current trends and issues in Nursing Administration □ Theories and models Application to nursing service and education
III	15	Planning □ Planning process: Concept, Principles, Institutional policies □ Mission, philosophy, objectives, □ Strategic planning □ Operational plans □ Management plans □ Programme evaluation and review technique(PERT), Gantt chart, Management by objectives(MBO) □ Planning new venture □ Planning for change □ Innovations in nursing Application to nursing service and education
IV	15	Organisation □ Concept , principles, objectives, Types and theories, Minimum requirements for organisation, Developing an organizational Structure, levels, organizational Effectiveness and organizational Climate, □ Organising nursing services and patient care: Methods of patient assignment- Advantages and disadvantages, primary nursing care, □ Planning and Organising: hospital, unit and ancillary services(specifically central sterile supply department, laundry, kitchen, laboratory services, emergency etc)

Unit	Hours	Content
		□ Disaster management: plan, resources, drill, etc Application to nursing service and education
V	15	Human Resource for health □ Staffing • Philosophy • Norms: Staff inspection unit(SIU), Bajaj Committee, High power committee, Indian nursing council (INC) • Estimation of nursing staff requirement- activity analysis • Various research studies □ Recruitment: credentialing, selection, placement, promotion □ Retention □ Personnel policies □ Termination □ Staff development programme □ Duties and responsibilities of various category of nursing personnel Applications to nursing service and education
VI	15	Directing □ Roles and functions □ Motivation: Intrinsic, extrinsic, Creating motivating climate, Motivational theories □ Communication : process, types, strategies, Interpersonal communication, channels, barriers, problems, Confidentiality, Public relations □ Delegation; common delegation errors □ Managing conflict: process, management, negotiation, consensus □ Collective bargaining: health care labour laws, unions, professional associations, role of nurse manager □ Occupational health and safety Application to nursing service and education
VII	10	Material management □ Concepts, principles and procedures □ Planning and procurement procedures : Specifications □ ABC analysis, □ VED (very important and essential daily use) analysis □ Planning equipments and supplies for nursing care: unit and hospital □ Inventory control □ Condemnation Application to nursing service and education
VIII	15	Controlling □ Quality assurance – Continuous Quality Improvement • Standards • Models • Nursing audit

Unit	Hours	Content
		□ Performance appraisal: Tools, confidential reports, formats, Management, interviews □ Supervision and management: concepts and principles □ Discipline: service rules, self discipline, constructive versus destructive discipline, problem employees, disciplinary proceedings- enquiry etc □ Self evaluation or peer evaluation, patient satisfaction, utilization review Application to nursing service and education
IX	15	Fiscal planning □ Steps □ Plan and non-plan, zero budgeting, mid-term appraisal, capital and revenue □ Budget estimate, revised estimate, performance budget □ Audit □ Cost effectiveness □ Cost accounting □ Critical pathways □ Health care reforms □ Health economics □ Health insurance □ Budgeting for various units and levels Application to nursing service and education
X	10	Nursing informatics □ Trends □ General purpose □ Use of computers in hospital and community □ Patient record system □ Nursing records and reports □ Management information and evaluation system (MIES) □ E- nursing, Telemedicine, telenursing □ Electronic medical records
XI	10	Leadership □ Concepts, Types, Theories □ Styles □ Manager behaviour □ Leader behaviour □ Effective leader: Characteristics, skills □ Group dynamics □ Power and politics □ lobbying □ Critical thinking and decision making □ Stress management Applications to nursing service and education

Unit	Hours	Content
XII	10	Legal and ethical issues Laws and ethics □ Ethical committee □ Code of ethics and professional conduct □ Legal system: Types of law, tort law, and liabilities □ Legal issues in nursing: negligence, malpractice, invasion of privacy, defamation of character □ Patient care issues, management issues, employment issues □ Medico legal issues □ Nursing regulatory mechanisms: licensure, renewal, accreditation □ Patients rights, Consumer protection act(CPA) □ Rights of special groups: children, women, HIV, handicap, ageing □ Professional responsibility and accountability □ Infection control □ Standard safety measures

PRACTICALS

1. Prepare prototype personal files for staff nurses, faculty and cumulative records
2. Preparation of budget estimate, Revised estimate and performance budget
3. Plan and conduct staff development programme
4. Preparation of Organisation Chart
5. Developing nursing standards/protocols for various units
6. Design a layout plan for speciality units /hospital, community and educational institutions
7. Preparation of job description of various categories of nursing personnel
8. Prepare a list of equipments and supplies for speciality units
9. Assess and prepare staffing requirement for hospitals, community and educational institutions
10. Plan of action for recruitment process
11. Prepare a vision and mission statement for hospital, community and educational institutions
12. Prepare a plan of action for performance appraisal
13. Identify the problems of the speciality units and develop plan of action by using problem solving approach
14. Plan a duty roster for speciality units/hospital, community and educational institutions
15. Prepare: anecdotes, incident reports, day and night reports, handing and taking over reports, enquiry reports, nurses notes, Official letters, curriculum vitae, presentations etc
16. Prepare a plan for disaster management
17. Group work
18. Field appraisal report

CLINICAL SPECIALTY –II

PEDIATRIC (CHILD HEALTH) NURSING

Placement : II Year

Hours of Instruction
Theory 150 hours
Practical 950 hours
Total : 1100 hours

Course Description

This course is designed to assist students in developing expertise and in- depth understanding in the field of Pediatric Nursing. It will help students to develop advanced skills for nursing intervention in various pediatric medical and surgical conditions. It will enable the student to function as pediatric nurse practitioner/specialist. It will further enable the student to function as educator, manager, and researcher in the field of Paediatric nursing

Objectives

At the end of the course the students will be able to:

1. Apply the nursing process in the care of ill infants to pre adolescents in hospital and community
2. Demonstrate advanced skills/competence in nursing management of children with medical and surgical problems
3. Recognize and manage emergencies in children
4. Provide nursing care to critically ill children
5. Utilize the recent technology and various treatment modalities in the management of high risk children
6. Prepare a design for layout and describe standards for management of pediatric units/hospitals
7. Identify areas of research in the field of pediatric nursing

Course Content

Unit	Hours	Content
I	5	Introduction □ Current principles, practices and trends in Pediatric Nursing □ Role of pediatric nurse in various settings -Expanded and extended
II	35	□ Pathophysiology, assessment(including interpretation of various invasive and non-invasive diagnostic procedures), treatment modalities and nursing intervention in selected pediatric medical disorders • Child with respiratory disorders: - Upper respiratory tract: choanal atresia, tonsillitis, epistaxis, aspiration. - Lower respiratory tract: Broncheolitis, Bronchopneumonia, Asthma, cystic fibrosis • Child with gastro-intestinal disorders: - Diarrheal diseases, gastro-esophageal reflux. - Hepatic disorders: Hepatitis, Indian childhood cirrhosis, liver transplantation. - Malabsorption syndrome, Malnutrition • Child with renal/ urinary tract disorders: Nephrotic syndrome, Nephritis, Hydronephrosis, hemolytic-uremic syndrome, kidney transplantation • Child with cardio-vascular disorders: - Acquired: Rheumatic fever, Rheumatic heart disease, - Congenital: Cynotic and acynotic • Child with endocrine/metabolic disorders: Diabetes insipidus, Diabetes Mellitus – IDDM, NIDDM, hyper and hypo thyroidism, phenylketonuria, galactosemia • Child with Neurological disorders: Convulsions, Meningitis, encephalitis, guillian- Barre syndrome • Child with oncological disorders: Leukemias, Lymphomas, Wilms' tumor, nephroblastomas, neuroblastomas, Rhabdomyosarcoma, retinoblastoma, hepatoblastoma, bone tumors • Child with blood disorders: Anemias, thalassemias, hemophilia, polycythemia, thrombocytopenia, and disseminated intravascular coagulation • Child with skin disorders • Common Eye and ENT disorders • Common Communicable diseases
III	35	□ Assessment(including interpretation of various invasive and non-invasive diagnostic procedures), treatment modalities including cosmetic surgery and nursing interventions in selected pediatric surgical problems/ Disorders • Gastrointestinal system: Cleft lip, cleft palate and conditions requiring plastic surgery, Tracheo esophageal fistula/atresia, Hirschsprungs' disease/megacolon, malrotation, intestinal obstruction, duodenal atresia,

		gastrochisis, exomphalus, anorectal malformation, omphalocele, diaphragmatic hernia • Anomalies of the nervous system: Spina bifida, Meningocele, Myelomeningocele, hydrocephalus • Anomalies of the genito-urinary system: Hypospadias, Epispadias, Undescended testes, Exstrophy bladder • Anomalies of the skeletal system • Eye and ENT disorders • Nursing management of the child with traumatic injuries: General principles of managing Pediatric trauma - Head injury, abdominal injury, poisoning, foreign body obstruction, burns - & Bites • Child with oncological disorders: Solid tumors of childhood, Nephroblastoma, Neuro blastoma, Hodgkin's/Non Hodgkin's Lymphoma, Hepatoblastoma, Rhabdomyosarcoma • Management of stomas, catheters and tubes • Management of wounds and drainages
IV	10	Intensive care for pediatric clients □ Resuscitation, stabilization & monitoring of pediatric patients □ Anatomical & physiological basis of critical illness in infancy and childhood □ Care of child requiring long-term ventilation □ Nutritional needs of critically ill child □ Legal and ethical issues in pediatric intensive care □ Intensive care procedures, equipment and techniques □ Documentation
V	20	High Risk Newborn □ Concept, goals, assessment, principles. □ Nursing management of • Post-mature infant, and baby of diabetic and substance use mothers. • Respiratory conditions, Asphyxia neonatorum, neonatal apnoea meconium aspiration syndrome, pneumo thorax, pneumo mediastinum • Icterus neonatorum. • Birth injuries. • Hypoxic ischaemic encephelopathy • Congenital anomalies. • Neonatal seizures. • Neonatal hypocalcaemia, hypoglycemia, hypomagnesaemia. • Neonatal heart diseases. • Neonatal hemolytic diseases • Neonatal infections, neonatal sepsis, ophthalmia neonatorum, congenital syphilis, HIV/AIDS • Advanced neonatal procedures. • Calculation of fluid requirements.

		• Hematological conditions – erythroblastosis fetalis, hemorrhagic disorder in the newborn • Organization of neonatal care, services(Levels), transport, neonatal intensive care unit, organization and management of nursing services in NICU
VI	10	Developmental disturbances and implications for nursing □ Adjustment reaction to school, □ Learning disabilities □ Habit disorders, speech disorders, □ Conduct disorders, □ Early infantile autism, Attention deficit hyperactive disorders (ADHD), depression and childhood schizophrenia.
VII	10	Challenged child and implications for nursing □ Physically challenged, causes, features, early detection & management □ Cerebral palsied child, □ Mentally challenged child. □ Training & rehabilitation of challenged children
VIII	5	Crisis and nursing intervention □ The hospitalized child, □ Terminal illness & death during childhood □ Nursing intervention-counseling
IX	5	Drugs used in Pediatrics □ Criteria for dose calculation □ Administration of drugs, oxygen and blood □ Drug interactions □ Adverse effects and their management
X	10	Administration and management of pediatric care unit □ Design & layout □ Staffing, □ Equipment, supplies, □ Norms, policies and protocols □ Practice standards for pediatric care unit □ Documentation
XI	5	Education and training in Pediatric care □ Staff orientation, training and development, □ In-service education program, □ Clinical teaching programs.

Practical

**Total = 960 Hours 1
Week = 30 Hours**

- Field visits:

S. No.	Deptt./ Unit	No. of Week	Total Hours
1	Pediatric medicine ICU	4	120 Hours
2	Pediatric surgical ICU	4	120 Hours
3	NICU	4	120 Hours
4	Pediatric OT	2	60 Hours
5	Pediatric medicine ward	6	180 Hours
6	Pediatric surgery ward	6	180 Hours
7	Emergency/Casualty	4	120 Hours
8	Field visits*	2	60 Hours
	Total	32	960 Hours

*Child care center, Anganwadi, play school, Special schools for challenged children, Juvenile court, UNICEF, Orphanage, Creche, SOS village

Essential

I. Procedures Observed:

- Echo cardiogram
- Ultrasound head
- ROP screening (Retinopathy of prematurity)
- Any other

II. Procedures Assisted

- Advanced neonatal life support
- Lumbar Puncture
- Arterial Blood Gas
- ECG Recording
- Umbilical catheterization – arterial and venous
- Arterial B P monitoring
- Blood transfusion- exchange transfusion full and partial
- IV cannulation & therapy
- Arterial catheterization
- Chest tube insertion
- Endotracheal intubation
- Ventilation
- Insertion of long line
- Assist in surgery

III. Procedures Performed:

- Airway Management
 - Application of Oro Pharyngeal Airway
 - Oxygen therapy
 - CPAP(Continuous Positive Airway Pressure)
 - Care of Tracheostomy
 - Endotracheal Intubation
- Neonatal Resuscitation
- Monitoring of Neonates – clinically & with monitors, CRT(Capillary Refill Time), assessment of jaundice, ECG
- Gastric Lavage
- Setting of Ventilators
- Phototherapy
- Assessment of Neonates: Identification & assessment of risk factors, APGAR Score, gestation age, Anthropometric assessment, Weighing the baby, Newborn examination, detection of life threatening congenital abnormalities,
- Admission & discharge of neonates
- Feeding - management of breast feeding, artificial feeding, expression of breast milk, OG(Orogastric) tube insertion, gavage feeding, TPN, Breast feeding counseling
- Thermoregulation- Axillary temperature, Kangaroo Mother Care (KMC), Use of Radiant warmer, incubators, management of thermoregulation & control
- Administration of Drugs: I/M, IV injection, IV Cannulation & fixation infusion pump, Calculation of dosages, Neonatal formulation of drugs, use of tuberculin/ insulin syringes, Monitoring fluid therapy, Blood administration.
- Procedures for prevention of infections: Hand washing, disinfections & sterilization, surveillance, fumigation
- Collection of specimens
- Setting, Use & maintenance of basic equipment: Ventilator, O₂ analyzer, monitoring equipment, Photo therapy unit, Flux meter, Infusion pump, Radiant warmer, incubator, Centrifuge machine, Bilimeter, Refractometer, laminar flow

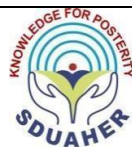
IV. Other Procedures:

**STAFFING PATTERN RELAXED TILL
2012**

Qualifications & Experience Of Teachers Of College Of Nursing

Sr. No.	Post, Qualification & Experience
1	Professor-cum-Principal - Masters Degree in Nursing - 10 years of experience and minimum of 5 years of teaching experience <i><u>Desirable :</u> Independent published work of high standard / doctorate degree / M.Phil.</i>
2	Professor-cum-Vice Principal - Masters Degree in Nursing - 10 years of experience and minimum of 5 years of teaching experience <i><u>Desirable :</u> Independent published work of high standard / doctorate degree / M.Phil.</i>
3	Reader / Associate Professor - Master Degree in Nursing. - 7 years of experience and minimum of 3 years teaching experience <i><u>Desirable :</u> Independent published work of high standard /doctorate degree / M.Phil.</i>
4	Assistant Professor /Lecturer - Master Degree in Nursing. - 3 years experience

Pay scales- as per UGC scales



SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION AND RESEARCH

(A Deemed to be University Declared under Section 3 of UGC Act, 1956)

Comprising Sri Devaraj Urs Medical College

[Constituent Unit of Sri Devaraj Urs Educational Trust for Backward Classes (Regd.)

JTAMAKA, KOLAR-563103, KARNATAKA, INDIA

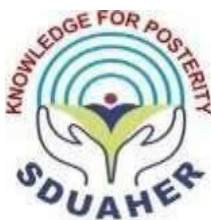
Ph: 08152-243009, +91 9448395232 Fax: +918152 -243008 E-mail: registrar@sduaher.ac.in/office@sduu.ac.in. Website: www.sduaher.ac.in

(With effect from 2024-25 batches)

Choice Based Credit System

Curriculum for Master of Science in Medical Radiology & Imaging Technology

Approved: as per resolution of the (Agenda No. **EC/LXXIX-12 / 2024**), 79th Executive Council held on 28/06/2024



**UGC GUIDELINES ON ADOPTION OF CHOICE BASED CREDIT
SYSTEM (2023)**

TO MASTER PROGRAMS

2023

SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION & RESEARCH

(Declared as Deemed - to - be University u/s 3 of the UGC Act)

TAMAKA, KOLAR – 563 101. KARNATAKA, INDIA.

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SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION AND RESEARCH

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Comprising Sri Devaraj Urs Medical College

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No. SDUAHER/KLR/ADMN/ 3575 /2023-24

Date: 22nd Jan. 2024

NOTIFICATION

Sub: Starting of M.Sc. Medical Radiology and Imaging Technology program in the Department of Allied Health Sciences.

Ref: 1. Proceedings of the 45th meeting of the Academic Council held on 4th Dec. 2023.
2. Proceedings of the 76th meeting of the Board of Management held on 26th Dec. 2023.

As per the approval of Academic Council and Board of Management meetings cited at above reference, The Academy decided to start M.Sc. Medical Radiology and Imaging Technology program in the Department of Allied Health Sciences, FAH & BS from the academic year 2024-25.


Registrar
Registrar

Sri Devaraj Urs Academy of Higher
Education and Research
Tamaka, Kolar - 563 103.

Copy to:

1. P.A. to V.C., SDUAHER.
2. The Dean, FoM, SDUAHER & Principal, SDUMC.
3. The Dean, FAH&BS, SDUAHER.
4. The Controller of Examinations, SDUAHER.
5. The Director, Academics, SDUAHER.
6. The Director, Q & C, SDUAHER.
7. All HoDs, FAH & BS, SDUAHER.
8. O/c.

UGC GUIDELINES ON ADOPTION OF CHOICE BASED CREDIT SYSTEM

1. Preamble

The University Grants Commission (UGC) has initiated several measures to bring equity, efficiency and excellence in the Higher Education System of country. The important measures taken to enhance academic standards and quality in higher education include innovation and improvements in curriculum, teaching-learning process, examination and evaluation systems, besides governance and other matters.

The UGC has formulated various regulations and guidelines from time to time to improve the higher education system and maintain minimum standards and quality across the Higher Educational Institutions (HEIs) in India.

The academic reforms recommended by the UGC in the recent past have led to overall improvement in the higher education system. However, due to lot of diversity in the system of higher education, there are multiple approaches followed by universities towards examination, evaluation and grading system. While the HEIs must have the flexibility and freedom in designing the examination and evaluation methods that best fits the curriculum, syllabi and teaching-learning methods, there is a need to devise a sensible system for awarding the grades based on the performance of students.

Presently the performance of the students is reported using the conventional system of marks secured in the examinations or grades or both. The conversion from marks to letter grades and the letter grades used vary widely across the HEIs in the country. This creates difficulty for the academia and the employers to understand and infer the performance of the students graduating from different universities and colleges based on grades.

The grading system is considered to be better than the conventional marks system and hence it has been followed in the top institutions in India and abroad. So it is desirable to introduce uniform grading system. This will facilitate student mobility across institutions within and across countries and also enable potential employers to assess the performance of students.

To bring in the desired uniformity, in grading system and method for computing the cumulative grade point average (CGPA) based on the performance of students in the examinations, the UG Chas formulated these guidelines. UGC issued circular D.O.No. F.1-2/2008 (XI Plan) dated March 2009 and further in its circular D.O.No.F-1-1/2014 dated 12th November 2014 has directed all the Universities in the country to implement the Choice Based Credit system (CBCS) scheme to the entire undergraduate and post graduate level degrees Programs mandatorily.

In compliance to the above, Sri Devaraj Urs Academy of Higher Education and research [SDUAHER] a deemed to be University has notified with vide No SDUAHER/KLR/ADMN/2063/16- 17 dated 20.10.16 and introduced CBCS for undergraduate Programs (B.Sc.) in order to achieve academic excellence, quality improvement and as administrative reforms. Based on this background, SDUAHER has framed REGULATION governing B.Sc. Programs under Faculty of Allied Health Sciences. As per the academic requirements, versatile and flexible option of CBCS adopted for graduate programs in the year 2016 in a Notification number SDUAHER/KLR/ADMN/1758/2016-17 dated 22.09.2016 and also based on the credit frame work for PG curriculum, national credit frame work, national skill qualification frame work, Masters programs offered under Faculty of Allied Health and Basic sciences in the Academy also subjected for implementation of the CBCS scheme

This facilitates flexible learning; multifaceted development of students with wide variety of courses viz core, electives in discipline specific, Ability enhancement and open to enhance their knowledge and skills. This qualitative change in the Programs is to the global requirements and aspiration of students and stake holders for mobility both within and across the geographical jurisdiction.

CBCS implementation brings desired uniformity in grading system and method for computing semester grade point average (SGPA) for semester performance and cumulative Grade Point average (CGPA) for overall program performance of students in the examinations.

2. Applicability of the Grading System

These guidelines shall apply to all undergraduate and postgraduate level degree, diploma and certificate programs under the credit system awarded by the Central, State and deemed to be universities in India.

3. Definitions of Key Words:

1. **Academic Year:** Two consecutive (one odd + one even) semesters constitute one academic year.
2. **Choice Based Credit System (CBCS) :** The CBCS provides choice for students to select from the prescribed courses (core, elective or minor or soft skill courses).
3. **Course:** Usually referred to, as ‘papers’ is a component of a programme. All courses need not carry the same weight. The courses should define learning objectives and learning outcomes. A course may be designed to comprise lectures/ tutorials/laboratory work/ field work/ outreach activities/ project work/ vocational training/viva/ seminars/ term papers/assignments/ presentations/ self-study etc. or a combination of some of these.
4. **Credit Based Semester System (CBSS):** Under the CBSS, the requirement for awarding a

degree or diploma or certificate is prescribed in terms of number of credits to be completed by the students.

5. **Credit Point:** It is the product of grade point and number of credits for a course.
6. **Credit:** A unit by which the course work is measured. It determines the number of hours of instructions required per week. One credit is equivalent to one hour of teaching (lecture or tutorial) or two hours of practical work/field work per week.
7. **Cumulative Grade Point Average (CGPA):** It is a measure of overall cumulative performance of a student over all semesters. The CGPA is the ratio of total credit points secured by a student in various courses in all semesters and the sum of the total credits of all courses in all the semesters. It is expressed up to two decimal places.
8. **Grade Point:** It is a numerical weight allotted to each letter grade on a 10-point scale.
9. **Letter Grade:** It is an index of the performance of students in a said course. Grades are denoted by letters O, A+, A, B+, B, C, P and F.
10. **Programme:** An educational programme leading to award of a Degree, diploma or certificate.
11. **Semester Grade Point Average (SGPA):** It is a measure of performance of work done in a semester. It is ratio of total credit points secured by a student in various courses registered in a semester and the total course credits taken during that semester. It shall be expressed up to two decimal places.
12. **Semester:** Each semester will consist of 15-18 weeks of academic work equivalent to 90 actual teaching days. The odd semester may be scheduled from July to December and even semester from January to June.
13. **Transcript or Grade Card or Certificate:** Based on the grades earned, a grade certificate shall be issued to all the registered students after every semester. The grade certificate will display the course details (code, title, number of credits, grade secured) along with SGPA of that semester and CGPA earned till that semester.

4. Semester System and Choice Based Credit System

The Indian Higher Education Institutions have been moving from the conventional annual system to semester system. Currently many of the institutions have already introduced the choice based credit system. The semester system accelerates the teaching-learning process and enables vertical and horizontal mobility in learning. The credit based semester system provides flexibility in designing curriculum and assigning credits based on the course content and hours of teaching. The choice based credit system provides a 'cafeteria' type approach in which the students can take courses of their choice, learn at their own pace, undergo additional courses and acquire more than the required credits, and adopt an interdisciplinary approach to learning. It is desirable that the HEIs move to CBCS and implement the grading system.

5. Types of Courses:

Courses in a programme may be of three kinds: Core, Elective and Foundation.

1. Core Course:-

There may be a Core Course in every semester. This is the course which is to be compulsorily studied by a student as a core requirement to complete the requirement of a programme in a said discipline of study.

2. Elective Course:-

Elective course is a course which can be chosen from a pool of papers. It may be:

- Supportive to the discipline of study
- Providing an expanded scope
- Enabling an exposure to some other discipline/domain
- Nurturing student's proficiency/skill.

An elective may be "Generic Elective" focusing on those courses which add generic proficiency to the students. An elective may be "Discipline centric" or may be chosen from an unrelated discipline. It may be called an "Open Elective."

3. Foundation Course:-

The Foundation Courses may be of two kinds: Compulsory Foundation and Elective foundation. "Compulsory Foundation" courses are the courses based upon the content that leads to Knowledge enhancement. They are mandatory for all disciplines. Elective Foundation courses are value-based and are aimed at man-making education.

6. Examination and Assessment

The HEIs are currently following various methods for examination and assessment suitable for the courses and programs as approved by their respective statutory bodies. In assessing the performance of the students in examinations, the usual approach is to award marks based on the examinations conducted at various stages (sessional, mid-term, end-semester etc.,) in a semester. Some of the HEIs convert these marks to letter grades based on absolute or relative grading system and award the grades. There is a marked variation across the colleges and universities in the number of grades, grade points, letter grades used, which creates difficulties in comparing students across the institutions. The UGC recommends the following system to be implemented in awarding the grades and CGPA under the credit based semester system.

6.1. Letter Grades and Grade Points:

- i. Two methods -relative grading or absolute grading– have been in vogue for awarding grades in a course. The relative grading is based on the distribution (usually normal distribution) of marks obtained by all the students of the course and the grades are awarded based on a cut-off marks or percentile. Under the absolute grading, the marks are converted to grades based on pre-determined class intervals. To implement the following grading system, the colleges and universities can use any one of the above methods.
- ii. The UGC recommends a 10-point grading system with the following letter grades as given below:

Table 1: Grades and Grade Points

Letter Grade	Grade Point
O (Outstanding)	10
A+(Excellent)	9
A(Very Good)	8
B+(Good)	7
B(Above Average)	6
C(Average)	5
P (Pass)	4
F(Fail)	0
Ab (Absent)	0

- iii. A student obtaining Grade F shall be considered failed and will be required to reappear in the examination.
- iv. For noncredit courses ‘Satisfactory’ or ‘Unsatisfactory’ shall be indicated instead of the letter grade and this will not be counted for the computation of SGPA/CGPA.
- v. The Universities can decide on the grade or percentage of marks required to pass in a course and also the CGPA required to qualify for a degree taking into consideration the recommendations of the statutory professional councils such as AICTE, MCI, BCI, NCTE etc.,
- vi. The statutory requirement for eligibility to enter as assistant professor in colleges and universities in the disciplines of arts, science, commerce etc., is a minimum average mark of 50% and 55% in relevant postgraduate degree respectively for reserved and general category. Hence, it is recommended that the cut-off marks for grade B shall not be less than 50% and for grade B+, it should not be less than 55% under the absolute grading system. Similarly cut-off marks shall be fixed for grade B and B+ based on the recommendation of the statutory bodies (AICTE, NCTE etc.,) of the relevant disciplines.

6.2. Fairness in Assessment :

Assessment is an integral part of system of education as it is instrumental in identifying and certifying the academic standards accomplished by a student and projecting them far and wide as an objective and impartial indicator of a student's performance. Thus, it becomes bounden duty of a University to ensure that it is carried out in fair manner. In this regard, UGC recommends the following system of checks and balances which would enable Universities effectively and fairly carry out the process of assessment and examination.

- i. In case of at least 50% of core courses offered in different programmes across the disciplines, the assessment of the theoretical component towards the end of the semester should be undertaken by external examiners from outside the university conducting examination, who may be appointed by the competent authority. In such courses, the question papers will be set as well as assessed by external examiners.
- ii. In case of the assessment of practical component of such core courses, the team of examiners should be constituted on 50 – 50 % basis. i.e. half of the examiners in the team should be invited from outside the university conducting examination.
- iii. In case of the assessment of project reports / thesis / dissertation etc. the work should be undertaken by internal as well as external examiners.

7. Computation of SGPA and CGPA

The UGC recommends the following procedure to compute the Semester Grade Point Average (SGPA) and Cumulative Grade Point Average (CGPA):

- i. The SGPA is the ratio of sum of the product of the number of credits with the grade points scored by a student in all the courses taken by a student and the sum of the number of credits of all the courses undergone by a student, i.e

$$SGPA (S_i) = \sum(C_i \times G_i) / \sum C_i$$

where C_i is the number of credits of the i th course and G_i is the grade point scored by the student in the i th course.

- ii. The CGPA is also calculated in the same manner taking into account all the courses undergone by a student over all the semesters of a programme, i.e.

$$CGPA = \sum(C_i \times S_i) / \sum C_i$$

where S_i is the SGPA of the i th semester and C_i is the total number of credits in that semester.

- iii. The SGPA and CGPA shall be rounded off to 2 decimal points and reported in the transcripts.

7. Illustration of Computation of SGPA and CGPA and Format for Transcripts

i. Computation of SGPA and CGPA

Illustration for SGPA

Course	Credit	Grade letter	Grade point	Credit Point (Credit x Grade)
Course 1	3	A	8	3 X 8 = 24
Course 2	4	B+	7	4 X 7 = 28
Course 3	3	B	6	3 X 6 = 18
Course 4	3	O	10	3 X 10 = 30
Course 5	3	C	5	3 X 5 = 15
Course 6	4	B	6	4 X 6 = 24
	20			139

Thus, SGPA = $139/20 = 6.95$

Illustration for CGPA

Semester 1	Semester 2	Semester 3	Semester 4
Credit : 20 SGPA:6.9	Credit : 22 SGPA:7.8	Credit : 25 SGPA: 5.6	Credit : 26 SGPA:6.0
Semester 5	Semester 6		
Credit : 26 SGPA:6.3	Credit : 25 SGPA: 8.0		

Thus, CGPA = $\frac{20 \times 6.9 + 22 \times 7.8 + 25 \times 5.6 + 26 \times 6.0 + 26 \times 6.3 + 25 \times 8.0}{144} = 6.73$

- ii. Transcript (Format): Based on the above recommendations on Letter grades, grade points and SGPA and CCPA, the HEIs may issue the transcript for each semester and a consolidated transcript indicating the performance in all semesters.

Note: 1200 hours / 40 credits per year at the level of 6.5 . Comprising 88 credits consists of (core 64, DSE 16, generic 8.) mandatory Non CGPA range from 8-14 comprising AEC 4, SEC 2/4, elective co/extra CC 2-6.

REGULATIONS GOVERNING MASTERS PROGRAMS

1. TITLE OF THE PROGRAM

Master of Science degree Program in M.Sc. in Medical Radiology & Imaging Technology (M.Sc. MRIT)

2. DURATION OF THE COURSE

The duration of the Master's Degree Program shall be for a period of two years (consists of four semesters) including submission of project work on the topic registered.

3. ELIGIBILITY FOR ADMISSION AND SELECTION CRITERIA

The students who have passed in Program from Institutions affiliated to UGC recognized Universities with B.Sc. in Medical Radiology& Imaging Technology/B.Sc. Medical Technology Radio diagnosis and Imaging/ B.Sc. Radiological Technology/B.Sc. in Radiography/B.Sc. Medical Technology (X-ray) with a minimum 50% marks are eligible.

The selection of the candidates for admission to the course is made on merit on the basis; however, entrance examination shall be conducted by the institute based on the number of applications.

Note: Selection of the students by the Entrance examination performance followed by personal interview by the institution according to the norms.

OR

diploma holders in Medical Radiology and Imaging Technology with 3-5 years of professional experience may be considered as the eligible candidates for the MSc. Program.

Note: Candidates passing B.Sc. degree in relevant area through Correspondence shall not be eligible.

4. MEDIUM OF INSTRUCTION

English shall be the medium of instruction for the subjects of study as well as for the Examination.

5. COURSE OF STUDY

The Program of the study shall include 4 semester, and to be pursued on full time basis. Duration of the course. Duration of the course: 4 semesters or 2 Years (590 hours of Theory & 750 hours of Practical Classes) and 850 hours of Resident Postings. Total hours – 2180

Note: Students shall be posted to clinical/department as per the university direction.

6. ATTENDANCE

Every candidate should have attended at least 75% of the total number of classes conducted in a semester from the date of commencement of the semester to the last working day as per Academic calendar notified by University in each of the subject/s prescribed for that year, separately, in theory and practical. Only such candidates are eligible to appear for the University examinations in their first attempt. A candidate lacking the prescribed percentage of attendance in any subject either in Theory or Practical will not be eligible to appear for the University Examination in that particular subject.

Note: No candidate shall join any other course of study or appear for any other examination conducted by this university or any other university in India or abroad during the period of study on regular mode.

7. MONITORING PROGRESS OF STUDY (WORK DIARY/RECORD BOOK)

Every candidate shall attend/present in symposia, seminars, conferences, journal club & lectures during each semester as prescribed by the department and not absent him/her from work without valid reasons. Every candidate shall maintain a work diary and record of his/her participation in the training Program. Special mention may be made of the presentations by the candidate as well as details of laboratory work conducted by the candidate. The work diary and record shall be scrutinized and certified by the Department.

8. INTERNAL ASSESSMENT (IA)

Institutions running the program /course shall conduct two tests each in every semester for Internal Assessment as per the University prescribed calendar of events. The marks obtained in these tests will be considered for internal assessment. Average of the two marks will be computed for internal assessment and shall be sent to the University as per the notification issued by Controller of examination before each semester end examination. Records and marks obtained in tests will be maintained by the Department / College and made available to the University. Marks of periodic tests shall be displayed on the Departmental notice board.

Note: If a candidate is absent for the test due to genuine and satisfactory reason, such a candidate may be given a re-test within a fortnight.

The distribution of marks for internal assessment for subjects of study in first year and second year are shown in Tables

Distribution of Internal Assessment marks

Example: Course: Master's program: Medical Radiology & Imaging Technology

SL. No.	Subject	Theory/ paper	Practical / paper
01	Theory Paper-1 Paper title:	20	10
02	Theory paper-II Paper title:	20	10
03	Theory paper-III Paper title:	20	10

NOTE: A student must secure at least 50% of total marks fixed for internal assessment for a particular subject in order to be eligible to appear in university examination in that subject. The internal assessment marks **will be added** to the marks obtained in the University (theory & Practical) examination for declaration of pass.

10. PROJECT / DISSERTATION WORK

Candidate pursuing M.Sc. program in the selected specialization i.e. AT&OT is required to carry out dissertation work on a chosen topic in the area of specialization under the guidance of a post graduate teacher after successful completion of first year of the course (1st & 2nd semester). However each candidate has to finalize project title and proposal in second semester, whereas he/she has to obtain Ethical clearance certificate for the project work in the second semester. Whereas, the candidate has to commence the project work during the third semester and should complete in the fourth semester. The completed project and its manuscript for publication should be kept ready before last date for project/ dissertation report submission. Project report shall be submitted to the University through Head of the Department duly certified by the Guide and student signature after plagiarism check.

The project/ dissertation work is aimed to kindle the research instincts among the students. The work should comprise adequate exposure to various research methodologies and techniques. This includes identification of problem, formulation of hypothesis, search and review of literature, getting acquainted with recent advances, collection of data, interpretation of results and drawing conclusions. University shall arrange for evaluation of the project work report both internally and externally and shall have to obtain 50% of the total marks allotted for the project/ dissertation work including viva voce (80 marks for project and 20 marks for viva voce as per Notification No SDUAHER /KLR /ADMN /2732/2020-21 dated 29th March 2021)

The project/ dissertation report shall have the following components in the template.

- Certificates
- Structured Abstract
- Introduction /background
- Review of literature
- Aims and objectives
- Materials and methods
- Results
- Discussion
- Summary
- Conclusion
- Scope of the future research
- References
- Tables / Annexure

The project/ dissertation work shall not be less than 50 pages and shall not exceed 100 pages excluding references, tables, questionnaires and other annexure. It should be neatly typed in double line spacing on one side of paper (A4 size, 8.27” x 11.69”) and bound properly. A declaration by the candidate to the effect that the work was done by him/her and a certificate of bonafide on the research work have to be affixed in the beginning of the project/ dissertation report. Five copies of project report/ dissertation should be submitted to the University through proper channel along with a soft copy (CD) as per the calendar of events.

11. GUIDE

The eligibility academic qualification and teaching experience required for recognition as Guides by the SDUAHER are:

a) ELIGIBILITY TO BE A GUIDE

Shall be a full time teacher in the college or institution where he or she is working.

b) Academic qualification and teaching/professional experience for each M.Sc.

branch

1. Ph.D. in MRIT
or
2. M.D. in Radio-Diagnosis
or

3 M.Sc. in MRIT with five years of teaching/professional experience after the postgraduate qualification in a teaching in Medical /Allied Health institution.

c) Age: The age of guide shall not exceed 65 years.

d) STUDENT: GUIDE RATIO

3:1. as a guide or co-guide shall supervise project work of not more than five students per academic year.

12. SCHEDULE OF EXAMINATION

- a. The University conducts four semester examinations during Program period. Each year consists of two semesters; each semester consists of 90-100 working days. Examination should get over during the period of six months of a semester.
- b. The number of examiners for practical and viva-voce shall be two, comprising of one internal and one external examiner appointed by the University.
- c. Submission of HoD certified practical record book by a candidate shall be considered for award of internal assessment marks, and is prerequisite before attending practical examinations.
- d. A failed candidate needs to appear for both theory and practical examination in the failed subject/s only in the subsequent examination. Where each course has theory and practical components. However, in case of courses having common practical, he/she failed in theory and passed in practical can only appear for the theory but not practical again

13. SCHEME OF EXAMINATION:

University examination:

There shall be four University semester end examinations during program duration. Students with backlogs subject are allowed to appear in odd and even semester examination when notified by Examination section (Notification no. SDUAHER/KLR/ADMN/2732/2020-21 dated. 29.03.2021)

Eligibility to appear in University examination

A candidate shall be eligible to appear for examination at the end of each semester in the Academic year from the commencement of the course. He/she should have satisfactorily completed the prescribed course fulfilment with prescribed attendance and internal assessment. Whereas, he/she must appear for the semester end examination to progress to the next semester irrespective of the results.

Note: submission of project in fourth semester is mandatory to take up examinations.

Written examination: Written examination shall consist of theory paper for three hours duration. Each paper shall carry 100 marks plus 20 IA marks and 30 marks viva voce examination added to theory. Therefore total is 150

Practical examination: There shall be practical examination at the end of each semester in first year and second year subjects. Each practical examination carries 50 marks comprising 40 practical and 10 marks for IA along with the viva voce examination, marks will be added to the theory.

Viva- voce: This shall aim at assessing depth of knowledge, logical reasoning, confidence and oral communication skills. Both internal and external examiners shall conduct the viva-voce. Total marks shall be 30.

Presentation of dissertation and discussion on it be done during the viva-voce. Both internal and external examiners shall conduct the practical and project viva- voce examination. The marks distribution is 80 projects / dissertation and 20 marks viva voce of project.

14. CRITERIA FOR PASS.

Pass criteria in a subject

To consider as pass in University semester end examination, candidate has to appear in all the papers prescribed in that semester and has to fulfil pass criteria. For declaration of pass in any subject in the University examination, the candidates shall pass both in theory and practical examinations components separately as stipulated below; Theory 50%, which includes marks obtained in written examination, internal assessment and viva voce. Practical 50% which includes marks obtained in practical examination, practical Internal assessment. A candidate has to pass in theory and practical separately to pass in a subject in the University examination. A failed candidate is required to appear for both theory and practical in the subsequent examination in that subject.

15. CARRY OVER

A Candidate who has admitted to postgraduate programs under the faculty of Allied health and basic sciences shall be permitted to carry over the backlog subject till the completion of duration of the programme. However, he/she has to appear for the previous examination to get the benefit of carryover. Candidate shall be declared passed in the programme only after successfully passing all the subject/ courses of all semesters of the post graduate programme and is eligible to receive degree in convocation to be held subsequent to the examination.

16 DECLARATIONS OF RESULTS

PASS:

Minimum marks for passing examination in theory is 50% (theory +viva voce+ internals assessment)

Practical is 50% (Practical + Internal assessment) Dissertation /Project report 50% (project + project viva voce

FIRST CLASS:

The student securing 60% marks or above aggregate in all subjects in a single attempt shall be declared to have passed in the First class.

DISTINCTION:

A candidate securing aggregate marks of 75% or more in the first attempt shall be declared as passed with distinction. Distinction will not be awarded for candidates passing the examination with more than one attempt.

17. MAXIMUM DURATION FOR COMPLETION OF COURSE

The maximum duration of the programme shall be double the duration of the program from the date of admission. The candidate failing to complete the course within four years from the date of admission will be declared unfit to continue and will be discharged from the programme.

ELIGIBILITY FOR AWARD OF DEGREE

A candidate shall have passed in all the subjects of semester I –IV to be eligible for award of degree.

18. REQUIREMENT OF MAN POWER AND INFRASTRUCTURE

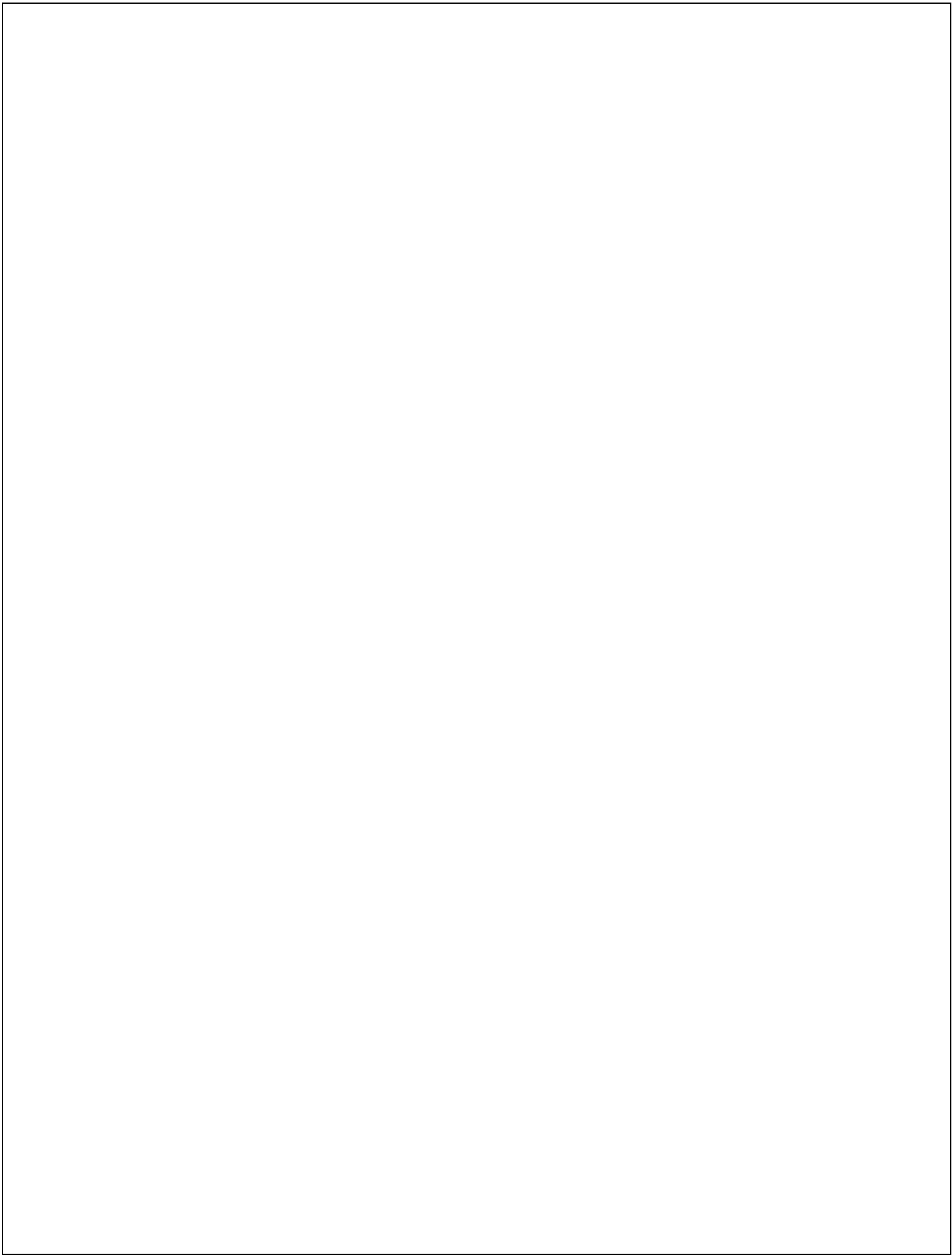
1. Basic Infrastructure includes, Institute should have its own Hospital with full-fledged Anesthesia and OT facility to fulfill the minimum work load criteria.

Teaching staff requirement for each speciality

- 1) Professor – (01)
- 2.) Associate Professor (01)
- 3). Assistant Professor (01)
- 4). Demonstrator – (02)

Program structure

Semester	Course code	Core courses (1-19)	Discipline specific elective (DSE) (Non-core)	Ability enhancement Compulsory Course (AEC)	Skill enhancement courses (SEC)	Generic elective (GEC)	Foundation course
I	Core-1	Management & Planning of a Radiology & Imaging department including national & international guidelines.	Biomedical waste management and infection control	- Digital health care technology	-	GEC-1 GEC-2 GEC-3	-
	Core-2	Modern Imaging Techniques including Fusion and hybrid imaging technologies (X ray)					
	Core-3	Advanced Physics of Radiology & Imaging					
II	Core-4	Radiation Safety and Protection- AERB guidelines	Basics law and ethics	Constitution and Human rights -	-	GEC-1 GEC-2 GEC-3	-
	Core-5	Modern Radiological and Imaging Equipment (CT)					
	Core-6	Radiological and Imaging Procedures					
	Core 7	Biostatistics & Research Methodology					
III	Core-8	Quality Assurance and Quality Control in Diagnostic Radiology and Imaging	-	Cyber security -	-	GEC-1 GEC-2 GEC-3	-
	Core-9 Core 10	Newer Imaging Modalities (Ultrasound) Intervention Radiological Techniques and Care of Patient					
IV	Core-11	Newer Developments in Advanced Imaging Technology such as maxillo-facial imaging, dental radiology and other advanced modalities (MRI, Nuclear Medicine, PET)	Disaster risk Management and climate control	-	-	GEC-1 GEC-2 GEC-3	-
	Project/ Dissertation	Project/Dissertation Seminars, Journal Club and Group Discussions					



FIRST SEMESTER M.Sc. IN MEDICAL RADIOLOGY & IMAGING TECHNOLOGY
DISTRIBUTION OF TEACHING HOURS & CREDITS

Sl. No.	Course Code	Category	Course Title	Theory		Practical	
				Hours /Sem	Credits	Hours / Sem	Credits
1	A101	Core Paper – I	Management &Planning of a Radiology & Imaging department including national & international guidelines.	60	4	110	3
2	A102	Core Paper – II	Modern Imaging Techniques including Fusion and hybrid imaging technologies (X ray)	60	4	110	3
3	A103	Core Paper – III	Advanced Physics of Radiology & Imaging	60	4	110	3
4	DSEC-01	Discipline specific elective course	Biomedical waste management and infection control	45	3	-	-
5	SEC-01	SEC	Digital Health care Technology	30	2	-	-
6	Soft Core - GE	Generic elective course (choose any one)	GEC-01-Basics of Hospital Administration	30	2	-	-
			GEC-02-Lifestyle disorders				--
			Basic computer applications				-
TOTAL				285	19	330	6

First Semester M.Sc. in Medical Radiology & Imaging Technology

Distribution of Marks

Sl. No.	Course Code	Category	Course Title	Theory Marks				Practical Marks			TOTAL
				Theory	IA	Viva -Voce	Sub Total	Practical	IA	Sub Total	
1	A101	Core paper – 1	Management &Planning of a Radiology & Imaging department including national & international guidelines.	100	20	-	120	40	10	50 Common practical	120
2	A102	Core paper – 2	Modern Imaging Techniques including Fusion and hybrid imaging technologies (X ray)	100	20	30	150				200
3	A103	Core paper -3	Advanced Physics of Radiology & Imaging	100	20	-	120				120
4	DSEC-01	Discipline specific elective course	DSEC-01- Biomedical waste management and infection control	40	-	-	40	-	-	-	40
5	SEC-01	SEC	Digital Health care Technology	40	-	-	40	-	-	-	40
6	Soft Core - GE	Generic elective course (t choose any one)	GEC-01-Basics of Hospital Administration	30	-	-		-	-	-	40
			GEC-02-Lifestyle disorders								
			Basic computer applications								
TOTAL				420	60	30	510	40	10	50	560

SECOND SEMESTER M.Sc. IN MEDICAL RADIOLOGY & IMAGING TECHNOLOGY
DISTRIBUTION OF TEACHING HOURS & CREDITS

Sl. No.	Course Code	Category	Course Title	Theory		Practical	
				Hours /Sem	Credits	Hours /Sem	Credits
1	B 101	Core Paper – I	Radiation Safety and Protection-AERB guidelines	60	4	140	3
2	B 102	Core Paper – II	Modern Radiological and Imaging Equipment (CT)	60	4	140	3
3	B 103	Core Paper – III	Radiological and Imaging Procedures	60	4	140	3
4	B 104	Core Paper – IV	Biostatistics & Research Methodology	30	2	-	-
5	DSEC-01	Discipline specific elective course	Basic medical law and ethics	30	2	-	-
6	AEC-1	SEC	Constitution and Human rights	30	2	-	-
7	GEC-1	Generic elective course (to choose any one)	GEC-1 Basic Life Support	30	2	-	--- -
			GEC-02 English for communication				
			GEC-03 Basics of yoga and practice				
TOTAL				300	20	420	9

Second Semester M.Sc. in Medical Radiology & Imaging Technology
Distribution of Marks

Sl. No.	Course Code	Category	Course Title	Theory Marks				Practical Marks			TOTAL
				Theory	IA	Viva -Voce	Sub Total	Practical	IA	Sub Total	
1	C101	Core Paper – I	Radiation safety and protection AERB guidelines	100	20	30	150	40	10	50	150 150 200
2	C102	Core Paper – II	Advance instrumentation and techniques in CT-	100	20	30	150				
3	C103	Core Paper – III	Magnetic Resonance Imaging -1	100	20	30	150				
4	C104	Core Paper – IV	Biostatistics & Research Methodology	100	20		150				
5	DSEC-01	Discipline specific elective course	Basic Medical law and ethics	40	-	-	40	-	-	-	40
6	AEC-1	SEC	Constitution and Human rights	40	-	-	40	-	-	-	40
7	GEC-1	Generic elective course (to choose any one)	GEC-1 Basic Life Support	40	-	-	40	-	-	-	40
			GEC-02 English for communication								
			GEC-03 Basics of yoga and practice								
TOTAL				420	60	90	570	80	20	100	670

THIRD SEMESTER M.Sc. IN MEDICAL RADIOLOGY & IMAGING TECHNOLOGY
DISTRIBUTION OF TEACHING HOURS & CREDITS

Sl. No.	Course Code	Category	Course Title	Theory		Practical	
				Hours / Sem	Credits	Hours / Sem	Credits
1	C101	Core Paper – I	Quality Assurance and Quality Control in Diagnostic Radiology and Imaging	60	4	40	2
2	C102	Core Paper – II	Newer Imaging Modalities (Ultrasound) Intervention	60	4	-	-
3	C103	Core Paper – III	Radiological Techniques and Care of Patient	60	4	-	-
4		Discipline specific elective course	Cyber Security	40	2	-	-
	AEC	Ability Enhancement course	-	-	-	-	-
5	Soft Core	Generic elective course (to choose any one)	GEC-1 Scientific writing	40	2	-	-
			GEC-02 Vegetative propagation				
			GEC-03 apiculture				
TOTAL				260	16	40	2

Third Semester M.Sc. in Medical Radiology & Imaging Technology
Distribution of Marks

Sl. No.	Course Code	Category	Course Title	Theory Marks				Practical Marks			TOTAL
				Theory	IA	Viva -Voce	Sub Total	Practical	IA	Sub Total	
1	C101	Core Paper – I	Quality Assurance and Quality Control in Diagnostic Radiology and Imaging	100	20	30	150	40	10	50	150
2	C102	Core Paper – II	Newer Imaging Modalities (Ultrasound) Intervention	100	20	30	150				200
3	C103	Core Paper – III	Radiological Techniques and Care of Patient	100	20	30	150				150
4		Discipline specific elective course	DSEC-02 Cyber Security	40	-	-	40	-	-	-	40
	AEC	Ability Enhancement course	-	-	-	-	-	-	-	-	-
5	Soft Core	Generic elective course (to choose any one)	GEC-1 Scientific writing	40	-	-	40	-	-	-	40
			GEC-02 Vegetative propagation								
			GEC-03 apiculture								
TOTAL				320	40	60	570	40	10	50	630

Note: Project work commencement

FOURTH SEMESTER M.Sc. IN MEDICAL RADIOLOGY & IMAGING TECHNOLOGY
DISTRIBUTION OF TEACHING HOURS & CREDITS

Sl. No.	Course Code	Category	Course Title	Theory		Practical	
				Hours / Sem	Credits	Hours / Sem	Credits
1	D101	Core Paper – I	Newer Developments in Advanced Imaging Technology such as Maxillo-facial imaging, dental radiology and other advanced modalities (MRI, Nuclear Medicine, PET)	60	4	120	4
4		Project/Dissertation	Project/Dissertation	110	4	-	-
6		Discipline specific elective course	DSEC-02 Disaster risk management and climate control	40	2	-	-
7	Soft Core	Generic elective course (to choose any one)	GEC-1 Nutrition for Beauty	40	2	-	-
			GEC-02 Mushroom cultivation				
			GEC-03 Basics of trading				
TOTAL							

Fourth Semester M.Sc. in Medical Radiology & Imaging Technology
Distribution of Marks

Sl. No.	Course Code	Category	Course Title	Theory Marks				Practical Marks			TOTAL
				Theory	IA	Viva -Voce	Sub Total	Practical	IA	Sub Total	
1	D101	Core Paper – I	Newer Developments in Advanced Imaging Technology such as Maxillo-facial imaging, dental radiology and other advanced modalities (MRI, Nuclear Medicine, PET)	100	20	30	150	40	10	50	200
4		Project/Dissertation	Project/Dissertation	80	-	20	100	-	-	-	100
	DSEC-02	Discipline specific elective course	Disaster risk management and climate control	40	-	-	40	-	-	-	40
5	Soft Core	Generic elective course (to choose any one)	Nutrition and Health	40	-	-	40	-	-	-	40
			Mushroom cultivation								
			Industrial exposure to MRIT instrumentation								
TOTAL				260	20	50	330	40	10	50	380

SYLLABUS

M.Sc. in Medical Radiology & Imaging Technology

Learning Objectives:

The M.Sc. in Medical Radiology & Imaging Technology is designed to provide specialized training in the scientific principles of modern imaging science and in the application of these principles in the field of radio diagnosis. It is suitable for graduates having experience in the technology of imaging science. The objective is to train students in to qualified, patient focused, compassionate, critical thinkers Diagnostic Radiographer / Technologist for the community who are engaged in lifelong learning.

Upto successful completion of the M.Sc. course, students will have developed a broad knowledge of the principles, technology, instrumentation, recent developments and proper handling of the modern radiological equipments and proper execution of the various radiological procedures.

Expectation from the future graduate in the providing patient care

Perform a range of radiographic examinations on patient to produce high quality images.

1. Verifying informed consent, assuming responsibility for patient needs during procedures.
2. Applying principles of ALARA to minimize exposure to patient, self and others. Starting and maintaining intravenous access as prescribed, Identifying, preparing and/or administering medications as prescribed
3. Evaluating images for technical quality, ensuring proper identification is recorded.
4. Performing diagnostic radiographic and non-interpretive fluoroscopic procedures
5. Assist radiologists and senior staff in complex radiological examinations.
6. Record imaging identification and patient documentation quickly and accurately and observes protocols.
7. Research and development of new techniques and procedures as assigned.
8. Promotes effective working relationships and works effectively as part of a department / unit / team inter and intra departmentally to facilitate the department/unit's ability to meet its goals and objectives.
9. Follows established safety practices including biohazards, exposure control plan
10. Demonstrates respect and regard for the dignity of all patients, families, visitors and fellow employees to ensure a professional, responsible and courteous environment.
11. Identifying and managing emergency situations.
12. Performing ongoing quality assurance activities.
13. Ensure safe custody of all the accessories of the X-ray unit of which he/she is in charge. Keeps the X-ray room locked when not in use.
14. Understands and observes health and safety precautions and instruction for self and others protection. He/she should wear dosimeter during duty hours.
15. Attends all in service education required as per hospital policy.
16. Providing education. Educating and monitoring students and other health care providers.
17. Orientation and teaching students and new employees.
18. To supervise and allocate responsibilities to level 4 and level 5.
19. Learns new technologies and technologies as required by the professional bodies.
20. Impart appropriate training to the students and other staff.
21. Should have management and research skills.

22. To exhibit keen interest, initiative & drive in the overall development of the Department and 'Leadership Qualities' for others to follow.
23. He / She is expected to be confident and to perform all the duties diligently with utmost sincerity and honesty.
24. Any other duty/task/work assigned by any higher authority like Director, Dean, Medical Superintendent, Head of the Department from time to time; either in "Public Interest" or in the interest of upkeep / development of the Department / Institutions.

SEMESTER I

Paper -1 Title: Management and Planning of radiology department with compliance to national & international guidelines (Theory: 60 hours/ 4 credits)

1. Planning consideration for radiology, including Use factor, occupancy factors, and different shielding materials Protection for primary radiation, work load, use factor, occupancy factor, protection from scatter radiation and leakage radiation, X-Ray/Fluoroscopy/Mammography/Intervention/DSA/CT room design, structural shielding, protective devices.
2. Regulatory Bodies & regulatory Requirements: International Commission on Radiation Protection (ICRP) / National Regulatory body (AERB - Atomic Energy Regulatory Board) - Responsibilities, organization, Safety Standard, Codes and Guides, Responsibilities of licenses, registrants & employers and Enforcement of Regulatory requirements. (ICRP, NRPB, NCRP and WHO guidelines for radiation protection, pregnancy and radiation protection).
3. Surveys and regulations. Radiation protection survey: Need for survey. - Performance standards for beam directing, beam defining and limiting devices in radiation protection equipment survey of the following. a. Radiographic equipment b. Fluoroscopic equipment c. CT and special equipment. Controlled and non-controlled areas and acceptable exposure levels. State and local regulations governing radiation protection practice.
4. Personal monitoring and occupational exposures: Personal monitoring for Radiation workers. Monitoring devices. Body badges and ring badges. Thermo-luminescent dosimeters, Pocket ionization chambers. Applications, advantages and limitations of each device, Values for dose equivalent limits for occupational radiation exposures.
5. NABH guidelines, AERB guidelines and code, Basic safety standard, PNDDT Act and guidelines.
6. Procedural safety
7. Achievable safety through compliance on the regulations in India and recommendations of ICRT, IAEA.
8. Role of Radiographer in Planning & Radiation Protection: Role of technologist in radiology department - Personnel and area monitoring., Setting up of a new X-Ray unit, staff requirement, AERB specifications for site planning and mandatory guidelines – Planning of X-ray/CT rooms, Inspection of X-Ray installations - Registration of X-Ray equipment

installation- Certification -Evaluation of workload versus radiation factors – Occupational exposure and protection Tools/devices.

9. Introduction to Management of a Radiology Department
 - a. Strategic Management
 - b. Decision Making, conflict and stress management
 - c. Managing Change and Innovation
 - d. Understanding Groups and Teams
 - e. Leadership
 - f. Time Management
 - g. Cost and efficiency

Paper-2 Title : Modern Imaging Techniques including Fusion and hybrid imaging technologies (Theory: 60 hours/ 4 credits)

1. Interventional Radiography: Basic angiography and DSA:
 - a. History , technique, patient care
 - b. Percutaneous catheterisation, catheterization sites, Asepsis
 - c. Guidewire, catheters, pressure injectors, accessories
 - d. Use of digital subtraction- single plane and bi-plane

All forms of diagnostic procedures including angiography, angioplasty, biliary examination, renal evaluation and drainage procedure.

2. Central Nervous System:
 - a. Myelography.
 - b. Cerebral studies.
 - c. Ventriculography
3. Arthrography: Shoulder, Hip, Knee, Elbow
4. Angiography:
 - a. Carotid Angiography (4 Vessel angiography).
 - b. Thoracic and Arch Aortography.
 - c. Selective studies: Renal, SMA, Coeliac axis.
 - d. Vertebral angiography.
 - e. Femoral arteriography.
 - f. Angiocardiology.
5. Venography:
 - a. Peripheral venography.
 - b. Cerebral venography.
 - c. Inferior and superior venocavography.
 - d. Relevant visceral phlebography.
6. Cardiac catheterization procedures: PTCA, BMV, CAG, Pacemaker, Electrophysiology
7. Ultrasonography/ Doppler studies: Techniques of sonography-selection- Preparations - instructions and positioning of patient for TAS, TVS, TRUS, neck USG and extremities-

patient care and maintenance protocols clinical applications display methods –quality image reproducible extend – biopsy procedures, assurance to patients.

8. CT scan studies acquisition/ protocols /techniques: CT of head and neck – thorax – abdomen – pelvis – musculo skeletal system – spine – PNS. Anatomy – clinical indications and contraindications – patient preparation – technique – contrast media-types, dose, injection technique; timing, sequence - image display – patient care – utilization of available techniques & image processing facilities to guide the clinician- CT anatomy and pathology of different organ systems.
9. MRI imaging – Head and Neck ,Thorax, Abdomen, Musculoskeletal System imaging - Clinical indications and contraindications- types of common sequences effects of sequence on imaging - Protocols for various studies- slice section- patient preparation-positioning of the patient -patient care-calibration - paramagnetic agents and dose, additional techniques and recent advances in MRI - image acquisition-modification of procedures in an unconscious or un co-operative patient - plain studies- contrast studies -special procedures- reconstructions- 3D images- MRS blood flow imaging, diffusion/perfusion scans - strength and limitations of MRI- role of radiographer.
10. Techniques of Fusion and hybrid Imaging Technology including PET CT,PET MRI, PET Ultrasound, MRI, CT, Fluoroscopy, Hybrid Imaging as well as Advanced Interventional suite.

Paper Title : Advanced Physics of Radiology & Imaging (Theory: 60 hours/ 4 credits)

1. Physics of Imaging including conventional radiography, computed radiography and flat panel DR imaging.
2. Computed Tomography- Basic principles of CT, generations of CT, CT instrumentation, image formation in CT, CT image reconstruction, Hounsfield unit, CT image quality, CT-image display.
3. Advanced Computed Tomography -Helical CT scan: Slip ring technology, advantages, multi detector array helical CT, cone – beam geometry, reconstruction of helical CT images, CT artifact, CT angiography, CT fluoroscopy, HRCT, post processing techniques: MPR, MIP, Min IP, 3D rendering: SSD and VR, CT Dose Index.
4. MRI- Basic Principles: Spin – precession – relaxation time – pulse cycle – T1 weighted image – T2 weighted image – proton density image.
 - a. Pulse sequence : Spin echo pulse sequence – turbo spin echo pulse sequence -

- Gradient echo sequence – Turbo gradient echo pulse sequence - Inversion recovery sequence – STIR sequence – SPIR sequence – FLAIR sequence – Echo planar imaging – Advanced pulse sequences
- b. MR Instrumentation: Types of magnets – RF transmitter – RF receiver – Gradient coils – shim coils – RF shielding – computers.
 - c. Image formation: 2D Fourier transformation method – K-space representation – 3D Fourier imaging – MIP.
 - d. MR Spectroscopy – functional MRI
5. Ultrasonography
- Basic Acoustics, Ultrasound terminologies: acoustic pressure, power, intensity, impedance, speed, frequency, dB notation: relative acoustic pressure and relative acoustic intensity.
- Interaction of US with matter: reflection, transmission, scattering, refraction and absorption, attenuation and attenuation coefficients, US machine controls, US focusing. Production of ultrasound: Piezoelectricity, Medical ultrasound transducer: Principle, construction and working, characteristics of US beam.
- Ultrasound display modes: A, B, M
- Real-time ultrasound: Line density and frame rate, Real-time ultrasound transducers: mechanical and electronic arrays, ultrasound artifacts, ultrasound recording devices, and Distance, area & volume measurements.
- Doppler Ultrasound, Doppler artifacts, vascular sonography

During clinical postings the professional is expected to work and contribute in the medical imaging unit.

Department level subjects

BIOMEDICAL WASTE MANAGEMENT (DSE-01)

Course Objective:

The student should be made to:

- Understand the hazardous materials used in hospital and its impact on health
- Understand various waste disposal procedures and management.

Unit I

For complete syllabus and results, class timetable and more pls download iStudy. Its a light weight, easy to use, no images, no pdfs platform to make students life easier.

Unit II

Biomedical Waste Management

Biomedical Waste Management : Types of wastes, major and minor sources of biomedical waste, Categories and classification of biomedical waste, hazard of biomedical waste, need for disposal of biomedical waste, waste minimization, waste segregation and labeling, waste handling, collection, storage and transportation, treatment and disposal.

Unit III

Hazardous Materials

Hazardous Materials : Hazardous Substance Safety, OSHA Hazard Communication Standard, DOT Hazardous Material Regulations, Healthcare Hazardous Materials, Medical Gas Systems, Hazardous Waste Operations and Emergency Response Standard, Respiratory Protection.

Unit IV

For complete syllabus and results, class timetable and more pls download iStudy. Its a light weight, easy to use, no images, no pdfs platform to make students life easier.

Unit V

Infection Control, Prevention and Patient Safety

Healthcare Immunizations, Centers for Disease Control and Prevention, Disinfectants, Sterilants, and Antiseptics, OSHA Bloodborne Pathogens Standard, Tuberculosis, Healthcare Opportunistic Infections, Medical Waste. Patient Safety: An Organizational Function, Errors and Adverse Events, Safety Cultures, Patient-Centered Healthcare, Quality Improvement Tools and Strategies, Healthcare-Associated Infections, Medication Safety.

Unit VI

Infection control methods

Course Outcome:

At the end of the course, the student should be able to

- Analyse various hazards, accidents and its control
- Design waste disposal procedures for different bio wastes
- Categories different bio wastes based on its properties
- Design different safety facility in hospitals
- Propose various regulations and safety norms

Text Books:

1. Tweedy, James T., Healthcare hazard control and safety management-CRC Press_Taylor and Francis (2014).
2. Anantpreet Singh, Sukhjit Kaur, Biomedical Waste Disposal, Jaypee Brothers Medical Publishers (P) Ltd (2012).

References:

1. R.C. Goyal, Hospital Administration and Human Resource Management, PHI – Fourth Edition, 2006
2. V.J. Landrum, Medical Waste Management and disposal, Elsevier, 1991

SEMESTER I

HEALTH CARE EDUCATION TECHNOLOGY

Theory: 40 hours

Objectives:

At the end of the second semester students should be able to

- Document of learner behaviour and outcomes.
- Describe the application of technology to healthcare education, with examples of uses.
- Evaluate the application of innovative strategies to health care education.
- Identify resources available to educators to use and implement technology and innovative strategies in teaching.

Unit- I

15 hours

- Educational Technology
 - State the meaning of educational technology
 - Define educational technology
 - Narrate the nature and characteristics of educational technology
 - Recognize the scope of educational technology
 - Explain the functions of educational technology
 - Appreciate the division and sources of educational technology
 - Appreciate the contribution of educational technology
- Interpersonal Relations
 - Define therapeutic communication
 - Describe the development of interpersonal relationship
 - State the dimensions of interpersonal relationship
 - Explain the phases of interpersonal relationship
 - Appreciate cultural influences in therapeutic relationship
 - Relate the role of transactional analysis with interpersonal communication

Unit- 2

15 hours

- Educational Objectives
 - Define educational objectives
 - State the purposes of educational objectives
 - Appreciate the data sources for formulation of educational objectives
 - List the characteristics of educational objectives
 - Identify types of educational objectives
 - Explain selection and statement of objectives
 - Categorize behavioural changes
- Health care careers
- Health Care Systems
- Careers in Health Care
- Personal and Professional Qualities of a Health Care Worker
- Legal and Ethical Responsibilities

- Basics of health care
- Promotion of Safety
- Infection Control
- Vital Signs
- First Aid

Unit- 3

20 hours

- Methods of Clinical Teaching
- Write philosophy of clinical teaching
- Realize the outcomes of clinical teaching
- Describe clinical teaching models
- Identify factors influencing clinical teaching
- State the purposes of clinical teaching
- Enumerate the preparation and execution of clinical teaching session and apply in their practice
- Explain case method and perform in clinical practice
- Outline the steps involved in process recording and apply in practice
- Recognize patient care assignment as a method of clinical teaching
- Information, Education and Communication for Health
- Define health education.
- Recognize the scope of health education.
- Narrate the aims and objectives of health education.
- Describe the models of health education.
- Explain the principles of health education.
- Specify patient education and their goals.
- Enumerate on patient education process.
- Identify the strategies of communicating health messages.
- Describe health communication.
- □

Recommended books:

- Educational Technologies in Medical and Health Sciences Education Editors: Bridges, Susan, Chan, Lap Ki, Hmelo-Silver, Cindy E. (Eds.)
- Nursing Communication and Educational Technology by R Pramila

SEMESTER 2

Paper title: Radiation Safety and Protection – AERB Guidelines (60 hours /4 credits)

Radiation safety in diagnostic Radiology

1. Introduction to Radiation protection-Need for protection, Aim of radiation protection.
2. Limits for radiation exposure: Concept of ALARA, maximum permissible dose, exposure in pregnancy, children. Occupational Exposure Limits - Dose limits to public
3. Radiation Protection in: Radiography, Fluoroscopy, Mammography, Mobile Radiography, CT scan, DSA and Interventional Radiology.
4. Radiation measuring instruments: survey meters, area monitor, personnel dosimeters, film badge, thermo luminescent dosimeter, pocket dosimeter.
5. Radiation Quantities and Units: Radiation, Radioactivity, Sources of radiation - natural radioactive sources, cosmic rays, terrestrial radiation, manmade radiation sources. Kerma, Exposure, Absorbed dose, Equivalent Dose, Weighting Factors, Effective Dose
6. Biological Effects of radiation: Direct & Indirect actions of radiation ,concept of detriment ,Deterministic & stochastic effect of radiation ,somatic and genetic effects, dose relationship , effects of antenatal exposure Ionization, excitation and free radical formation, hydrolysis of water, action of radiation on cell-Chromosomal aberration and its application for the biological dosimetry- Effects of whole body and acute irradiation, dose fractionation, effects of ionizing radiation on each of major organ system including fetus -Somatic effects and hereditary effects- stochastic and deterministic effects-Acute exposure and chronic exposure-LD50 - factors affecting radio sensitivity. Biological effects of non-ionizing radiation like ultrasound, lasers, IR, UV and magnetic fields.
7. Radiation detection and Measurements: Ionization of gases, Fluorescence and Phosphorescence, Effects on photographic emulsion. Ionization Chambers, proportional counters, G.M counters, scintillation detectors, liquid semiconductor detectors, Gamma ray spectrometer. Measuring systems: free air ionization chamber, thimble ion chamber, condenser chamber, Secondary standard dosimeters, film dosimeter, chemical dosimeter- thermo luminescent Dosimeter, Pocket dosimeter, Radiation survey meter- wide range survey meter, zone monitor, contamination monitor -their principle function and uses. Advantages & disadvantages of various detectors & appropriateness of different detectors for different type of radiation measurement.
8. Dose and Dosimetry, CT Dose Index (CTDI, etc.), Multiple Scan Average Dose (MSAD), Dose Length Product (DLP), Dose Profile, Effective Dose, Phantom Measurement Methods, Dose for Different Application Protocols, Technique Optimization. Dose area product in fluoroscopy and angiography systems, AGD in mammography.

9. Radiation protection, Hazard evaluation and control:: Philosophy of Radiation protection Radiation protection of self and patient and General Public, Principles of radiation protection, time - distance and shielding, shielding - calculation and radiation survey, Calculation of Work load, weekly calculated dose to radiation worker & General public Good work practice in Diagnostic Radiology.
10. Planning consideration for radiology, including Use factor, occupancy factors, and different shielding materials Protection for primary radiation, work load, use factor, occupancy factor, protection from scatter radiation and leakage radiation, X-Ray/Fluoroscopy/Mammography/Intervention/DSA/CT room design, structural shielding, protective devices.
11. Regulatory Bodies & regulatory Requirements: International Commission on Radiation Protection (ICRP) / National Regularity body (AERB - Atomic Energy Regulatory Board) - Responsibilities, organization, Safety Standard, Codes and Guides, Responsibilities of licenses, registrants & employers and Enforcement of Regulatory requirements. (ICRP, NRPB, NCRP and WHO guidelines for radiation protection, pregnancy and radiation protection).
12. NABH guidelines, AERB guidelines, PNDDT Act and guidelines.
13. Procedural safety
14. Achievable safety through compliance on the regulations in India and recommendations of ICRT, IAEA.

Newer Radiation safety protocols and recent advances in radiation safety.

Role of Radiographer in Planning & Radiation Protection: Role of technologist in radiology department - Personnel and area monitoring., Setting up of a new X-Ray unit, staff requirement, AERB specifications for site planning and mandatory guidelines – Planning of X-ray/CT rooms, Inspection of X-Ray installations - Registration of X-Ray equipment installation- Certification -Evaluation of workload versus radiation factors – Occupational exposure and protection Tools/devices.

Semester –II Paper title : Modern Radiological and Imaging Equipment (60 hours /4 credits)

1. High Frequency X-Ray Generators and their types and applications.
2. Modern x-ray tubes-their types and advancements.
3. Special radiological equipment: Computed radiography: its principle, physics & equipment. Digital Radiography, Direct and indirect digital radiography Digital Fluoroscopy , Digital Mammography; including cones compression devices Stereotactic Biopsy system including Prone Table Biopsy system.
4. Image Receptors: Flat Panel Detectors, Image Processing Workstation and Imaging Cameras.
5. Tomography: Body section radiography, basic principle and equipment, multi section tomography, various types of topographic movements,
6. Tomosynthesis, Stitch radiography
7. Dual energy x-ray absorptionmetry (DEXA) scan.
8. Vascular Imaging Equipment: Introduction, historical developments DSA Equipment- Principle, applications and definition of terms, Single Plane, Biplane, Hybrid DSA Lab-digital subtraction techniques.
9. Scatter radiation its formation and control: beam centering devices, collimators, cone diaphragms and grids.
10. Fluoroscopy and IITV systems including cine radiography with various recording devices.
11. Computed Tomography -Principle, data acquisition concepts, image reconstruction, instrumentations, image manipulation Historical developments - Various generations, spiral/helical, single slice/multislice CT, Electron beam CT, mobile CT, Advances in volume scanning, continuous, sub-second scanning. Real time CT fluoroscopy, interventional guidance tool, 3D CT, CT angiography. Virtual reality imaging, including image quality and quality control in CT Scanners.
12. Ultrasonography: :Basic principle of U.S., various types of transducers, mechanism of image formation, various advancements including Doppler, Elastography, HIFU,ABVS and image artifacts.
13. MRI: Basic principle of MRI, complete imaging equipment and various requirements, T1 and T2 Relaxation behaviors of tissues, T1, T2 and proton density images, spatial localization of images. Types of imaging sequences (spin echo, fast spin echo, flash, inversion recovery, gradient echo etc. MR spectroscopy, principle and techniques, Contrast Agents in MRI, Image quality, Image artifacts and its compensators, NMR hazard and safety. Advances in MRI.
14. Radionuclide scanning including rectilinear scanner, gamma camera, PET, SPECT, their principles, working, applications and advancements.
15. Care and maintenance of radiological equipments

Semester II : Paper title: Radiological and Imaging Procedures (60 hours /4 credits)

1. Special Radiographic/Radiological procedures
2. Selection of Fluoroscopy Equipment, general considerations, responsibility of radiographers. Patient Preparation, Indications Contraindications Technique Post Care and Preparation of Drug Trolley/Tray, Radiation Safety. Contrast Media - Positive and Negative, Ionic & Non – Ionic, Adverse Reactions To Contrast Media and Patient Management, Emergency Drugs in the Radiology Department ,Aseptic technique for the following procedures.
3. Gastrointestinal Tract: Barium swallow, pharynx and oesophagus. Barium meal and follow through. Hypotonic duodenography. Small bowel enema. Barium Enema routine projections for colon and rectum, colonic activators; double contrast studies; colostomy. Special techniques for specific disease to be examined. Including water soluble contrast media - e.g. gastrograffin studies. Including CT, US and MRI Special Imaging Techniques.
4. Salivary glands: Routine technique, procedure - sialography.
5. Biliary system: Plain film radiography. Intravenous cholangiography. Percutaneous cholangiography, Endoscopic retrograde cholangio- pancreatography (ERCP). Operative cholangiography, Post-Operative cholangiography (T-tube Cholangiography). Including CT, US and MRI Special Imaging Techniques.
6. Urinary system: Intravenous urography, retrograde pyelography. Antegrade pyelography. Cystography and micturating cystourethrography. Urethrography (ascending) renal puncture. Including CT, US and MRI Special Imaging Techniques.
7. Reproductive system: All the Techniques relating to Male and Female reproductive system including Hysterosalpingography.
8. Breast Imaging: Mammography: Basic views, special views, wire localization. Ductography, Tomosynthesis, ABVS, Various Biopsy Techniques including Prone Table Biopsy, CT, US and MRI Special Imaging Techniques
9. Respiratory system: - Bronchography: Including CT, US and MRI Special Imaging Techniques.
10. Sinography: Routine technique and procedure.
11. Central Nervous System: Myelography. Cerebral studies. Ventriculography etc. including CT, US and MRI Special Imaging Techniques.
12. Arthrography: Shoulder, Hip, Knee, Elbow joints etc. including CT, US and MRI Special Imaging Techniques.
13. Angiographic Studies: Carotid Angiography (4 Vessel angiography). Thoracic and Arch Aortography. Selective studies: Renal, SMA, Coeliac axis. Vertebral angiography. Femoral arteriography. Angiocardiography, Peripheral angiography
14. Venography: Peripheral venography. Cerebral venography. Inferior and superior venocavography. Relevant visceral phlebography.
15. Microbiology: Introduction and morphology - Introduction of microbiology, Classification of microorganisms, size, shape and structure of bacteria. Use of microscope in the study of bacteria. Growth and nutrition -nutrition, culture media, types

of medium with example and uses of culture media in diagnostic bacteriology, antimicrobial sensitivity test Sterilization and disinfection - principles and use of equipments of sterilization namely hot air oven, autoclave and serum inspissator, pasteurization, anti-septic and disinfectants. Introduction to immunology, bacteriology, parasitology, mycology

SEMESTER II

Department level subjects

RESEARCH METHODOLOGY AND BIostatISTICS (60 hours /4 credits)

Objectives: At the end of the semester students should be able to

1. Understand and apply statistical methods for the design of biomedical research and analysis of biomedical research data;
2. Learn to participate in a research team in study design, data coordination and management, and statistical analysis and reporting of study results

COURSE OUTCOMES:

At the end of the course students will be able to...

CO1: Identify different types of data and ways of presenting the data

CO2: Describe various measures of central tendency and dispersion

CO3: Understand the basic concept of probability distributions- Normal distribution, Binomial distribution, Poisson distribution

CO4: Identify and apply different sampling techniques

CO5: Differentiate structure of research protocol and thesis

CO6: Calculate the sample size for estimating means, proportions, testing of means, proportions between two groups

CO7: Identify different statistical tests and when to apply it

Unit 1:**15 hours****Introduction**

Introduction to biostatistics & research methodology, types of variables & scales of measurements, measure of central tendency & dispersion, rate, ratio, proportion, incidence & prevalence

Unit 2:**10 hours****Sampling**

Random and non-random sampling, Different sampling techniques – simple random, stratified, systematic, cluster & multi-stage. Sampling and non-sampling errors and methods of minimizing these errors

Unit 3:**10 hours**

Sampling distribution. Statistics and parameter. Standard error. Basic probability distributions – Normal, Poisson and Binomial distributions with their application in biological sciences. Skewness & Kurtosis.

Unit 4:**15 hours****Tests of significance**

Basics of testing of hypothesis – Null & Alternative hypothesis, type I and type II errors, level of significance & power of the tests, p value. Different Parametric Tests – T test (paired & unpaired), & Test for proportion, One way analysis of variance. Repeated measures analysis of variance. Non-Parametric Tests of significance Chi square test – Mann – Whitney U Test, Wilcoxon Test, Kruskal – Wallis Analysis of variance by ranks, Friedman's test.

Unit 5:**10 hours****Correlation and regression**

Linear correlation by Karl Pearson and Rank order correlation due to Spearman. Testing the significance of correlation. Linear and Multiple regression.

Unit 6:**4 hours****Sample size determination**

General concept. Sample size for estimating means and proportion, testing of difference in means and proportions of two groups.

Unit 7:**8 hours****Study designs**

Descriptive epidemiological methods – case series analysis and prevalence studies. Analytical

epidemiological methods – case control and cohort studies. Clinical trials / intervention studies, odds ratio and relative risk, stratified analysis

Unit 8:

6 hours

Multivariate analysis

Concept of multivariate analysis, introduction to logistic regression and survival analysis

Unit 9:

4 hours

Reliability and validity of diagnostic tests

Unit 10:

8 hours

Scientific documentations

Structure of research protocols, structure of thesis/research report, formats of reporting in scientific journals. Systematic review and meta-analysis.

References books:

1. ABC of research methodology and applied biostatistics by MN Parick & NithyaGogtay.
2. Introduction to biostatistics and research methods by P.S.S. Sundar Rao & J. Richard
3. Research methodology & Biostatistics- A comprehensive guide for health care professionals-Suresh K. Sharma
4. Guide to research methodology and Biostatistics-KMK Masthan

Syllabus

Subject: Constitution of India

Teaching hours 30

Unit-I: Meaning of the term ‘Constitution’. Making of the Indian Constitution 1946-1950. **(1 hr)**

Unit-II: The democratic institutions created by the constitution Bicameral system of Legislature at the Centre and in the States. **(4 hrs)**

Unit-III: Fundamental Rights and Duties their content and significance. **(5 hrs)**

Unit – IV: Directive Principles of States Policies the need to balance Fundamental Rights with Directive Principles. **(5 hrs)**

Unit – V: Special Rights created in the Constitution for: Dalits, Backwards, Women and Children and the Religious and Linguistic Minorities. **(3 hrs)**

Unit-VI: Doctrine of Separation of Powers legislative, Executive and Judicial and their functioning in India. **(3 hrs)**

Unit – VII: The Election Commission and State Public Service commissions	(2 hrs)
Unit – VIII: Method of amending the Constitution.	(3 hrs)
Unit – IX: Enforcing rights through Writs:	(2 hrs)
Unit – X: Constitution and Sustainable Development in India.	(2 hrs)

References:

1. J.C. Johari: The Constitution of India- A Politico-Legal Study-Sterling Publication, Pvt. Ltd. New Delhi.
2. J.N . Pandey: Constitution Law of India, Allahbad, Central Law Agency, 1998.
3. Granville Austin: The Indian Constitution – Corner Stone of a Nation-Oxford, New Delhi, 2000.

SEMESTER III

Paper title:

Quality Assurance and Quality Control in Diagnostic Radiology and Imaging

1. Objectives of Quality Control: Improve the quality of imaging thereby increasing the diagnostic value; to reduce the radiation exposure; Reduction of film wastage and repeat examination; to maintain the various diagnostic and imaging units at their optimal performance.
2. Quality Assurance activities: Equipment selection phase; Equipment installation and acceptance phase; Operational phase; Preventive maintenance.
3. Quality assurance programme in the radiological faculty level: Responsibility; Purchase; Specifications; Acceptance; Routine testing; Evaluation of results of routine testing; Quality assurance practical exercise in the X ray generator and tube; Image receptors from processing; Radiographic equipment; Fluoroscopic equipment; Mammographic equipment; Conventional tomography; Computed tomography; Film processing, manual and automatic; Consideration for storage of film and chemicals; Faults tracing; Accuracy of imaging- image distortion for digital imaging devices. LASER printer calibration

4. Quality assurance programme tests: General principles and preventive maintenance for routine, daily, weekly, monthly, quarterly, annually – machine calibration. Basic concepts of quality assurance – LASER printer - Light beam alignment; X-ray out-put and beam quality check; KVP check; Focal spot size and angle measurement; Timer check; mAs test; Grid alignment test; High and low contrast resolutions; Mechanical and electrical checks; Cassette leak check; Proper screen-film contact test; Safe light test; Radiation proof test; Field alignment test for fluoroscopic device; Resolution test; Phantom measurements - CT, US and MRI.
5. Quality assurance of film and image recording devices: Sensitometry; Characteristic curve; Film latitude; Film contrast; Film speed Resolution; Distortion; Artifacts of films and image recording. Monitor calibration. SMPTE pattern.
6. Maintenance and care of equipment: Safe operation of equipment; Routine cleaning of equipment and instruments; Cassette, screen maintenance; Maintenance of automatic processor and manual processing units; Routine maintenance of equipments; Record keeping and log book maintenance; Reject analysis and objectives of reject analysis programme.
7. Care and maintenance of diagnostic equipment: General principles and preventive maintenance for routine - daily, Weekly, monthly, quarterly, annually: care in use, special care of mobile equipment.
8. Quality Assurance and quality control of Modern Radiological and Imaging Equipment which includes Digital Radiography, Computed Radiography, CT scan, MRI Scan, Ultrasonography and PACS related. Image artifacts their different types, causes and remedies

Semester III

Paper title:

Newer Imaging Modalities

1. Basic Computed Tomography- Basic principles of CT, generations of CT, CT instrumentation, image formation in CT, CT image reconstruction, Hounsfield unit, CT image quality, CT image display
2. Advanced Computed Tomography - Helical CT scan: Slip ring technology, advantages, multi detector array helical CT, cone – beam geometry, reconstruction of helical CT images, CT artifact, CT angiography, CT fluoroscopy, HRCT, post processing techniques: MPR, MIP, Min IP, 3D rendering: SSD and VR, CT Dose, patient preparation, Imaging techniques and protocols for various parts of body, CT contrast enhanced protocols – CT angiography – (Aortogram, selective angiogram head, neck and peripheral) image documentation and Filing, maintenance of equipment and accessories.
3. Advanced technique & instrumentation of MRI
4. Basic Principle: Spin – precession – relaxation time – pulse cycle – T1 weighted image – T2

weighted image – proton density image.

5. Pulse sequence : Spin echo pulse sequence – turbo spin echo pulse sequence - Gradient echo sequence – Turbo gradient echo pulse sequence - Inversion recovery sequence – STIR sequence – SPIR sequence – FLAIR sequence – Echo planar imaging – Advanced pulse sequences.
6. MR Instrumentation: Types of magnets – RF transmitter – RF receiver – Gradient coils – shim coils – RF shielding – computers.
7. Image formation: 2D Fourier transformation method – K-space representation – 3D Fourier imaging – MIP.
8. MR contrast media – MR angiography – TOF & PCA – MR Spectroscopy – functional MRI
Ultrasonography
Basic Acoustics, Ultrasound terminologies: acoustic pressure, power, intensity, impedance, speed, frequency, dB notation: relative acoustic pressure and relative acoustic intensity.
Interaction of US with matter: reflection, transmission, scattering, refraction and absorption, attenuation and attenuation coefficients, US machine controls, US focusing.
9. Production of ultrasound: Piezoelectricity, Medical ultrasound transducer: Principle, construction and working, characteristics of US beam.
10. Ultrasound display modes: A, B, M
11. Real-time ultrasound: Line density and frame rate, Real-time ultrasound transducers: mechanical and electronic arrays, ultrasound artifacts, ultrasound recording devices, and Distance, area & volume measurements.
12. Techniques for imaging different anatomic areas, ultrasound artifacts, biological effects and safety.
13. Doppler Ultrasound- Patient preparation for Doppler, Doppler artifacts, vascular sonography,
14. Elastography, HIFU, ABVS etc.
15. Fusion Imaging -PET CT & PET MRI

Paper title

Radiological Techniques and Care of Patient

1. Basic Angiography and DSA:
History , technique, patient care, Percutaneous catheterisation, catheterization sites, Asepsis ,Guide wire, catheters, pressure injectors, accessories, Use of digital subtraction- single plane and bi-plane. All forms of diagnostic procedures including angiography, angioplasty, biliary examination, renal evaluation and drainage procedure and aspiration cytology under flouro, CT, US, MRI guidance.
2. Central Nervous System: Myelography. Cerebral studies, Ventriculography.
3. Arthrography: Shoulder, Hip, Knee, Elbow
4. Angiography: Carotid Angiography (4 Vessel angiography).Thoracic and Arch Aortography. Vertebral angiography, femoral arteriography. Selective studies: Renal, SMA, Coeliac axis. Angiocardiography.
5. Venography: Peripheral venography, Cerebral venography, Inferior and superior venocavography. Relevant visceral phlebography.
6. Cardiac catheterization procedures: PTCA, BMV, CAG, Pacemaker.
7. Microbiology Introduction and morphology - Introduction of microbiology, Classification

of microorganisms, size, shape and structure of bacteria. Use of microscope in the study of bacteria. Growth and nutrition -nutrition, culture media, types of medium with example and uses of culture media in diagnostic bacteriology, antimicrobial sensitivity test. Sterilization and disinfection - principles and use of equipments of sterilization namely hot air oven, autoclave and serum inspissator, pasteurization, anti-septic and disinfectants.

Care of Patient in Interventional Radiology

1. Introduction to patient care: responsibilities of healthcare facility-responsibilities of the imaging technologist.
2. General patient care, patient transfer technique-restraint techniques-aspects of patient comfort-specific patient conditions-security of patient property-obtaining vital signs-layingup a sterile trolley-assisting in IV injection.
3. Surgical Asepsis: The Environment and Surgical Asepsis, Methods of Sterilization, Disinfection, Opening Sterile Packs, Changing Dressing.
4. Nursing procedure in radiology- general abdominal preparation, clothing of the patient- giving an enema-handling the emergencies in radiology- first aid in the X-ray department
5. Patient care during investigation: GI tract, biliary tract, respiratory tract, Gynecology, cardiovascular lymphatic system, CNS etc.
6. Infection control: definitions- isolation techniques-infection sources-transmission modes-procedures-psychological considerations – sterilization & sterile techniques.
7. Patient education: communication – patient communication problems – explanation of examinations-radiation safety/protection – interacting with terminally ill patient.
8. Medical Emergencies: Shock, Pulmonary Embolus, Diabetic Emergencies, Respiratory Failure, Cardiac Failure, Airway Obstruction, Stroke, Fainting, Seizures.
9. Drug Administration: System of Drug Administration, Medication Error and Documentation, Equipment for Drug Administration, Methods of Drug Administration, Care of patient with Intravenous Infusions

SEMESTER-IV

Paper title:

Newer Developments in Advanced Imaging Technology and Biostatistics.

1. In addition to existing Radiological and Imaging Modalities -Newer Developments in Digital Imaging CT, MRI, US and any other modality.
2. Newer Radiological and Imaging Equipment: including Computed radiography: Digital Radiography, Digital Fluoroscopy, Digital Mammography and DSA - Introduction to Newer Technology innovations, software and its applications.
3. Computed Tomography Introduction to Newer Developments/ Newer Technology innovations, software and its applications.
4. MRI Introduction to Newer Developments/Newer Technology innovations, software and its applications.
5. Advanced Ultrasonography Newer Developments/Newer, Technology innovations, software and its applications. Elastography, HIFU, ABVS etc.
6. Maxillo-facial imaging, dental radiology including RGV, OPG, CBCT and other advanced modalities
7. Tele-radiology, HIS, RIS, PACS, Imaging processing and archiving.

Biostatistics & Basic Research Methodology

1. What is statistics – importance of statistics in behavioral sciences- descriptive statistics and inferential statistics-usefulness of qualification in behavioral sciences – scales of measurements- nominal, ordinal, interval and ratio scales.
2. Data collection – classification of data-class intervals – continuous and discrete measurements-drawing frequency polygon-histogram-cumulative frequency curve-ogives-drawing inference from graph.
3. Measures of central tendency- need-types: mean, median, mode – working out these measures with illustrations. Measures of variability – need- types range, quartile deviation, average deviation, standard deviation, variance-interpretation.
4. Normal distribution-general properties of normal distribution-theory of probability-illustration of normal distribution-area under the normal probability curve. Variants from the normal distribution-skewness-quantitative measurements of skewness-kurtosis-measurements of kurtosis-factors contributing for non-normal distribution
5. Correlation-historical contribution-meaning of correlation-types: rank correlation, regression analysis.
6. Tests of significance- need for-significance of the mean-sampling error-significance of differences between means-interpretation of probability levels-small samples-large samples-inferential statistics-parametric and non-parametric methods-elements of multivariate analysis

Seminars, Journal Clubs and Group Discussions

Each student will be assigned topics for presentations as seminars, will explore recent innovations in MRIT for presenting topics during journal clubs and shall be holding group discussions along with other students in the presence of MRIT faculty. This will also include visits to other Institutions, Factories or Industries in the field of MRIT.

Skills based outcomes and monitorable indicators for Senior Medical Radiology and Imaging Technologist (Sr. MRIT)

Competency statements

1. Demonstrate knowledge to interpret and evaluate a prescription
2. Communicates relevant information to other members and completes accurate documentation
3. Demonstrates knowledge of accurate position and ability to position all patients as per instructions
4. Recognize contrast induced adverse reactions
5. Collate and communicate health information
6. Operate and oversee operation of radiologic equipment
7. Maintain a safe, healthy and secure environment
8. Demonstrates ability to carry out the daily organization of the medical imaging unit
9. Demonstrates ability to interpret, apply and disseminate information as a member of the radiotherapy team
10. Demonstrates professional behavior
11. Demonstrates a sensitive and caring attitude towards the patient
12. Demonstrates ability to prepare the patient for the procedures.
13. Demonstrates ability to carry out the necessary data transfer checks
14. Demonstrate the ability to process and produce good quality radiographic mages.
15. Demonstrates ability to carry out treatment verification
16. Demonstrates ability to carry out corrective actions as per instructions
17. Demonstrates knowledge to check the dosage
18. Implements health and safety procedures
19. Demonstrates ability to interpret, apply and disseminate information as a member of the radiotherapy team
20. Ensures radiation protection legislation is adhered to
21. Demonstrates knowledge and skills to carry out the daily/weekly Quality Control (QC) checks
22. Participates in research activities

Fundamental Competencies	Applies fundamental competencies in the performance of tasks assigned.
Safe Work Practices	Conducts professional practice according to established protocols, safety guidelines and existing legislation.
Communication and Interactions	Interacts in a professional and competent manner, using effective listening, verbal and written communication in dealing with laboratory colleagues, patients, clients and other health professionals.
Film Processing	Perform X-ray film / image processing techniques (including dark room techniques)
Quality Assurance	Follows quality assurance policies and procedures and participants in quality assurance initiatives.
Communication	Collate and Communicate Health Information within and between the departments. Make decisions on information to be communicated based on needs of the individual and various regulations and guidelines
Professionalism	Meets the legal and ethical requirements of practice and protect the patient's right to an established standard of care. Professional responsibility encompasses scope of practice, accountability, and professional development.
Practical Skills	Able to Operate and oversee operation of radiologic equipment, To be able to process radiographic images and prepare and document reports, Recognise contrast induced adverse reactions Collate and communicate health information Ensure availability of medical and diagnostic supplies Maintain a safe, healthy and secure environment Making sure that the radiation safety guidelines are followed Making sure that biomedical waste disposal protocols are followed Making sure that the infection control policies and procedures are followed Monitor and assure quality.

Introduction to medical Law and ethics:

Introduction to Code of conduct, Basic principles of medical ethics Confidentiality, Malpractice and negligence - Rational and irrational drug therapy, Autonomy and informed consent - Right of patients, Care of the terminally ill- Euthanasia,

Organ transplantation, Medico legal aspects of medical records – Medico legal case and type- Records and document related to MLC - ownership of medical records – Confidentiality Privilege communication - Release of medical information - Unauthorized disclosure - retention of medical records.

Professional Indemnity insurance policy, development of standardized protocol to avoid near miss or sentinel events. Obtaining an informed consent. Consideration of medical ethics – Doctors, patient and profession.

CYBER SECURITY

Program Educational Objectives (PEOs)

The exposure of the students to Cyber Security program at Graduate and Post Graduate level should lead to the following: -

- (a) Learn the foundations of Cyber security and threat landscape.
- (b) To equip students with the technical knowledge and skills needed to protect and defend against cyber threats.
- (c) To develop skills in students that can help them plan, implement, and monitor cyber security mechanisms to ensure the protection of information technology assets.
- (d) To expose students to governance, regulatory, legal, economic, environmental,

social and ethical contexts of cyber security.

- (e) To expose students to responsible use of online social media networks.
- (f) To systematically educate the necessity to understand the impact of cybercrimes and threats with solutions in a global and societal context.
- (g) To select suitable ethical principles and commit to professional responsibilities and human values and contribute value and wealth for the benefit of the society.

Program Specific Outcomes (PSOs)

Upon completion of the degree program, students will be able to:-

- (h) Understand the cyber security threat landscape.
- (i) Develop a deeper understanding and familiarity with various types of cyber-attacks, cybercrimes, vulnerabilities and remedies thereto.
- (j) Analyse and evaluate existing legal framework and laws on cyber security.
- (k) Analyse and evaluate the digital payment system security and remedial measures against digital payment frauds.
- (l) Analyse and evaluate the importance of personal data its privacy and security.
- (m) Analyse and evaluate the security aspects of social media platforms and ethical aspects associated with use of social media.
- (n) Analyse and evaluate the cyber security risks.
- (o) Based on the Risk assessment, plan suitable security controls , audit and compliance.
- (p) Evaluate and communicate the human role in security systems with an emphasis on ethics, social engineering vulnerabilities and training.
- (q) Increase awareness about cyber-attack vectors and safety against cyber-frauds.
- (r) Take measures for self-cyber-protection as well as societal cyber-protection.

Syllabus of Cyber Security Program at Post Graduate Level

1. The syllabus for Cyber Security Program at Post Graduate Level is as under: -

Cyber Security Program at Post Graduate Level			
Module	Module Name	Module Contents	Learning Outcome
Module-I	Overview of Cybersecurity	Cyber security increasing threat landscape, Cyber security terminologies- Cyberspace, attack, attack vector, attack surface, threat, risk, vulnerability, exploit, exploitation, hacker., Non-state actors, Cyber terrorism, Protection of end user machine, Critical IT and National Critical Infrastructure, Cyberwarfare, Case Studies.	Students after completing this module will be able to understand the basic terminologies related to cyber security and current cyber security threat landscape. They will also develop understanding about the Cyber warfare and necessity to strengthen the cybersecurity of end user machine, critical IT and national critical infrastructure.
Module-II	Cyber crimes	Cyber crimes targeting Computer systems and Mobiles- data diddling attacks, spyware, logic bombs, DoS, DDoS, APTs, virus, Trojans, ransomware, data breach., Online scams and frauds- email scams, Phishing, Vishing, Smishing, Online job fraud, Online sextortion, Debit/ credit card fraud, Online payment fraud, Cyberbullying, website defacement, Cyber- squatting, Pharming, Cyber espionage, Cryptojacking, Darknet- illegal trades, drug trafficking, human trafficking., Social Media Scams & Frauds- impersonation, identity theft, job scams, misinformation, fake news cyber crime against persons - cyber grooming, child pornography, cyber stalking., Social Engineering attacks, Cyber Police stations, Crime reporting procedure, Case studies.	After completion of the module, students will have complete understanding of the cyber- attacks that target computers, mobiles and persons. They will also develop understanding about the type and nature of cyber crimes and as to how report these crimes through the prescribed legal and Government channels.
Practical	1. Platforms for reporting cyber crimes. 2. Checklist for reporting cyber crimes online.		

Cyber Security Program at Post Graduate Level			
Module	Module Name	Module Contents	Learning Outcome
Module-III	Cyber Law	Cyber crime and legal landscape around the world, IT Act, 2000 and its amendments. Limitations of IT Act, 2000. Cyber crime and punishments,	Students after completing this module will be able to understand the legal framework that exist

		Cyber Laws and Legal and ethical aspects related to new technologies- AI/ML, IoT, Blockchain, Darknet and Social media, Cyber Laws of other countries, Case Studies.	in India for cyber crimes and penalties and punishments for such crimes, It will also expose students to limitations of existing IT Act, 2000 legal framework that is followed in other countries and legal and ethical aspects related to new technologies.
Module IV	Data Privacy and Data Security	Defining data, meta-data, big data, non- personal data. Data protection, Data privacy and data security, Personal Data Protection Bill and its compliance, Data protection principles, Big data security issues and challenges, Data protection regulations of other countries- General Data Protection Regulations (GDPR), 2016 Personal Information Protection and Electronic Documents Act (PIPEDA), Social media- data privacy and security issues.	After completing this module, students will understand the aspects related to personal data privacy and security. They will also get insight into the Data Protection Bill, 2019 and data privacy and security issues related to Social media platforms.
Practical	1. Setting privacy settings on social media platforms. 2. Do's and Don'ts for posting content on Social media platforms. 3. Registering complaints on a Social media platform.		

Cyber Security Program at Post Graduate Level

Module	Module Name	Module Contents	Learning Outcome
Module V	Cyber security Management, Compliance and Governance	Cyber security Plan- cyber security policy, cyber crises management plan., Business continuity, Risk assessment, Types of security controls and their goals, Cyber security audit and compliance, National cyber security policy and strategy.	Students after completing this module will understand the main components of cyber security plan. They will also get insights into risk- based assessment, requirement of security controls and need for cyber security audit and compliance.
Practical	1. Prepare password policy for computer and mobile device. 2. List out security controls for computer and implement technical security controls in the personal computer. 3. List out security controls for mobile phone and implement technical security controls in the personal mobile phone. 4. Log into computer system as an administrator and check the security policies in the system.		
References	1. Cyber Security Understanding Cyber Crimes, Computer Forensics and Legal Perspectives by Sumit Belapure and Nina Godbole, Wiley India Pvt. Ltd. 2. Information Warfare and Security by Dorothy F. Denning, Addison Wesley. 3. Security in the Digital Age: Social Media Security Threats and Vulnerabilities by Henry A. Oliver, Create Space Independent Publishing Platform. 4. Data Privacy Principles and Practice by Natraj Venkataramanan and Ashwin Shriram, CRC Press. 5. Information Security Governance, Guidance for Information Security Managers by W. KragBrothy, 1st Edition, Wiley Publication. 6. Auditing IT Infrastructures for Compliance By Martin Weiss, Michael G. Solomon, 2nd Edition, Jones Bartlett Learning.		

Cyber security scheme of Program Postgraduate Level

Sl. No	Course Title	Teaching Scheme at UG and PG Level		
		L/T	P	C
1	Cyber Security	3	1	4

Semester IV Disaster Risk management (40 hours)

OBJECTIVES:

At the end of the fourth semester students should be able to

1. Understand the emergency/ disaster management cycle
2. Develop a basic knowledge of prevention, mitigation, preparedness, response and recovery in disaster
3. Have a basic understanding emergency management.
4. Resuscitation and triage skills

COURSE OUTCOMES:

At the end of the course students will be able to...

CO1: Set up and respond for the management of hospital disaster. **CO2:** Understand the basic knowledge to manage the emergencies. **CO3:** Participate in triage and trauma management.

CO4: Perform Basic Life Support and Advanced Cardiac Life Support.

Unit-1

12 hours

- Hospital disaster preparedness and response
 - Scope
 - Coordination and management
 - Planning, training
 - Information, communication and documentation
 - Medico legal concerns
 - Safety and security
 - Human resources
 - Triage
 - Post disaster recovery
 - Patient handling
 - Volunteer involvement and management
 - Coordination and collaboration with wider disaster preparedness initiatives

Unit-2

16 hours

- First aid for unconsciousness
 - Aims , principles & rules of first aid
 - First aid box
- Trauma management
 - Guidelines, protocols, initial assessment
 - Trauma management in emergency department
- Wound management in emergency practice
 - Management of internal and external bleeding
- Chemical injury
- Management of drowning
- Burn care
 - Prehospital treatment
 - Initial emergency department treatment
 - Airway and respiratory care
 - Fluid resuscitation
- Electrical injury management
- Pre hospital management
 - Basic life support
 - Further treatment and transfer

Unit-3

12 hours

Cardio pulmonary resuscitation

- Basic life support
 - Algorithm
 - Mouth to mouth ventilation
 - External cardiac compression
- ACLS
 - Defibrillation
 - Vascular access
 - Definitive airway
 - Foreign body obstruction
 - Drugs
- CPR in infants and children
- Complications of BLS

Books recommended:

1. Disaster management for health care professionals- Joshi Sonopant G

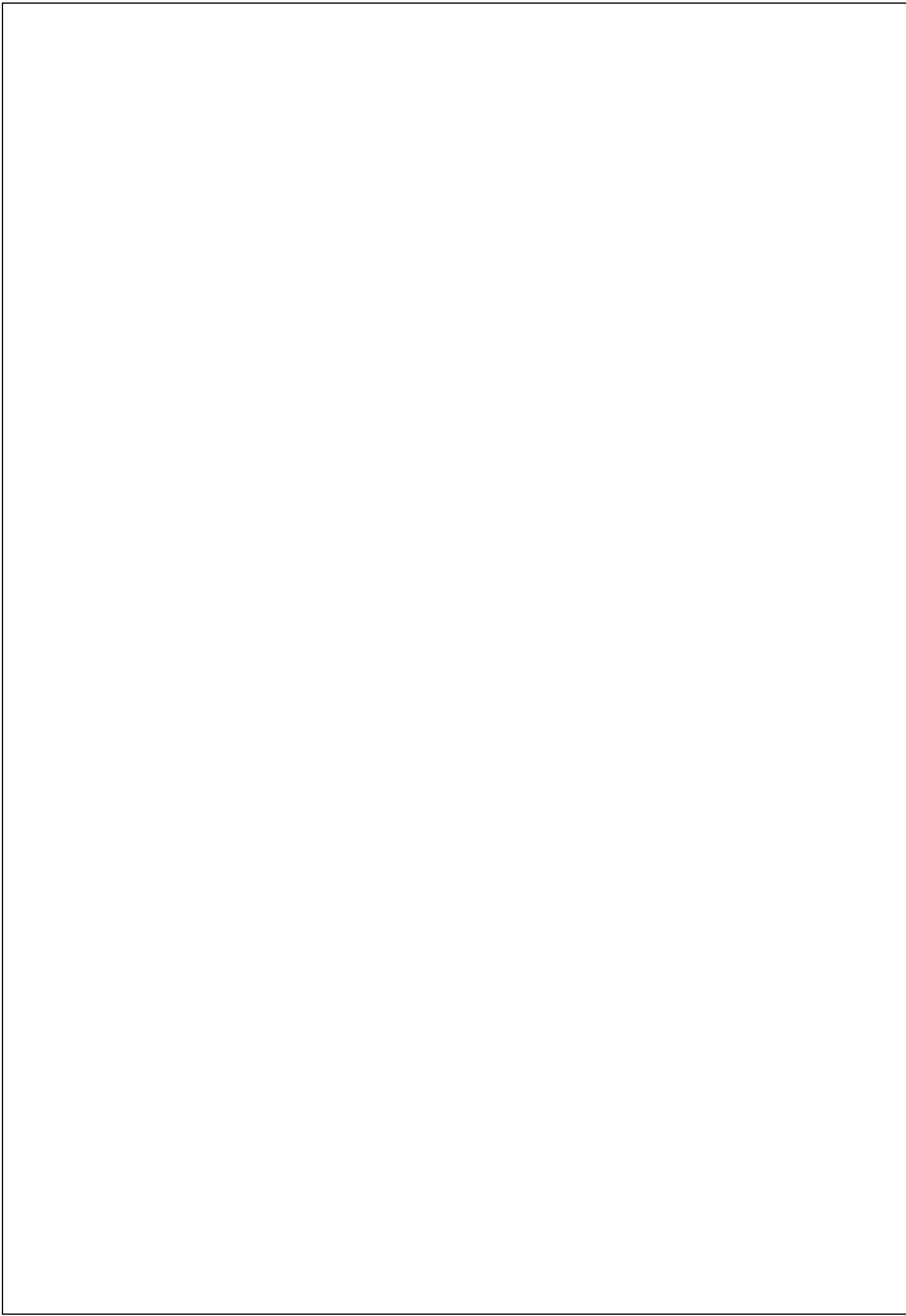
Distribution of Type, Number and marks of Questions for Various Subjects

THEORY

Subjects having maximum marks = 100			Total
Type of question	Number of questions	Marks for Each question	
Long Essay	02	20	40
Short Essay	06	10	60
	TOTAL		100

Note : Revised as per the Proceedings of the 36th meeting of the Academic Council held on 30th Sep 2020. and Proceedings of the 59th meeting of the Board of Management held on 9th Oct 2020.

-End-





SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION AND RESEARCH

(A Deemed to be University declared under Section 3 of UGC Act 1956)

Comprising Sri Devaraj Urs Medical College

[Constituent unit of Sri Devaraj Urs Educational Trust for Backward Classes (Regd.)]

TAMAKA, KOLAR-563 103, KARNATAKA, INDIA

Ph: 918152-243003, +91 9448395232, Fax : +918152 - 243008 E-mail - registrar@sduaher.ac.in / office@sduaher.ac.in Website: www.sduaher.ac.in

No. SDUAHER/KLR/ADMN/ 3186 /2024-25

30.09.2024

REVISED NOTIFICATION

Ref:1 INC Notification No: 1-6/LT/2024-INC, dated: 20-09-2024

2 Approval of the Hon'able Vice Chancellor, dated:30-09-2024

In continuation of this office notification dated 29-07-2024, the Calendar of events for Admission of **M.Sc (N)** Program for the academic year **2024-25** is hereby notified as follows:

SL.NO	DESCRIPTION OF EVENTS	SCHEDULE
PART-I		
01	Last date of admission	30 th October 2024
02	Commencement of academic session	18 th September 2024
03	Online submission of list of students to the Registrar SDUAHER	5 th November 2024
04	Getting admission registered certified by the Registrar SDUAHER	15 th November 2024 Before 3.30pm
05	Last date for admission approval statement	30 November 2024
06	Submission of I A marks	17 th July 2025
07	Examination	2 nd week of August 2025
08	Declaration of results	On or before 4 st week of August 2025
SUBMISSION OF SYNOPSIS AND DESSERTATION		
09	Last date for submission of synopsis to SDUAHER	20 th January 2025
10	Last date for submission of Dissertation to SDUAHER	20 th June 2026
11	Last date for submission of Dissertation to SDUAHER with fine	30 th June 2026

Registrar

Copy to:

1. P.A to Vice Chancellor, SDUAHER
2. The Finance Officer, SDUAHER
3. The Controller of Examinations, SDUAHER
4. The Principal, Sri Devaraj Urs College of Nursing, Tamaka, Kolar
5. Office Copy

Sri Devaraj Urs Academy of Higher
Education and Research
Tamaka, Kolar - 563 103.

Sri Devaraj Urs Academy of Higher Education and Research

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Comprising Sri Devaraj Urs Medical College

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Ph.918152-243003, +91 9448395232, [E-mail -registrar@sduaher.ac.in/office@sduaher.ac.in](mailto:registrar@sduaher.ac.in) Website: www.sduaher.ac.in

M.Sc. Nursing Course Regulations and Curriculum for Obstetric & Gynecological Nursing (With effect from 2024-2025 batches)



SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION AND RESEARCH

Constituent Unit, Sri Devaraj Urs College of Nursing

A Deemed To Be University

Declared under section 3 of UGC Act 1956

MHRD GOI NO.F, 9-36/2006-U.3 (A), Dt.25th may 2007

Post box No.62, TAMAKA, KOLAR-563103, KARNAKATAKA, INDIA

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Website: www.sduaher.ac.in Email -[registrar@sduaher.ac.in/office@sduaher.ac.in](mailto:registrar@sduaher.ac.in)

CONTENT

S. No.	Content	Page No
1	Philosophy	
2	Aim	
3	Objectives	
4	Other Staff (Maximum Requirement)	
5	Eligibility Criteria/Admission Requirements	
6	Regulations for Examination	
7	Guidelines for Dissertation	
8	Duration	
9	Scheme of Examination	
	First Year	
10	Nursing Education	
11	Advance Nursing Practice	
12	<i>Clinical Specialty – I</i>	
	- Obstetric & Gynecological Nursing	
13	Nursing Research & Statistics	
	Second Year	
14	Nursing Management	
15	<i>Clinical Specialty –II</i>	
	- Obstetric & Gynecological Nursing	
16	Annexure – I (Staffing Pattern Relaxed till 2012)	



Sri Devaraj Urs Academy of Higher Education and Research

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NOTIFICATION

Sub: Approved of M.Sc (N) curriculum under the faculty of nursing

Ref: 1) INC notification file No: 1-6/LT/2023-INC, Dated: 26-12-2023

2) Proceedings of 46th Academic council meeting, Dated: 26-02-2024

3) Proceedings of 77th Board of Management meeting, Dated: 28-03-2024

4)No.SDUAHER/KLR/ADMN/238/2024-25, Dated: 18-04-2024

Sri Devaraj Urs Academy of Higher Education and Research, Kolar was established in the year 2007 under section 3 of the UGC Act, 1956. Sri Devaraj Urs College of Nursing becomes a constituent unit of SDUAHER from 1st July 2024. The academic council and board of management of SDUAHER approved M.Sc Nursing curriculum from the academic year 2024-25 in conformity with Indian Nursing Council regulations and curriculum for M.Sc (N) programme, Regulations 2006.

(Dr. Muninaraayana C)
Registrar

Philosophy

National Health Policy(NHP) 2002 emphasizes the need to prepare nurses to function in super-speciality areas who are required in tertiary care institutions, entrusting some limited public health functions to nurses after providing adequate training, and increase the ratio of degree holding vis a vis diploma holding nurses.

It is observed that there is an acute shortage of nursing faculty in under graduate and post graduate nursing programme in India

Indian Nursing Council believes that:

Post Graduate programme is essential to prepare nurses to improve the quality of nursing education and practice in India. .

Post graduate programme in nursing builds upon and extends competence acquired at the graduate levels, emphasizes application of relevant theories into nursing practice, education, administration and development of research skills.

The programme prepares nurses for leadership position in nursing and health fields who can function as nurse specialists, consultants, educators, administrators and researchers in a wide variety of professional settings in meeting the National priorities and the changing needs of the society.

This programme provides the basis for the post masteral programme in nursing. Further the programme encourages accountability and commitment to life long learning which fosters improvement of quality care.

Aim

The aim of the postgraduate program in nursing is to prepare graduates to assume responsibilities as nurse specialists, consultants, educators, administrators in a wide variety of professional settings

Objectives

On Completion of the two year M.Sc Nursing programme, the graduate will be able to:-

1. Utilize/apply the concepts, theories and principles of nursing science
2. Demonstrate advance competence in practice of nursing
3. Practice as a nurse specialist.
4. Demonstrate leadership qualities and function effectively as nurse educator and manager.
5. Demonstrate skill in conducting nursing research, interpreting and utilizing the findings from health related research.

6. Demonstrate the ability to plan and effect change in nursing practice and in the health care delivery system.
7. Establish collaborative relationship with members of other disciplines
8. Demonstrate interest in continued learning for personal and professional advancement.

Other Staff (Minimum requirements)

(To be reviewed and revised and rationalized keeping in mind the mechanization and contract service)

- Ministerial

a) Administrative Officer	1
c) Office Superintendent	1
d) PA to Principal	1
e) Accountant/Cashier	1

- Upper Division Clerk 2

- Lower Division Clerk 2

- Store Keeper 1

a) Maintenance of stores	1
b) Classroom attendants	2
c) Sanitary staff	As per the physical space
d) Security Staff	As per the requirement

- Peons/Office attendants 4

- Library

a) Librarian	2
b) Library Attendants	As per the requirement

- Hostel

a) Wardens	2
b) Cooks, Bearers, Sanitary Staff	As per the requirement
c) Ayas /Peons	As per the requirement
d) Security Staff	As per the requirement
e) Gardeners & Dhobi (desirable)	Depends on structural facilities

Eligibility Criteria/Admission Requirements:

1. The candidate should be a Registered Nurse and Registered midwife or equivalent with any State Nursing Registration Council.
2. The minimum education requirements shall be the passing of :
B.Sc. Nursing / B.Sc. Hons. Nursing / Post Basic B.Sc. Nursing with minimum of 55% aggregate marks.
3. The candidate should have undergone in B.Sc. Nursing / B.Sc. Hons. Nursing / Post Basic B.Sc. Nursing in an institution which is recognized by Indian Nursing Council.
4. Minimum one year of work experience after Basic B.Sc. Nursing.
5. Minimum one year of work experience prior or after Post Basic B.Sc. Nursing.
6. Candidate shall be medically fit.
7. 5% relaxation of marks for SC/ST candidates may be given.

Entrance/Selection test

Selection of the candidates should be based on the merit of the entrance examination held by University or competent authority.

Regulations for examination:

Eligibility for appearing for the examination:

75% of the attendance for theory and practicals. However 100% of attendance for practical before the award of degree

Classification of results:

- 50% pass in each of the theory and practical separately.
- 50-59% Second division
- 60-74% first division
- 75% and above is distinction
- For declaring the rank aggregate of 2 years marks to be considered

If the candidate fails in either practicals or theory paper he/she has to re - appear for both the papers (theory and practical)

Maximum no. of attempts per subject is three (3) inclusive of first attempt. The maximum period to complete the course successfully should not exceed 4 years

Candidate who fails in any subject, shall be permitted to continue the studies into the second year. However the candidate shall not be allowed to appear for the Second year examination till such time that he/she passes all subjects of the first year M.Sc nursing examination

Practicals

- 4 hours of practical examination per student.
- Maximum number of 10 students per day per speciality.
- The examination should be held in clinical area only for clinical specialities
- One internal and external should jointly conduct practical examination
- Examiner – Nursing faculty teaching respective speciality area in M.Sc nursing programme with minimum 3 years experience after M.Sc nursing.

Dissertation

Evaluation of the dissertation should be done by the examiner prior to viva

Duration: Viva-voce -minimum 30 minutes per student

Guidelines for Dissertation

Tentative Schedule for dissertation

S. No.	Activities	Scheduled Time
1.	Submission of the research proposal	End of 9 th month of 1 st year
2.	Submission of dissertation – Final	End of 9 th month of II nd Year

Note: - Administrative approval and ethical clearance should be obtained

A. Research Guides

a) *Qualification of Guide*

Main guide : Nursing faculty / nursing expert in the same clinical speciality holding Ph.D./M.Phil/M.Sc. Nursing with a minimum of 3 years experience in teaching in the Post Graduate Programme in Nursing.

Co-Guide : A Co-Guide is a nursing faculty/expert in the field of study (may be from outside the college but should be within the city.)

b) *Guide – Students Ratio*

Maximum of 1:4 (including as co-guide)

c) *Research Committee*

There should be a research committee in each college comprising of minimum 5 members chaired by the Principal, College of Nursing.

Duration

Duration of the course is 2 years for M.Sc. (N)

Available	52 weeks
Vacation	4 weeks
Examination	2 weeks
Gazetted holidays	3 weeks
Total weeks available	43 weeks
40 hours per week	1720 hours
Total hours for 2 years	3440 hours

Course of Instruction

	Theory (hrs)	Practical (hrs)
1st year		
Nursing education	150	150
Advance nursing practice	150	200
Nursing Research and statistics	150	100
*Clinical speciality –I	150	650
Total	600	1100

II nd Year

Nursing Management	150	150
Nursing Research(Dissertation)		300
*Clinical Specialty-II	150	950
Total	300	1400

Educational visit 2 weeks

***Clinical Speciality** – Medical Surgical Nursing (Cardio Vascular & Thoracic Nursing, Critical care Nursing, Oncology Nursing, Neurosciences Nursing, Nephro-Urology Nursing, Orthopedic Nursing, Gastro Enterology Nursing,)Obstetric & Gynaecological Nursing, Child Health (Paediatric) Nursing, Mental Health(Psychiatric) Nursing, Community Health Nursing, Psychiatric (Mental Health) Nursing etc.

Note: Students have to maintain log book for each activity during the course of study

Scheme of Examination

	Theory			Practical		
	Hours	Internal	External	Hours	Internal	External
1st year						
Nursing education	3	25	75		50	50
Advance nursing practice	3	25	75			
Nursing Research and statistics	3	25**	75*			
Clinical speciality -I	3	25	75		100	100
Total		100	300		150	150
II nd Year						
Nursing Management	3	25	75			
Dissertation & Viva					100	100
Clinical Speciality-II	3	25	75		100	100
Total		50	150		200	200

* Nursing research=50 and statistics=25

**Nursing research=15 and statistics=10

1. Minimum pass marks shall be 50 % in each of the Theory and practical papers separately.
2. A candidate must have minimum of 80% attendance (irrespective of the kind of absence) in theory and practical in each subject for appearing for examination.
3. A candidate must have 100% attendance in each of the practical areas before award of degree
4. A candidate has to pass in theory and practical exam separately in each of the paper.
5. If a candidate fails in either theory or practical paper he/she has to re-appear for both the papers (Theory and practical).
6. Maximum no. of attempts permitted for each paper is 3 including first attempt.

7. The maximum period to complete the course successfully should not exceed 4 (four) years
8. A candidate failing in more than two subjects will not be promoted to the IInd year.
9. No candidate shall be admitted to the subsequent IInd year examination unless the candidate has passed the Ist year examination.
10. Maximum number of candidates for all practical examination should not exceed 10 per day.
11. Provision of Supplementary examination should be made.
12. All practical examinations must be held in the respective clinical areas.
13. One internal and One external examiners(outside the University) should jointly conduct practical examination for each student
14. An examiner should be M.Sc (N) in concerned subject and have minimum of 3 (three) years post graduate teaching experience.
15. One internal and One external examiners(outside the University) should evaluate dissertation and jointly conduct viva-voce for each student
16. For Dissertation Internal examiner should be the guide and external examiner should be Nursing faculty / nursing expert in the same clinical speciality holding Ph.D./M.Phil/M.Sc. Nursing with a minimum of 3 years experience in guiding the research projects for Post Graduate students of Nursing.

Admission Strength

Annual admission strength for M.Sc (N) Programme should have prior sanction/permission from the Indian Nursing Council on the basis of clinical, physical facilities and teaching faculty.

Health Services

There should be provisions for the following health services for the students.

- (a) An annual medical examination.
- (b) Vaccination against Tetanus, hepatitis B or any other communicable disease as considered necessary.
- (c) Free medical care during illness and / provision of health insurance should be made.
- (d) A complete health record should be kept in respect of each individual students. The question of continuing the training of a student, with long term chronic illness, will be decided by the individual college.

CURRICULUM

NURSING EDUCATION

Placement : 1st Year

Hours of Instruction
Theory 150 Hours
Practical 150 Hours Total
: 300 Hours

Course Description

This course is designed to assist students to develop a broad understanding of Fundamental Principles, concepts, trends and issues related to education and nursing education. Further, it would provide opportunity to students to understand, appreciate and acquire skills in teaching and evaluation, curriculum development, implementation, maintenance of standards and accreditation of various nursing educational programs.

Objectives

At the end of the course, students will be able to :

1. Explain the aims of education, philosophies, trends in education and health: its impact on nursing education.
2. Describe the teaching learning process.
3. Prepare and utilize various instructional media and methods in teaching learning process.
4. Demonstrate competency in teaching, using various instructional strategies.
5. Critically analyze the existing nursing educational programs, their problems, issues and future trends.
6. Describe the process of curriculum development, and the need and methodology of curriculum change, innovation and integration.
7. Plan and conduct continuing nursing education programs.
8. Critically analyze the existing teacher preparation programs in nursing.
9. Demonstrate skill in guidance and counseling.
10. Describe the problems and issues related to administration of nursing curriculum including selection and organization of clinical experience.
11. Explain the development of standards and accreditation process in nursing education programs.
12. Identify research priorities in nursing education.
13. Discuss various models of collaboration in nursing education and services.

14. Explain the concept, principles, steps, tools and techniques of evaluation
15. Construct, administer and evaluate various tools for assessment of knowledge, skill, and attitude.

Course Content

Units	Hours		Course Content
	Theory	Practical	
I	10		Introduction : □ Education :Definition, aims, concepts, philosophies & their education implications, □ Impact of Social, economical, political & technological changes on education: • Professional education • Current trends and issues in education • Educational reforms and National Educational policy, various educational commissions-reports • Trends in development of nursing education in India
II	20	30	Teaching – Learning Process □ Concepts of teaching and learning: Definition, theories of teaching and learning, relationship between teaching and learning. □ Educational aims and objectives; types, domains, levels, elements and writing of educational objectives □ Competency based education(CBE) and outcome based education(OBE) □ Instructional design: Planning and designing the lesson, writing lesson plan : meaning, its need and importance, formats. □ Instruction strategies – Lecture, discussion, demonstration, simulation, laboratory, seminar, panel, symposium, problem solving, problem based learning (PBL), workshop, project, role- play(socio- drama), clinical teaching methods, programmed instruction, self directed learning(SDL), micro teaching, computer assisted instruction(CAI), computer assisted learning (CAL)

Units	Hours		Course Content
	Theory	Practical	
III	10	10	Instructional media and methods □ Key concepts in the selection and use of media in education □ Developing learning resource material using different media □ Instructional aids – types, uses, selection, preparation, utilization. □ Teacher's role in procuring and managing instructional Aids – Project and non-projected aids, multi media, video-tele conferencing etc
IV	10		Measurement and evaluation: □ Concept and nature of measurement and evaluation, meaning, process, purposes, problems in evaluation and measurement. □ Principles of assessment, formative and summative assessment- internal assessment external examination, advantages and disadvantages. □ Criterion and norm referenced evaluation,
V	12	10	Standardized and non-standardized tests : □ Meaning, characteristics, objectivity, validity, reliability, usability, norms, construction of tests- • Essay, short answer questions and multiple choice questions. • Rating scales, checklist, OSCE/OSPE(Objective structured clinical/practical examination) • Differential scales, and summated scales, sociometry, anecdotal record, attitude scale, critical incident technique □ Question bank-preparation, validation, moderation by panel, utilization □ Developing a system for maintaining confidentiality
VI	8	5	Administration, Scoring and Reporting □ Administering a test; scoring, grading versus marks □ Objective tests, scoring essay test, methods of scoring, Item analysis.
VII	12	6	Standardized Tools □ Tests of intelligence aptitude, interest, personality, achievement, socio-economic status scale, tests for special mental and physical abilities and disabilities.

Units	Hours		Course Content
	Theory	Practical	
VIII	5	6	Nursing Educational programs □ Perspectives of nursing education: Global and national. □ Patterns of nursing education and training programmes in India. Non-university and University programs: ANM, GNM, Basic B.Sc. Nursing, Post Certificate B.Sc. Nursing, M.Sc(N) programs, M.Phil and Ph.D) in Nursing, post basic diploma programs, nurse practitioner programs.
IX	12	25	Continuing Education in Nursing □ Concepts – Definition, importance, need scope, principles of adult learning, assessments of learning needs, priorities, resources. □ Program planning, implementation and evaluation of continuing education programs. □ Research in continuing education. □ Distance education in nursing.
X	10	10	Curriculum Development □ Definition, curriculum determinants, process and steps of curriculum development, Curriculum models, Types and framework. □ Formulation of philosophy, objectives, selection and organization of learning experiences; master plan, course plan, unit plan. □ Evaluation strategies, process of curriculum change, role of students, faculty, administrators, statutory bodies and other stakeholders. □ Equivalency of courses: Transcripts, credit system.
XI	8	4	Teacher preparation □ Teacher – roles & responsibilities, functions, characteristics, competencies, qualities, □ Preparation of professional teacher □ Organizing professional aspects of teacher preparation programs □ Evaluation: self and peer □ Critical analysis of various programs of teacher education in India.

Units	Hours		Course Content
	Theory	Practical	
XII	10	5	Guidance and counseling □ Concept, principles, need, difference between guidance and counseling , trends and issues. □ Guidance and counseling services : diagnostic and remedial. □ Coordination and organization of services. □ Techniques of counseling : Interview, case work, characteristics of counselor, problems in counseling. □ Professional preparation and training for counseling.
XIII	15	10	Administration of Nursing Curriculum □ Role of curriculum coordinator – planning, implementation and evaluation. □ Evaluation of educational programs in nursing-course and program. □ Factors influencing faculty staff relationship and techniques of working together. □ Concept of faculty supervisor (dual) position. □ Curriculum research in nursing. □ Different models of collaboration between education and service
XIV	10		Management of nursing educational institutions □ Planning, organizing, staffing, budgeting, recruitment, discipline, public relation, performance appraisal, welfare services, library services, hostel,
XV	5	5	□ Development and maintenance of standards and accreditation in nursing education programs. □ Role of Indian Nursing Council, State Registration Nursing Councils, Boards and University. □ Role of Professional associations and unions.

Activities :

- Framing philosophy, aims and objectives.
- Lesson Planning.
- Micro teaching-2.
- Conduct practice teachings using different teaching strategies -10 (like lecture cum discussion, demonstration- lab method, field trips, seminars, project, role play, panel discussion, clinical methods etc)
- Preparation and utilization of instructional Aids using different media.
- Develop course plans, unit plans, rotation plans.
- Conduct a continuing education workshop.
- Annotated bibliography.
- Critical evaluation of any nursing education program offered by a selected institution.
- Planning and Organizing field visits.

- Educational visits.
- Field visits (INC/SNRC) to get familiar with recognition/registration process.
- Construct, administer and evaluate tools (objective & essay type test, observation checklist, rating scale etc)
- Observe and practice application of various non-standardized tests (intelligence, Aptitude, Personality, Sociometry, physical & mental disabilities tests.)

Methods of Teaching

- Lecture cum discussion
- Demonstration/ Return demonstration
- Seminar / Presentations
- Project work
- Field visits
- Workshop

Methods of evaluation

- Tests
- Presentation
- Project work
- Written assignments

Internal Assessment

Techniques	Weightage
Test- (2 tests)	50
Assignment	25
Seminar/presentation	25

	100

Practical – Internal assessment

Learning resource material	25
Practice Teaching	50
Conduct Workshop	25
/Short Term Course	

Practical – external assessment

Practice teaching- 1-	50
Preparation/use of learning resource material-1	25
Construction of tests/rotation plan.	25

ADVANCE NURSING PRACTICE

Placement: 1ST Year

Hours of Instruction
Theory 150 Hours
Practical 200 Hours
Total : 350 Hours

Course Description

The course is designed to develop an understanding of concepts and constructs of theoretical basis of advance nursing practice and critically analyze different theories of nursing and other disciplines.

Objectives:

At the end of the course the students will be able to:

1. Appreciate and analyze the development of nursing as a profession.
2. Describe ethical, legal, political and economic aspects of health care delivery and nursing practice.
3. Explain bio- psycho- social dynamics of health, life style and health care delivery system.
4. Discuss concepts, principles, theories, models, approaches relevant to nursing and their application.
5. Describe scope of nursing practice.
6. Provide holistic and competent nursing care following nursing process approach.
7. Identify latest trends in nursing and the basis of advance nursing practice.
8. Perform extended and expanded role of nurse.
9. Describe alternative modalities of nursing care.
10. Describe the concept of quality control in nursing.
11. Identify the scope of nursing research.
12. Use computer in patient care delivery system and nursing practice.
13. Appreciate importance of self development and professional advancement.

Course Content

Unit	Hours	Content
I	10	Nursing as a Profession □ History of development of nursing profession, characteristics, criteria of the profession, perspective of nursing profession-national, global □ Code of ethics(INC), code of professional conduct(INC), autonomy and accountability, assertiveness, visibility of nurses, legal considerations, □ Role of regulatory bodies □ Professional organizations and unions-self defense, individual and collective bargaining □ Educational preparations, continuing education, career opportunities, professional advancement & role and scope of nursing education. □ Role of research, leadership and management. □ Quality assurance in nursing (INC). □ Futuristic nursing.
II	5	Health care delivery □ Health care environment, economics, constraints, planning process, policies, political process vis a vis nursing profession. □ Health care delivery system- national, state, district and local level. □ Major stakeholders in the health care system-Government, non-govt, Industry and other professionals. □ Patterns of nursing care delivery in India. □ Health care delivery concerns, national health and family welfare programs, inter-sectoral coordination, role of non-governmental agencies. □ Information, education and communication (IEC). □ Tele-medicine.
III	10	Genetics □ Review of cellular division, mutation and law of inheritance, human genome project ,The Genomic era. □ Basic concepts of Genes, Chromosomes & DNA. □ Approaches to common genetic disorders. □ Genetic testing – basis of genetic diagnosis, Pre symptomatic and predisposition testing, Prenatal diagnosis & screening, Ethical, legal & psychosocial issues in genetic testing. □ Genetic counseling. □ Practical application of genetics in nursing.
IV	10	Epidemiology □ Scope, epidemiological approach and methods, □ Morbidity, mortality, □ Concepts of causation of diseases and their screening, □ Application of epidemiology in health care delivery, Health surveillance and health informatics □ Role of nurse

Unit	Hours	Content
V	20	Bio-Psycho social pathology □ Pathophysiology and Psychodynamics of disease causation □ Life processes, homeostatic mechanism, biological and psycho-social dynamics in causation of disease, life style □ Common problems: Oxygen insufficiency, fluid and electrolyte imbalance, nutritional problems, hemorrhage and shock, altered body temperature, unconsciousness, sleep pattern and its disturbances, pain, sensory deprivation. □ Treatment aspects: pharmacological and pre- post operative care aspects, □ Cardio pulmonary resuscitation. □ End of life Care □ Infection prevention (including HIV) and standard safety measures, bio-medical waste management. □ Role of nurse- Evidence based nursing practice; Best practices □ Innovations in nursing
VI	20	Philosophy and Theories of Nursing □ Values, Conceptual models, approaches. □ Nursing theories: Nightingale's, Henderson's, Roger's, Peplau's, Abdella's, Lewine's, Orem's, Johnson's, King's, Neuman's, Roy's, Watson's, etc and their applications, □ Health belief models, communication and management, etc □ Concept of Self health. □ Evidence based practice model.
VIII	10	Nursing process approach □ Health Assessment- illness status of patients/clients (Individuals, family, community), Identification of health-illness problems, health behaviors, signs and symptoms of clients. □ Methods of collection, analysis and utilization of data relevant to nursing process. □ Formulation of nursing care plans, health goals, implementation, modification and evaluation of care.
IX	30	Psychological aspects and Human relations □ Human behavior, Life processes & growth and development, personality development, defense mechanisms, □ Communication, interpersonal relationships, individual and group, group dynamics, and organizational behavior, □ Basic human needs, Growth and development, (Conception through preschool, School age through adolescence, Young & middle adult, and Older adult) □ Sexuality and sexual health. □ Stress and adaptation, crisis and its intervention, □ Coping with loss, death and grieving, □ Principles and techniques of Counseling.

Unit	Hours	Content
X	10	Nursing practice □ Framework, scope and trends. □ Alternative modalities of care, alternative systems of health and complimentary therapies. □ Extended and expanded role of the nurse, in promotive, preventive, curative and restorative health care delivery system in community and institutions. □ Health promotion and primary health care. □ Independent practice issues,- Independent nurse-midwifery practitioner. □ Collaboration issues and models-within and outside nursing. □ Models of Prevention, □ Family nursing, Home nursing, □ Gender sensitive issues and women empowerment. □ Disaster nursing. □ Geriatric considerations in nursing. □ Evidence based nursing practice- Best practices □ Trans-cultural nursing.
XI	25	Computer applications for patient care delivery system and nursing practice □ Use of computers in teaching, learning, research and nursing practice. □ Windows, MS office: Word, Excel, Power Point, □ Internet, literature search, □ Statistical packages, □ Hospital management information system: softwares.

Practical

Clinical posting in the following areas:

- Specialty area- in-patient unit - 2 weeks
- Community health center/PHC - 2 weeks
- Emergency/ICU - 2 weeks

Activities

- Prepare Case studies with nursing process approach and theoretical basis
- Presentation of comparative picture of theories
- Family case- work using model of prevention
- Annotated bibliography
- Report of field visits (5)

Methods of Teaching

- Lecture cum discussion
- Seminar
- Panel discussion
- Debate
- Case Presentations
- Exposure to scientific conferences
- Field visits

Methods of evaluation :

- Tests
- Presentation
- Seminar
- Written assignments

Advance nursing Procedures

Definition, Indication and nursing implications;

- CPR, TPN, Hemodynamic monitoring, Endotracheal intubation, Tracheostoma, mechanical ventilation, Pacemaker, Hemodialysis, Peritoneal dialysis, LP, BT Pleural and abdominal paracentesis OT techniques, Health assessment, Triage, Pulse oxymetry

Internal Assessment

Techniques	Weightage
Test- (2 tests)	50
Assignment	25
Seminar/presentation	25

	100

CLINICAL SPECIALITY-I

OBSTETRIC AND GYNAECOLOGICAL NURSING

Placement : 1st year

Hours of Instruction
Theory : 150 Hours.
Practical : 650 Hours. Total
: 800 Hours.

Course Description

This course is designed to assist students in developing expertise and in- depth understanding in the field of Obstetric and Gynaecological Nursing. It will help students to appreciate the client as a holistic individual and develop skill to function as an independent midwifery practitioner. It will further enable the student to function as educator, manager, and researcher in the field of Obstetric and Gynaecological nursing

Objectives

At the end of the course the students will be able to:

1. Appreciate the trends in the field of midwifery, obstetrics and gynaecology as a speciality.
2. Describe the population dynamics and indicators of maternal and child health
3. Describe the concepts of biophysical, psychological and spiritual aspects of normal pregnancy, labor and puerperium.
4. Provide comprehensive nursing care to women during reproductive period and newborns.
5. Integrate the concepts of family centered nursing care and nursing process approach in obstetric and gynaecological nursing.
6. Identify and analyze the deviations from normal birth process and refer appropriately.
7. Describe the pharmacological agents, their effects during pregnancy, child birth, puerperium, lactation and the role of nurse
8. Counsel adolescents, women and families on issues pertaining to pregnancy, child birth and lactation
9. Describe the role of various types of complementary and alternative therapies in obstetric and gynaecological nursing.
10. Incorporate evidence based nursing practice and identify the areas of research in the field of obstetric and gynaecological nursing.
11. Describe the recent advancement in contraceptive technology and birth control measures
12. Appreciate the legal and ethical issues pertaining to obstetric and gynaecological nursing

Course Content

Units	Hours	Content
I	10	Introduction □ Historical and contemporary perspectives □ Epidemiological aspects of maternal and child health □ Magnitude of maternal and child health problems □ Issues of maternal and child health : Age, Gender, Sexuality, psycho Socio cultural factors □ Preventive obstetrics □ National health and family welfare programmes related to maternal and child health: health care delivery system- National Rural health mission, Role of NGO's □ Theories, models and approaches applied to midwifery practice □ Role and scope of midwifery practice: Independent Nurse midwifery practitioner □ Legal and Ethical issues: Code of ethics and standards of midwifery practice, standing orders □ Evidence based midwifery practice □ Research priorities in obstetric and gynaecological nursing.
II	15	Human reproduction □ Review of anatomy and physiology of human reproductive system: male and female □ Hormonal cycles □ Embryology □ Genetics, teratology and counseling □ Clinical implications
III	25	Pregnancy □ Maternal adaptation : Physiological, psychosocial • Assessment – Maternal and foetal measures Maternal measures:History taking , examination-General,physical and obstetrical measure, identification of high risk, • Foetal measure- clinical parameters, biochemical- human estriol, Maternal Serum Alfa Feto Protein, Acetyl Choline esterase (AchE), Triple Test Aminocentesis, Cordocentesis, chorionic villus sampling (CVS)), • Biophysical- (US IMAGING, Foetal movement count, Ultra Sonography, Cardiotocography, cardiotomography, Non Stress Test(NST), Contraction stress test(CST), amnioscopy, foetoscopy, • Radiological examination, □ Interpretation of diagnostic tests and nursing implications □ Nursing management of the pregnant women, minor disorders of pregnancy and management, preparation for child birth and parenthood, importance of institutional delivery , choice of birth setting, importance and mobilizing of transportation, prenatal counseling, role of nurse and crisis intervention, identification of high risk pregnancy and refer □ Alternative/complementary therapies

Units	Hours	Content
IV	25	Normal Labour and nursing management: □ Essential factors of labour □ Stages and onset First stage: Physiology of normal labour • Use of partograph: Principles, use and critical analysis, evidence based studies • Analgesia and anaesthesia in labour • Nursing management Second stage • Physiology , intrapartum monitoring • Nursing management. • Resuscitation , immediate newborn care and initiate breast feeding (Guidelines of National neonatology forum of India) Third stage • Physiology and nursing management Fourth stage – Observation, critical analysis and Nursing management. • Various child birth practice: water birth, position change etc • Evidence based practice in relation to labour intervention Role of nurse midwifery practitioner • Alternative/complementary therapies
V	20	Normal puerperium and nursing management □ Physiology of puerperium □ Physiology of lactation, lactation management, exclusive breast feeding ,Baby friendly hospital initiative(BFHI) □ Assessment of postnatal women . □ Minor discomforts and complications of puerperium □ Management of mothers during puerperium: Postnatal exercises Rooming in, bonding, warm chain □ Evidence based studies Role of nurse midwifery practitioner • Alternative/complementary therapies
VI	20	Normal Newborn □ Physiology and characteristics of normal newborn □ Physical and Behavioural assessment of newborn □ Needs of newborn □ Essential newborn care: Exclusive breast feeding, Immunization, Hygiene measures, Newborn nutrition □ Organization of neonatal care, services(Levels), transport, neonatal intensive care unit, organization and management of nursing services in NICU □ Observation and care of newborn □ Parenting process

Units	Hours	Content
VII	10	Pharmaco dynamics in obstetrics □ Drugs used in pregnancy, labour, post partum and newborn □ Calculation of drug dose and administration □ Effects of drugs used □ Anaesthesia and analgesia in obstetrics □ Roles and responsibilities of midwifery nurse practitioner □ Standing orders and protocols and use of selected life saving drugs and interventions of obstetric emergencies approved by the MOHFW
VIII	10	Family welfare services □ Population dynamics □ Demography trends: vital statistics, calculation of indicators especially maternal and neonatal mortality rates and problems and other health problems □ Recent advancement in contraceptive technology □ Role of nurses in family welfare programmes in all settings □ Role of independent nurse midwifery practitioner □ Family life education □ Evidence based studies □ Information, Education and Communication(IEC) □ Management information and evaluation system(MIES) □ Teaching and supervision of health team members
IX	5	Infertility □ Primary and secondary causes □ Diagnostic procedures □ Counseling: ethical and legal aspects of assisted reproductive technology(ART) □ Recent advancement in infertility management. □ Adoption procedures Role of nurses in infertility management.
X	5	Menopause □ Physiological, psychological and social aspects □ Hormone Replacement Therapy □ Surgical menopause □ Counseling and guidance Role of midwifery nurse practitioner
XI	5	Abortion □ Types, causes □ Legislations, Clinical rights and professional responsibility □ Abortion procedures □ Complications □ Nursing management Role of midwifery nurse practitioner

Practical

Total = 660 Hours
1 week = 30 Hours

S.No.	Deptt./Unit	No. of Week	Total Hours
1	Anetenatal Wards & OPDs	4	120
2	Labour Room	5	150
3	Postnatal Ward	2	60
4	Family Planning Clinics	2	60
5	PHC/Rural maternity settings	4	120
6	Gynae	2	60
7	Maternity OT	2	60
8	NICU	1	30
	Total	22 Weeks	660Hours

Procedures observed

- Diagnostic investigations : amniotcentecis, chordocentecis, chorionic villi sampling
- Infertility management: artificial reproduction : artificial insemination, invitro fertilization, and related procedures

Procedures assisted

- Medical termination of pregnancy,

Procedures performed

- Antenatal assessment-20
- Postnatal assessment-20
- Assessment during labour : use of partograph - 20
- Per vaginal examination-20
- Conduct of normal delivery-20
- Episiotomy and suturing-10
- Setting up of delivery areas
- Insertion of intra uterine devices(copper T)

Others

- Identification of high risk women and referral
- Health education: to women and their families
- Motivation of couples for planned parenthood

NURSING RESEARCH AND STATISTICS

Placement: 1st Year

Hours of Instruction
Theory 150 Hours
Practical 100 Hours
Total : 250 Hours

Part-A : Nursing Research

Theory 100 Hours
Practical 50 Hours
Total : 150 Hours

Course Description:

The course is designed to assist the students to acquire an understanding of the research methodology and statistical methods as a basis for identifying research problem, planning and implementing a research plan. It will further enable the students to evaluate research studies and utilize research findings to improve quality of nursing practice, education and management.

General Objectives:

At the end of the course, the students will be able to:

1. Define basic research terms and concepts.
2. Review literature utilizing various sources
3. Describe research methodology
4. Develop a research proposal.
5. Conduct a research study.
6. Communicate research findings
7. Utilize research findings
8. Critically evaluate nursing research studies.
9. Write scientific paper for publication.

Content Outline

Unit	Hours		Course Content
	Theory	Practical	
I	10		Introduction: □ Methods of acquiring knowledge – problem solving and scientific method. □ Research – Definition, characteristics, purposes, kinds of research □ Historical Evolution of research in nursing □ Basic research terms □ Scope of nursing research: areas, problems in nursing, health and social research □ Concept of evidence based practice □ Ethics in research □ Overview of Research process
II	5	5	Review of Literature □ Importance, purposes, sources, criteria for selection of resources and steps in reviewing literature.
III	12		Research Approaches and designs □ Type: Quantitative and Qualitative □ Historical, survey and experimental –Characteristics, types advantages and disadvantages □ Qualitative: Phenomenology, grounded theory, ethnography
IV	10	5	Research problem: □ Identification of research problem □ Formulation of problem statement and research objectives □ Definition of terms □ Assumptions and delimitations □ Identification of variables □ Hypothesis – definition, formulation and types.
V	5	5	Developing theoretical/conceptual framework. □ Theories: Nature, characteristics, Purpose and uses □ Using, testing and developing conceptual framework, models and theories.
VI	6		Sampling □ Population and sample □ Factors influencing sampling □ Sampling techniques □ Sample size □ Probability and sampling error □ Problems of sampling

Unit	Hours		Course Content
	Theory	Practical	
VII	20	10	Tools and methods of Data collection: □ Concepts of data collection □ Data sources, methods/techniques quantitative and qualitative. □ Tools for data collection – types, characteristics and their development □ Validity and reliability of tools □ Procedure for data collection
VIII	5		Implementing research plan □ Pilot Study, review research plan (design)., planning for data collection, administration of tool/interventions, collection of data
IX	10	10	Analysis and interpretation of data □ Plan for data analysis: quantitative and qualitative □ Preparing data for computer analysis and presentation. □ Statistical analysis □ Interpretation of data □ Conclusion and generalizations □ Summary and discussion
X	10		Reporting and utilizing research findings: □ Communication of research results; oral and written □ Writing research report purposes, methods and style- vancouver, American Psychological Association(APA), Campbell etc □ Writing scientific articles for publication: purposes & style
XI	3	8	Critical analysis of research reports and articles
XII	4	7	Developing and presenting a research proposal

Activities:

- Annotated Bibliography of research reports and articles.
- Review of literature of selected topic and reporting
- Formulation of problem statement, objective and hypothesis
- Developing theoretical/conceptual framework.
- Preparation of a sample research tool
- Analysis and interpretation of given data
- Developing and presenting research proposal
- Journal club presentation
- Critical evaluation of selected research studies
- Writing a scientific paper.

Method of Teaching

- Lecture-cum-discussion
- Seminar/Presentations
- Project
- Class room exercises
- Journal club

Methods of Evaluation

- Quiz, Tests (Term)
- Assignments/Term paper
- Presentations
- Project work

Internal Assessment

Techniques	Weightage (15marks)
Term Test(2 tests)	40%
Assignment	20%
Presentation	20%
Project work	20%
Total	100%

Part –B : Statistics

Hours of Instruction
Theory 50 Hours
Practical 50 Hours Total
: 100 Hours

Course Description

At the end of the course, the students will be able to develop an understanding of the statistical methods and apply them in conducting research studies in nursing.

General Objectives

At the end of the course the students will be able to:

1. Explain the basic concepts related to statistics
2. Describe the scope of statistics in health and nursing
3. Organize, tabulate and present data meaningfully.
4. Use descriptive and inferential statistics to predict results.
5. Draw conclusions of the study and predict statistical significance of the results.
6. Describe vital health statistics and their use in health related research.
7. Use statistical packages for data analysis

Unit	Hours		Course Content
	Theory	Practical	
I	7	4	Introduction: □ Concepts, types, significance and scope of statistics, meaning of data, □ sample, parameter □ type and levels of data and their measurement □ Organization and presentation of data – Tabulation of data; □ Frequency distribution □ Graphical and tabular presentations.
II	4	4	Measures of central tendency: □ Mean, Median, Mode
III	4	5	Measures of variability; □ Range, Percentiles, average deviation, quartile deviation, standard deviation
IV	3	2	Normal Distribution: □ Probability, characteristics and application of normal probability curve; sampling error.
Unit	Hours		Course Content

	Theory	Practical	
V	6	8	Measures of relationship: ☐ Correlation – need and meaning ☐ Rank order correlation; ☐ Scatter diagram method ☐ Product moment correlation ☐ Simple linear regression analysis and prediction.
VI	5	2	Designs and meaning: ☐ Experimental designs ☐ Comparison in pairs, randomized block design, Latin squares.
VII	8	10	Significance of Statistic and Significance of difference between two Statistics (Testing hypothesis) ☐ Non parametric test – Chi-square test, Sign, median test, Mann Whitney test. ☐ Parametric test – ‘t’ test, ANOVA, MANOVA, ANCOVA
VIII	5	5	Use of statistical methods in psychology and education: ☐ Scaling – Z Score, Z Scaling ☐ Standard Score and T Score ☐ Reliability of test Scores: test-retest method, parallel forms, split half method.
IX	4	2	Application of statistics in health: ☐ Ratios, Rates, Trends ☐ Vital health statistics – Birth and death rates. ☐ Measures related to fertility, morbidity and mortality
X	4	8	Use of Computers for data analysis ☐ Use of statistical package.

Activities

- Exercises on organization and tabulation of data,
- Graphical and tabular presentation of data
- Calculation of descriptive and inferential statistics(chi square, t-test, correlation)
- Practice in using statistical package
- Computing vital health statistics

Methods of Teaching:

- Lecture-cum-discussion
- Demonstration – on data organization, tabulation, calculation of statistics, use of statistical package, Classroom exercises, organization and tabulation of data,

- Computing Descriptive and inferential statistics; vital and health statistics and use of computer for data entry and analysis using statistical package.

Methods of Evaluation

- Test, Classroom statistical exercises.

Internal Assessment

Techniques

Weightage 10 marks

Test – (2 tests)

100%

NURSING MANAGEMENT

Placement : II Year

Hours of Instruction
Theory 150 Hours
Practical 150 Hours
Total : 300 Hours

Course Description

This course is designed to assist students to develop a broad understanding of Principles, concepts, trends and issues related to nursing management. Further, it would provide opportunity to students to understand, appreciate and acquire skills in planning, supervision and management of nursing services at different levels to provide quality nursing services.

Objectives

At the end of the course, students will be able to:

1. Describe the philosophy and objectives of the health care institutions at various levels.
2. Identify trends and issues in nursing
3. Discuss the public administration, health care administration vis a vis nursing administration
4. Describe the principles of administration applied to nursing
5. Explain the organization of health and nursing services at the various levels/institutions.
6. Collaborate and co-ordinate with various agencies by using multi-sectoral approach
7. Discuss the planning, supervision and management of nursing workforce for various health care settings.
8. Discuss various collaborative models between nursing education and nursing service to improve the quality of nursing care
9. Identify and analyse legal and ethical issues in nursing administration
10. Describe the process of quality assurance in nursing services.
11. Demonstrate leadership in nursing at various levels

Course Content

Unit	Hours	Content
I	10	Introduction □ Philosophy, purpose, elements, principles and scope of administration □ Indian Constitution, Indian Administrative system vis a vis health care delivery system: National, State and Local □ Organisation and functions of nursing services and education at National, State , District and institutions: Hospital and Community □ Planning process: Five year plans, Various Committee Reports on health, State and National Health policies, national population policy, national policy on AYUSH and plans,
II	10	Management □ Functions of administration □ Planning and control □ Co-ordination and delegation □ Decision making – decentralization basic goals of decentralization. □ Concept of management Nursing management □ Concept, types, principles and techniques □ Vision and Mission Statements □ Philosophy, aims and objective □ Current trends and issues in Nursing Administration □ Theories and models Application to nursing service and education
III	15	Planning □ Planning process: Concept, Principles, Institutional policies □ Mission, philosophy, objectives, □ Strategic planning □ Operational plans □ Management plans □ Programme evaluation and review technique(PERT), Gantt chart, Management by objectives(MBO) □ Planning new venture □ Planning for change □ Innovations in nursing Application to nursing service and education
IV	15	Organisation □ Concept , principles, objectives, Types and theories, Minimum requirements for organisation, Developing an organizational Structure, levels, organizational Effectiveness and organizational Climate, □ Organising nursing services and patient care: Methods of patient assignment- Advantages and disadvantages, primary nursing care, □ Planning and Organising: hospital, unit and ancillary services(specifically central sterile supply department, laundry, kitchen, laboratory services, emergency etc)

Unit	Hours	Content
		□ Disaster management: plan, resources, drill, etc Application to nursing service and education
V	15	Human Resource for health □ Staffing • Philosophy • Norms: Staff inspection unit(SIU), Bajaj Committee, High power committee, Indian nursing council (INC) • Estimation of nursing staff requirement- activity analysis • Various research studies □ Recruitment: credentialing, selection, placement, promotion □ Retention □ Personnel policies □ Termination □ Staff development programme □ Duties and responsibilities of various category of nursing personnel Applications to nursing service and education
VI	15	Directing □ Roles and functions □ Motivation: Intrinsic, extrinsic, Creating motivating climate, Motivational theories □ Communication : process, types, strategies, Interpersonal communication, channels, barriers, problems, Confidentiality, Public relations □ Delegation; common delegation errors □ Managing conflict: process, management, negotiation, consensus □ Collective bargaining: health care labour laws, unions, professional associations, role of nurse manager □ Occupational health and safety Application to nursing service and education
VII	10	Material management □ Concepts, principles and procedures □ Planning and procurement procedures : Specifications □ ABC analysis, □ VED (very important and essential daily use) analysis □ Planning equipments and supplies for nursing care: unit and hospital □ Inventory control □ Condemnation Application to nursing service and education
VIII	15	Controlling □ Quality assurance – Continuous Quality Improvement • Standards • Models • Nursing audit

Unit	Hours	Content
		□ Performance appraisal: Tools, confidential reports, formats, Management, interviews □ Supervision and management: concepts and principles □ Discipline: service rules, self discipline, constructive versus destructive discipline, problem employees, disciplinary proceedings- enquiry etc □ Self evaluation or peer evaluation, patient satisfaction, utilization review Application to nursing service and education
IX	15	Fiscal planning □ Steps □ Plan and non-plan, zero budgeting, mid-term appraisal, capital and revenue □ Budget estimate, revised estimate, performance budget □ Audit □ Cost effectiveness □ Cost accounting □ Critical pathways □ Health care reforms □ Health economics □ Health insurance □ Budgeting for various units and levels Application to nursing service and education
X	10	Nursing informatics □ Trends □ General purpose □ Use of computers in hospital and community □ Patient record system □ Nursing records and reports □ Management information and evaluation system (MIES) □ E- nursing, Telemedicine, telenursing □ Electronic medical records
XI	10	Leadership □ Concepts, Types, Theories □ Styles □ Manager behaviour □ Leader behaviour □ Effective leader: Characteristics, skills □ Group dynamics □ Power and politics □ lobbying □ Critical thinking and decision making □ Stress management Applications to nursing service and education

Unit	Hours	Content
XII	10	Legal and ethical issues Laws and ethics □ Ethical committee □ Code of ethics and professional conduct □ Legal system: Types of law, tort law, and liabilities □ Legal issues in nursing: negligence, malpractice, invasion of privacy, defamation of character □ Patient care issues, management issues, employment issues □ Medico legal issues □ Nursing regulatory mechanisms: licensure, renewal, accreditation □ Patients rights, Consumer protection act(CPA) □ Rights of special groups: children, women, HIV, handicap, ageing □ Professional responsibility and accountability □ Infection control □ Standard safety measures

PRACTICALS

1. Prepare prototype personal files for staff nurses, faculty and cumulative records
2. Preparation of budget estimate, Revised estimate and performance budget
3. Plan and conduct staff development programme
4. Preparation of Organisation Chart
5. Developing nursing standards/protocols for various units
6. Design a layout plan for speciality units /hospital, community and educational institutions
7. Preparation of job description of various categories of nursing personnel
8. Prepare a list of equipments and supplies for speciality units
9. Assess and prepare staffing requirement for hospitals, community and educational institutions
10. Plan of action for recruitment process
11. Prepare a vision and mission statement for hospital, community and educational institutions
12. Prepare a plan of action for performance appraisal
13. Identify the problems of the speciality units and develop plan of action by using problem solving approach
14. Plan a duty roster for speciality units/hospital, community and educational institutions
15. Prepare: anecdotes, incident reports, day and night reports, handing and taking over reports, enquiry reports, nurses notes, Official letters, curriculum vitae, presentations etc
16. Prepare a plan for disaster management
17. Group work
18. Field appraisal report

CLINICAL SPECIALITY – II

OBSTETRIC AND GYNAECOLOGICAL NURSING

Placement - II Year

Hours of Instruction	
Theory:	150 hrs
Practical	950 hrs
Total	1100 hrs

Course Description

This course is designed to assist the student in developing expertise and in- depth understanding in the field of Obstetric and gynecological Nursing .It will help the student to develop advanced nursing skills for nursing interventions in various obstetrical and gynecological conditions. It will further enable the students to function as midwifery nurse practitioner/ specialist, educator, manager and researcher in the field of obstetric and gynecological nursing.

Objectives

At the end of the course, the student will be able to:

1. Describe the epidemiology, etiology, pathophysiology and diagnostic assessment of women with obstetric and gynaecological conditions
2. Perform physical, psychosocial, cultural & spiritual assessment
3. Demonstrate competence in caring for women with obstetrical and gynaecological conditions
4. Demonstrate competence in caring for high risk newborn.
5. Identify and Manage obstetrical and neonatal emergencies as per protocol.
6. Practice infection control measures
7. Utilize recent technology and various diagnostic, therapeutic modalities in the management of obstetrical , gynecological and neonatal care.
8. Demonstrate skill in handling various equipments/gadgets used for obstetrical, gynaecological and neonatal care
9. Teach and supervise nurses and allied health workers.
10. Design a layout of speciality units of obstetrics and gynecology
11. Develop standards for obstetrical and gynaecological nursing practice.
12. Counsel women and families
13. Incorporate evidence based nursing practice and identify the areas of research in the field of obstetrical and gynaecological nursing
14. Function as independent midwifery nurse practitioner

Contents Outline

Unit	Hours	Content
I	25	Management of problems of women during pregnancy □ Risk approach of obstetrical nursing care , concept & goals. □ Screening of high-risk pregnancy, newer modalities of diagnosis. □ Nursing Management of Pregnancies at risk-due to obstetrical complication • Pernicious Vomiting. • Bleeding in early pregnancy, abortion, ectopic pregnancy, and gestational trophoblastic diseases. • Hemorrhage during late pregnancy, ante partum hemorrhage, Placenta praevia, abruptio placenta. • Hypertensive disorders in pregnancy, pre-eclampsia, eclampsia, Hemolysis Elevated liver enzyme Low Platelet count (HELLP) • Iso-immune diseases. Rh and ABO incompatibility • Hematological problems in pregnancy. • Hydramnios-oligohydramnios • Prolonged pregnancy- post term, post maturity. • Multiple pregnancies. • Intra uterine infection & pain during pregnancy. • Intra Uterine Growth Retardation(IUGR), Premature Rupture of Membrane(PROM), intra uterine death
II	15	Pregnancies at risk-due to pre-existing health problems □ Metabolic conditions. □ Anemia and nutritional deficiencies □ Hepatitis □ Cardio-vascular disease. □ Thyroid diseases. □ Epilepsy. □ Essential hypertension □ Chronic renal failure. □ Tropical diseases. □ Psychiatric disorders □ Infections Toxoplasmosis Rubella Cytomegalo virus Herpes (TORCH); Reproductive Tract Infection(RTI);STD; HIV/AIDS, Vaginal infections; Leprosy, Tuberculosis □ Other risk factors: Age- Adolescents, elderly; unwed mothers, sexual abuse, substance use □ Pregnancies complicating with tumors, uterine anomalies, prolapse, ovarian cyst
III	15	Abnormal labour, pre-term labour & obstetrical emergencies □ Etiology, pathophysiology and nursing management of • Uncoordinated uterine actions, Atony of uterus, precipitate labour, prolonged labour. • Abnormal lie, presentation, position compound presentation.

		• Contracted pelvis-CPD; dystocia. • Obstetrical emergencies Obstetrical shock, vasa praevia, inversion of uterus, amniotic fluid embolism, rupture uterus, presentation and prolapse cord. • Augmentation of labour. Medical and surgical induction. • Version • Manual removal of placenta. • Obstetrical operation: Forceps delivery, Ventouse, Caesarian section, Destructive operations • Genital tract injuries-Third degree perineal tear, VVF, RVF □ Complications of third stage of labour: • Post partum Hemorrhage. • Retained placenta.
IV	10	post partum complications □ Nursing management of • Puerperal infections, puerperal sepsis, urinary complications, puerperal venous thrombosis and pulmonary embolism • Sub involution of uterus, Breast conditions, Thrombophlebitis • Psychological complications, post partum blues, depression, psychosis
V	25	High Risk Newborn □ Concept, goals, assessment, principles. □ Nursing management of • Pre-term, small for gestational age, post-mature infant, and baby of diabetic and substance use mothers. • Respiratory conditions, Asphyxia neonatorum, neonatal apnoea meconium aspiration syndrome, pneumo thorax, pneumo mediastinum • Icterus neonatorum. • Birth injuries. • Hypoxic ischaemic encephelopathy • Congenital anomalies. • Neonatal seizures. • Neonatal hypocalcaemia, hypoglycemia, hypomagnesaemia. • Neonatal heart diseases. • Neonatal hemolytic diseases • Neonatal infections, neonatal sepsis, opthalmia neonatorum, congenital syphilis, HIV/AIDS • Advanced neonatal procedures. • Calculation of fluid requirements. • Hematological conditions – erythroblastosis fetalis, hemorrhagic disorder in the newborn • Organization of neonatal care, services(Levels), transport, neonatal intensive care unit, organization and management of nursing services in NICU

VI	15	HIV/AIDS □ HIV positive mother and her baby □ Epidemiology □ Screening □ Parent to child transmission(PTCT) □ Prophylaxis for mother and baby □ Standard safety measures □ Counseling □ Breast feeding issues □ National policies and guidelines □ Issues: Legal,ethical, Psychosocial and rehabilitation Role of nurse
VII	25	Gynecological problems and nursing management □ Gynecological assessment □ Gynecological procedures □ Etiology, pathophysiology, diagnosis and nursing management of • Menstrual irregularities • Diseases of genital tract • Genital tract infections • Uterine displacement • Genital prolapse • Genital injuries • Uterine malformation • Uterine fibroid, ovarian tumors, Breast carcinoma, Pelvic inflammatory diseases, reproductive tract malignancies, hysterectomy – vaginal and abdominal. • Sexual abuse, rape, trauma , assault
VIII	5	Administration and management of obstetrical and gynaecological unit □ Design & layout □ Staffing, □ Equipment, supplies, □ Infection control; Standard safety measures □ Quality Assurance:-Obstetric auditing –records /reports, Norms, policies and protocols □ Practice standards for obstetrical and gynaecological unit
IX	5	Education and training in obstetrical and gynaecological care □ Staff orientation, training and development, □ In-service education program, □ Clinical teaching programs.

Practicals

Total = 960 Hours
1 Week = 30 Hours

S.No.	Deptt./ Unit	No. of Week	Total Hours
1	Antenatal OPD including Infertility clinics/Reproductive medicine, Family welfare and post partum clinic / PTCT	6	180 Hours
2	Antenatal and Postnatal ward	6	180 Hours
3	Labour room	4	120 Hours
4	Neonatal Intensive Care Unit	3	90 Hours
5	Obstetric/Gynae Operation Theatre	3	90 Hours
6	Gynae Ward	4	120 Hours
7	CHC, PHC, SC	6	180 Hours
	Total	32 Weeks	960 Hours

Essential Obstetrical And Gynecological Skills

Procedure Observed

- Assisted Reproductive Technology procedures
- Ultra sonography
- Specific laboratory tests.
- Amniocentesis.
- Cervical & vaginal cytology.
- Fetoscopy.
- Hysteroscopy.
- MRI.
- Surgical diathermy.
- Cryosurgery.

Procedures Assisted

- Operative delivery
- Abnormal deliveries-Forceps application, Ventouse, Breech
- Exchange blood transfusion
- Culdoscopy.
- Cystoscopy
- Tuboscopy
- Laparoscopy.
- Endometrial Biopsy
- Tubal patent test
- Chemotherapy
- Radiation therapy
- Medical Termination of Pregnancy.
- Dilatation and Curettage

Procedures Performed

- History taking.
- Physical Examination-General
- Antenatal assessment. – 20
- Pelvic examination
- Assessment of risk status.
- Assessment of Intra uterine foetal well-being.kick chart and foetal movement chart, Doppler assessment, Non Stress Test, Contraction stress test(Oxytocin challenge test)
- Universal precautions- Disposal of biomedical waste.
- Per Vaginal examination and interpretation (early pregnancy, labour, post partum).
- Utilization of Partograph
- Medical & Surgical induction(Artificial rupture of membranes).
- Vacuum extraction
- Conduct of delivery.
- Prescription and administration of fluids and electrolytes through intravenous route.
- Application of outlet forceps, delivery of breach – Burns Marshall, Loveset manoeuvre
- Repair of tears and Episiotomy suturing.
- Vacuum extraction
- controlled cord traction, Manual removal of placenta, placental examination,
- Manual vacuum aspiration
- Postnatal assessment.- 20
- Management of breast engorgement
- Thrombophlebitis (white leg)
- Postnatal counseling.
- Reposition of inversion of uterus.
- Laboratory tests: Blood- Hb, Sugar, Urine-albumin,sugar
- Breast care, breast exam, and drainage breast abscess.
- Postnatal exercise.
- Assessment –New born assessment; physical and neurological, Apgar score, high-risk newborn, Monitoring neonates; Clinically and With monitors, Capillary refill time, Assessment of jaundice, danger signs
- Anthropometric measurement
- Neonatal resuscitation
- Gastric Lavage
- Care of newborn in multi channel monitor and ventilator.
- Care of newborn in radiant warmer and incubator.
- Kangaroo mother care.
- Assisting mother with exclusive Breast-feeding
- Feeding technique: Katori, spoon, naso/orogastric, Total Parenteral nutrition
- Assesment, calculation and administration of fluids and medications:
 - Oral
 - I.D.
 - I.M.
 - I.V.- Securing IV line, infusion pump

- Administration of drug per rectum
- Capillary blood sample collection.
- Oxygen therapy.
- Phototherapy.
- Chest physiotherapy.
- counseling – Parental, bereavment, family planning, infertility etc
- Setting of operation theatre.
- Trolley and table set up for Obstetrical & gynaecological operations.
- Pap smear.
- Vaginal smear.
- Insertion of pessaries,
- Insertion of IUD and removal.
- Teaching skills
- communication skills
- Prepare referral slips
- Pre transport stabilization
- Networking with other stake holders

**STAFFING PATTERN RELAXED TILL
2012**

Qualifications & Experience Of Teachers Of College Of Nursing

Sr. No.	Post, Qualification & Experience
1	Professor-cum-Principal - Masters Degree in Nursing - 10 years of experience and minimum of 5 years of teaching experience <i><u>Desirable :</u> Independent published work of high standard / doctorate degree / M.Phil.</i>
2	Professor-cum-Vice Principal - Masters Degree in Nursing - 10 years of experience and minimum of 5 years of teaching experience <i><u>Desirable :</u> Independent published work of high standard / doctorate degree / M.Phil.</i>
3	Reader / Associate Professor - Master Degree in Nursing. - 7 years of experience and minimum of 3 years teaching experience <i><u>Desirable :</u></i> Independent published work of high standard /doctorate degree / M.Phil.
4	Assistant Professor /Lecturer - Master Degree in Nursing. - 3 years experience

Pay scales- as per UGC scales



SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION AND RESEARCH

(A Deemed to be University declared under Section 3 of UGC Act 1956)

Comprising Sri Devaraj Urs Medical College

[Constituent unit of Sri Devaraj Urs Educational Trust for Backward Classes (Regd.)]

TAMAKA, KOLAR-563 103, KARNATAKA, INDIA

Ph: 918152-243003, +91 9448395232, Fax : +918152 - 243008 E-mail - registrar@sduaher.ac.in / office@sduaher.ac.in. Website: www.sduaher.ac.in

No. SDUAHER/KLR/ADMN/ 3186 /2024-25

30.09.2024

REVISED NOTIFICATION

Ref:1 INC Notification No: 1-6/LT/2024-INC, dated: 20-09-2024

2 Approval of the Hon'able Vice Chancellor, dated:30-09-2024

In continuation of this office notification dated 29-07-2024, the Calendar of events for Admission of **M.Sc (N)** Program for the academic year **2024-25** is hereby notified as follows:

SL.NO	DESCRIPTION OF EVENTS	SCHEDULE
PART-I		
01	Last date of admission	30 th October 2024
02	Commencement of academic session	18 th September 2024
03	Online submission of list of students to the Registrar SDUAHER	5 th November 2024
04	Getting admission registered certified by the Registrar SDUAHER	15 th November 2024 Before 3.30pm
05	Last date for admission approval statement	30 November 2024
06	Submission of I A marks	17 th July 2025
07	Examination	2 nd week of August 2025
08	Declaration of results	On or before 4 st week of August 2025
SUBMISSION OF SYNOPSIS AND DESSERTATION		
09	Last date for submission of synopsis to SDUAHER	20 th January 2025
10	Last date for submission of Dissertation to SDUAHER	20 th June 2026
11	Last date for submission of Dissertation to SDUAHER with fine	30 th June 2026

Registrar

Copy to:

1. P.A to Vice Chancellor, SDUAHER
2. The Finance Officer, SDUAHER
3. The Controller of Examinations, SDUAHER
4. The Principal, Sri Devaraj Urs College of Nursing, Tamaka, Kolar
5. Office Copy

Sri Devaraj Urs Academy of Higher
Education and Research
Tamaka, Kolar - 563 103.

Sri Devaraj Urs Academy of Higher Education and Research

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Ph.918152-243003,+91 9448395232,[E-mail -registrar@sduaher.ac.in/office@sduaher.ac.in](mailto:registrar@sduaher.ac.in) Website: www.sduaher.ac.in

(With effect from 2024-2025 batches)

M.Sc. Nursing Course Regulations and Curriculum for Psychiatric Nursing



**SRI DEVARAJ URS ACADEMY OF HIGHER
EDUCATION AND RESEARCH**

Constituent Unit, Sri Devaraj Urs College of Nursing

A Deemed To Be University

Declared under section 3 of UGC Act 1956

MHRD GOI NO.F, 9-36/2006-U.3 (A), Dt.25th may 2007

Post box No.62, TAMAKA, KOLAR-563103, KARNAKATAKA, INDIA

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Website: www.sduaher.ac.in Email -[registrar@sduaher.ac.in/office@sduaher.ac.in](mailto:registrar@sduaher.ac.in)

CONTENT

S. No.	Content
1	Philosophy
2	Aim
3	Objectives
4	Other Staff (Maximum Requirement)
5	Eligibility Criteria/Admission Requirements
6	Regulations for Examination
7	Guidelines for Dissertation
8	Duration
9	Scheme of Examination
	First Year
10	Nursing Education
11	Advance Nursing Practice
12	<i>Clinical Specialty – I</i>
	- Mental Health (Psychiatric) Nursing
13	Nursing Research & Statistics
	Second Year
14	Nursing Management
15	<i>Clinical Specialty –II</i>
	- Psychiatric (Mental Health) Nursing
16	Annexure – I (Staffing Pattern Relaxed till 2012)



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NOTIFICATION

Sub: Approved of M.Sc (N) curriculum under the faculty of nursing

Ref: 1) INC notification file No: 1-6/LT/2023-INC, Dated: 26-12-2023

2) Proceedings of 46th Academic council meeting, Dated: 26-02-2024

3) Proceedings of 77th Board of Management meeting, Dated: 28-03-2024

4)No.SDUAHER/KLR/ADMN/238/2024-25, Dated: 18-04-2024

Sri Devaraj Urs Academy of Higher Education and Research, Kolar was established in the year 2007 under section 3 of the UGC Act, 1956. Sri Devaraj Urs College of Nursing becomes a constituent unit of SDUAHER from 1st July 2024. The academic council and board of management of SDUAHER approved M.Sc Nursing curriculum from the academic year 2024-25 in conformity with Indian Nursing Council regulations and curriculum for M.Sc (N) programme, Regulations 2006.

(Dr. Muninaraayana C)
Registrar

Philosophy

National Health Policy(NHP) 2002 emphasizes the need to prepare nurses to function in super-speciality areas who are required in tertiary care institutions, entrusting some limited public health functions to nurses after providing adequate training, and increase the ratio of degree holding vis a vis diploma holding nurses.

It is observed that there is an acute shortage of nursing faculty in under graduate and post graduate nursing programme in India

Indian Nursing Council believes that:

Post Graduate programme is essential to prepare nurses to improve the quality of nursing education and practice in India. .

Post graduate programme in nursing builds upon and extends competence acquired at the graduate levels, emphasizes application of relevant theories into nursing practice, education, administration and development of research skills.

The programme prepares nurses for leadership position in nursing and health fields who can function as nurse specialists, consultants, educators, administrators and researchers in a wide variety of professional settings in meeting the National priorities and the changing needs of the society.

This programme provides the basis for the post masteral programme in nursing. Further the programme encourages accountability and commitment to life long learning which fosters improvement of quality care.

Aim

The aim of the postgraduate program in nursing is to prepare graduates to assume responsibilities as nurse specialists, consultants, educators, administrators in a wide variety of professional settings

Objectives

On Completion of the two year M.Sc Nursing programme, the graduate will be able to:-

1. Utilize/apply the concepts, theories and principles of nursing science
2. Demonstrate advance competence in practice of nursing
3. Practice as a nurse specialist.
4. Demonstrate leadership qualities and function effectively as nurse educator and manager.
5. Demonstrate skill in conducting nursing research, interpreting and utilizing the findings from health related research.

6. Demonstrate the ability to plan and effect change in nursing practice and in the health care delivery system.
7. Establish collaborative relationship with members of other disciplines
8. Demonstrate interest in continued learning for personal and professional advancement.

Other Staff (Minimum requirements)

(To be reviewed and revised and rationalized keeping in mind the mechanization and contract service)

- Ministerial
 - a) Administrative Officer 1
 - c) Office Superintendent 1
 - d) PA to Principal 1
 - e) Accountant/Cashier 1
- Upper Division Clerk 2
- Lower Division Clerk 2
- Store Keeper 1
 - a) Maintenance of stores 1
 - b) Classroom attendants 2
 - c) Sanitary staff As per the physical space
 - d) Security Staff As per the requirement
- Peons/Office attendants 4
- Library
 - a) Librarian 2
 - b) Library Attendants As per the requirement
- Hostel
 - a) Wardens 2
 - b) Cooks, Bearers, Sanitary Staff As per the requirement
 - c) Ayas /Peons As per the requirement
 - d) Security Staff As per the requirement
 - e) Gardeners & Dhobi Depends on structural facilities (desirable)

Eligibility Criteria/Admission Requirements:

1. The candidate should be a Registered Nurse and Registered midwife or equivalent with any State Nursing Registration Council.
2. The minimum education requirements shall be the passing of :
B.Sc. Nursing / B.Sc. Hons. Nursing / Post Basic B.Sc. Nursing with minimum of 55% aggregate marks.
3. The candidate should have undergone in B.Sc. Nursing / B.Sc. Hons. Nursing / Post Basic B.Sc. Nursing in an institution which is recognized by Indian Nursing Council.
4. Minimum one year of work experience after Basic B.Sc. Nursing.
5. Minimum one year of work experience prior or after Post Basic B.Sc. Nursing.
6. Candidate shall be medically fit.
7. 5% relaxation of marks for SC/ST candidates may be given.

Entrance/Selection test

Selection of the candidates should be based on the merit of the entrance examination held by University or competent authority.

Regulations for examination:

Eligibility for appearing for the examination:

75% of the attendance for theory and practicals. However 100% of attendance for practical before the award of degree

Classification of results:

- 50% pass in each of the theory and practical separately.
- 50-59% Second division
- 60-74% first division
- 75% and above is distinction
- For declaring the rank aggregate of 2 years marks to be considered

If the candidate fails in either practicals or theory paper he/she has to re - appear for both the papers (theory and practical)

Maximum no. of attempts per subject is three (3) inclusive of first attempt. The maximum period to complete the course successfully should not exceed 4 years

Candidate who fails in any subject, shall be permitted to continue the studies into the second year. However the candidate shall not be allowed to appear for the Second year examination till such time that he/she passes all subjects of the first year M.Sc nursing examination

Practicals

- 4 hours of practical examination per student.
- Maximum number of 10 students per day per speciality.
- The examination should be held in clinical area only for clinical specialities
- One internal and external should jointly conduct practical examination
- Examiner – Nursing faculty teaching respective speciality area in M.Sc nursing programme with minimum 3 years experience after M.Sc nursing.

Dissertation

Evaluation of the dissertation should be done by the examiner prior to viva

Duration: Viva-voce -minimum 30 minutes per student

Guidelines for Dissertation

Tentative Schedule for dissertation

S. No.	Activities	Scheduled Time
1.	Submission of the research proposal	End of 9 th month of 1 st year
2.	Submission of dissertation – Final	End of 9 th month of II nd Year

Note: - Administrative approval and ethical clearance should be obtained

A. Research Guides

a) *Qualification of Guide*

Main guide : Nursing faculty / nursing expert in the same clinical speciality holding Ph.D./M.Phil/M.Sc. Nursing with a minimum of 3 years experience in teaching in the Post Graduate Programme in Nursing.

Co-Guide : A Co-Guide is a nursing faculty/expert in the field of study (may be from outside the college but should be within the city.)

b) *Guide – Students Ratio*

Maximum of 1:4 (including as co-guide)

c) *Research Committee*

There should be a research committee in each college comprising of minimum 5 members chaired by the Principal, College of Nursing.

Duration

Duration of the course is 2 years for M.Sc. (N)

Available	52 weeks
Vacation	4 weeks
Examination	2 weeks
Gazetted holidays	3 weeks
Total weeks available	43 weeks
40 hours per week	1720 hours
Total hours for 2 years	3440 hours

Course of Instruction

	Theory (hrs)	Practical (hrs)
1st year		
Nursing education	150	150
Advance nursing practice	150	200
Nursing Research and statistics	150	100
*Clinical speciality –I	150	650

Total	600	1100
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II nd Year

Nursing Management	150	150
Nursing Research(Dissertation)		300
*Clinical Speciality-II	150	950
Total	300	1400

Educational visit 2 weeks

***Clinical Speciality** – Medical Surgical Nursing (Cardio Vascular & Thoracic Nursing, Critical care Nursing, Oncology Nursing, Neurosciences Nursing, Nephro-Urology Nursing, Orthopedic Nursing, Gastro Enterology Nursing,)Obstetric & Gynaecological Nursing, Child Health (Paediatric) Nursing, Mental Health(Psychiatric) Nursing, Community Health Nursing, Psychiatric (Mental Health) Nursing etc.

Note: Students have to maintain log book for each activity during the course of study

Scheme of Examination

	Theory			Practical		
1st year	Hours	Internal	External	Hours	Internal	External
Nursing education	3	25	75		50	50
Advance nursing practice	3	25	75			
Nursing Research and statistics	3	25**	75*			
Clinical speciality -I	3	25	75		100	100
Total		100	300		150	150
II nd Year						
Nursing Management	3	25	75			
Dissertation & Viva					100	100
Clinical Speciality-II	3	25	75		100	100
Total		50	150		200	200

* Nursing research=50 and statistics=25

**Nursing research=15 and statistics=10

1. Minimum pass marks shall be 50 % in each of the Theory and practical papers separately.
2. A candidate must have minimum of 80% attendance (irrespective of the kind of absence) in theory and practical in each subject for appearing for examination.
3. A candidate must have 100% attendance in each of the practical areas before award of degree
4. A candidate has to pass in theory and practical exam separately in each of the paper.
5. If a candidate fails in either theory or practical paper he/she has to re-appear for both the papers (Theory and practical).
6. Maximum no. of attempts permitted for each paper is 3 including first attempt.

7. The maximum period to complete the course successfully should not exceed 4 (four) years
8. A candidate failing in more than two subjects will not be promoted to the IInd year.
9. No candidate shall be admitted to the subsequent IInd year examination unless the candidate has passed the Ist year examination.
10. Maximum number of candidates for all practical examination should not exceed 10 per day.
11. Provision of Supplementary examination should be made.
12. All practical examinations must be held in the respective clinical areas.
13. One internal and One external examiners(outside the University) should jointly conduct practical examination for each student
14. An examiner should be M.Sc (N) in concerned subject and have minimum of 3 (three) years post graduate teaching experience.
15. One internal and One external examiners(outside the University) should evaluate dissertation and jointly conduct viva-voce for each student
16. For Dissertation Internal examiner should be the guide and external examiner should be Nursing faculty / nursing expert in the same clinical speciality holding Ph.D./M.Phil/M.Sc. Nursing with a minimum of 3 years experience in guiding the research projects for Post Graduate students of Nursing.

Admission Strength

Annual admission strength for M.Sc (N) Programme should have prior sanction/permission from the Indian Nursing Council on the basis of clinical, physical facilities and teaching faculty.

Health Services

There should be provisions for the following health services for the students.

- (a) An annual medical examination.
- (b) Vaccination against Tetanus, hepatitis B or any other communicable disease as considered necessary.
- (c) Free medical care during illness and / provision of health insurance should be made.
- (d) A complete health record should be kept in respect of each individual students. The question of continuing the training of a student, with long term chronic illness, will be decided by the individual college.

CURRICULUM

NURSING EDUCATION

Placement : 1st Year

Hours of Instruction
Theory 150 Hours
Practical 150 Hours Total
: 300 Hours

Course Description

This course is designed to assist students to develop a broad understanding of Fundamental Principles, concepts, trends and issues related to education and nursing education. Further, it would provide opportunity to students to understand, appreciate and acquire skills in teaching and evaluation, curriculum development, implementation, maintenance of standards and accreditation of various nursing educational programs.

Objectives

At the end of the course, students will be able to :

1. Explain the aims of education, philosophies, trends in education and health: its impact on nursing education.
2. Describe the teaching learning process.
3. Prepare and utilize various instructional media and methods in teaching learning process.
4. Demonstrate competency in teaching, using various instructional strategies.
5. Critically analyze the existing nursing educational programs, their problems, issues and future trends.
6. Describe the process of curriculum development, and the need and methodology of curriculum change, innovation and integration.
7. Plan and conduct continuing nursing education programs.
8. Critically analyze the existing teacher preparation programs in nursing.
9. Demonstrate skill in guidance and counseling.
10. Describe the problems and issues related to administration of nursing curriculum including selection and organization of clinical experience.
11. Explain the development of standards and accreditation process in nursing education programs.
12. Identify research priorities in nursing education.
13. Discuss various models of collaboration in nursing education and services.

14. Explain the concept, principles, steps, tools and techniques of evaluation
15. Construct, administer and evaluate various tools for assessment of knowledge, skill, and attitude.

Course Content

Units	Hours		Course Content
	Theory	Practical	
I	10		Introduction : □ Education :Definition, aims, concepts, philosophies & their education implications, □ Impact of Social, economical, political & technological changes on education: • Professional education • Current trends and issues in education • Educational reforms and National Educational policy, various educational commissions-reports • Trends in development of nursing education in India
II	20	30	Teaching – Learning Process □ Concepts of teaching and learning: Definition, theories of teaching and learning, relationship between teaching and learning. □ Educational aims and objectives; types, domains, levels, elements and writing of educational objectives □ Competency based education(CBE) and outcome based education(OBE) □ Instructional design: Planning and designing the lesson, writing lesson plan : meaning, its need and importance, formats. □ Instruction strategies – Lecture, discussion, demonstration, simulation, laboratory, seminar, panel, symposium, problem solving, problem based learning (PBL), workshop, project, role- play(socio- drama), clinical teaching methods, programmed instruction, self directed learning(SDL), micro teaching, computer assisted instruction(CAI), computer assisted learning (CAL)

Units	Hours		Course Content
	Theory	Practical	
III	10	10	Instructional media and methods □ Key concepts in the selection and use of media in education □ Developing learning resource material using different media □ Instructional aids – types, uses, selection, preparation, utilization. □ Teacher's role in procuring and managing instructional Aids – Project and non-projected aids, multi media, video-tele conferencing etc
IV	10		Measurement and evaluation: □ Concept and nature of measurement and evaluation, meaning, process, purposes, problems in evaluation and measurement. □ Principles of assessment, formative and summative assessment- internal assessment external examination, advantages and disadvantages. □ Criterion and norm referenced evaluation,
V	12	10	Standardized and non-standardized tests : □ Meaning, characteristics, objectivity, validity, reliability, usability, norms, construction of tests- • Essay, short answer questions and multiple choice questions. • Rating scales, checklist, OSCE/OSPE(Objective structured clinical/practical examination) • Differential scales, and summated scales, sociometry, anecdotal record, attitude scale, critical incident technique □ Question bank-preparation, validation, moderation by panel, utilization □ Developing a system for maintaining confidentiality
VI	8	5	Administration, Scoring and Reporting □ Administering a test; scoring, grading versus marks □ Objective tests, scoring essay test, methods of scoring, Item analysis.
VII	12	6	Standardized Tools □ Tests of intelligence aptitude, interest, personality, achievement, socio-economic status scale, tests for special mental and physical abilities and disabilities.

Units	Hours		Course Content
	Theory	Practical	
VIII	5	6	Nursing Educational programs □ Perspectives of nursing education: Global and national. □ Patterns of nursing education and training programmes in India. Non-university and University programs: ANM, GNM, Basic B.Sc. Nursing, Post Certificate B.Sc. Nursing, M.Sc(N) programs, M.Phil and Ph.D) in Nursing, post basic diploma programs, nurse practitioner programs.
IX	12	25	Continuing Education in Nursing □ Concepts – Definition, importance, need scope, principles of adult learning, assessments of learning needs, priorities, resources. □ Program planning, implementation and evaluation of continuing education programs. □ Research in continuing education. □ Distance education in nursing.
X	10	10	Curriculum Development □ Definition, curriculum determinants, process and steps of curriculum development, Curriculum models, Types and framework. □ Formulation of philosophy, objectives, selection and organization of learning experiences; master plan, course plan, unit plan. □ Evaluation strategies, process of curriculum change, role of students, faculty, administrators, statutory bodies and other stakeholders. □ Equivalency of courses: Transcripts, credit system.
XI	8	4	Teacher preparation □ Teacher – roles & responsibilities, functions, characteristics, competencies, qualities, □ Preparation of professional teacher □ Organizing professional aspects of teacher preparation programs □ Evaluation: self and peer □ Critical analysis of various programs of teacher education in India.

Units	Hours		Course Content
	Theory	Practical	
XII	10	5	Guidance and counseling □ Concept, principles, need, difference between guidance and counseling , trends and issues. □ Guidance and counseling services : diagnostic and remedial. □ Coordination and organization of services. □ Techniques of counseling : Interview, case work, characteristics of counselor, problems in counseling. □ Professional preparation and training for counseling.
XIII	15	10	Administration of Nursing Curriculum □ Role of curriculum coordinator – planning, implementation and evaluation. □ Evaluation of educational programs in nursing-course and program. □ Factors influencing faculty staff relationship and techniques of working together. □ Concept of faculty supervisor (dual) position. □ Curriculum research in nursing. □ Different models of collaboration between education and service
XIV	10		Management of nursing educational institutions □ Planning, organizing, staffing, budgeting, recruitment, discipline, public relation, performance appraisal, welfare services, library services, hostel,
XV	5	5	□ Development and maintenance of standards and accreditation in nursing education programs. □ Role of Indian Nursing Council, State Registration Nursing Councils, Boards and University. □ Role of Professional associations and unions.

Activities :

- Framing philosophy, aims and objectives.
- Lesson Planning.
- Micro teaching-2.
- Conduct practice teachings using different teaching strategies -10 (like lecture cum discussion, demonstration- lab method, field trips, seminars, project, role play, panel discussion, clinical methods etc)
- Preparation and utilization of instructional Aids using different media.
- Develop course plans, unit plans, rotation plans.
- Conduct a continuing education workshop.
- Annotated bibliography.
- Critical evaluation of any nursing education program offered by a selected institution.
- Planning and Organizing field visits.

- Educational visits.
- Field visits (INC/SNRC) to get familiar with recognition/registration process.
- Construct, administer and evaluate tools (objective & essay type test, observation checklist, rating scale etc)
- Observe and practice application of various non-standardized tests (intelligence, Aptitude, Personality, Sociometry, physical & mental disabilities tests.)

Methods of Teaching

- Lecture cum discussion
- Demonstration/ Return demonstration
- Seminar / Presentations
- Project work
- Field visits
- Workshop

Methods of evaluation

- Tests
- Presentation
- Project work
- Written assignments

Internal Assessment

Techniques	Weightage
Test- (2 tests)	50
Assignment	25
Seminar/presentation	25

	100

Practical – Internal assessment

Learning resource material	25
Practice Teaching	50
Conduct Workshop	25
/Short Term Course	

Practical – external assessment

Practice teaching- 1-	50
Preparation/use of learning resource material-1	25
Construction of tests/rotation plan.	25

ADVANCE NURSING PRACTICE

Placement: 1ST Year

Hours of Instruction
Theory 150 Hours
Practical 200 Hours
Total : 350 Hours

Course Description

The course is designed to develop an understanding of concepts and constructs of theoretical basis of advance nursing practice and critically analyze different theories of nursing and other disciplines.

Objectives:

At the end of the course the students will be able to:

1. Appreciate and analyze the development of nursing as a profession.
2. Describe ethical, legal, political and economic aspects of health care delivery and nursing practice.
3. Explain bio- psycho- social dynamics of health, life style and health care delivery system.
4. Discuss concepts, principles, theories, models, approaches relevant to nursing and their application.
5. Describe scope of nursing practice.
6. Provide holistic and competent nursing care following nursing process approach.
7. Identify latest trends in nursing and the basis of advance nursing practice.
8. Perform extended and expanded role of nurse.
9. Describe alternative modalities of nursing care.
10. Describe the concept of quality control in nursing.
11. Identify the scope of nursing research.
12. Use computer in patient care delivery system and nursing practice.
13. Appreciate importance of self development and professional advancement.

Course Content

Unit	Hours	Content
I	10	Nursing as a Profession □ History of development of nursing profession, characteristics, criteria of the profession, perspective of nursing profession-national, global □ Code of ethics(INC), code of professional conduct(INC), autonomy and accountability, assertiveness, visibility of nurses, legal considerations, □ Role of regulatory bodies □ Professional organizations and unions-self defense, individual and collective bargaining □ Educational preparations, continuing education, career opportunities, professional advancement & role and scope of nursing education. □ Role of research, leadership and management. □ Quality assurance in nursing (INC). □ Futuristic nursing.
II	5	Health care delivery □ Health care environment, economics, constraints, planning process, policies, political process vis a vis nursing profession. □ Health care delivery system- national, state, district and local level. □ Major stakeholders in the health care system-Government, non-govt, Industry and other professionals. □ Patterns of nursing care delivery in India. □ Health care delivery concerns, national health and family welfare programs, inter-sectoral coordination, role of non-governmental agencies. □ Information, education and communication (IEC). □ Tele-medicine.
III	10	Genetics □ Review of cellular division, mutation and law of inheritance, human genome project ,The Genomic era. □ Basic concepts of Genes, Chromosomes & DNA. □ Approaches to common genetic disorders. □ Genetic testing – basis of genetic diagnosis, Pre symptomatic and predisposition testing, Prenatal diagnosis & screening, Ethical, legal & psychosocial issues in genetic testing. □ Genetic counseling. □ Practical application of genetics in nursing.
IV	10	Epidemiology □ Scope, epidemiological approach and methods, □ Morbidity, mortality, □ Concepts of causation of diseases and their screening, □ Application of epidemiology in health care delivery, Health surveillance and health informatics □ Role of nurse

Unit	Hours	Content
V	20	Bio-Psycho social pathology □ Pathophysiology and Psychodynamics of disease causation □ Life processes, homeostatic mechanism, biological and psycho-social dynamics in causation of disease, life style □ Common problems: Oxygen insufficiency, fluid and electrolyte imbalance, nutritional problems, hemorrhage and shock, altered body temperature, unconsciousness, sleep pattern and its disturbances, pain, sensory deprivation. □ Treatment aspects: pharmacological and pre- post operative care aspects, □ Cardio pulmonary resuscitation. □ End of life Care □ Infection prevention (including HIV) and standard safety measures, bio-medical waste management. □ Role of nurse- Evidence based nursing practice; Best practices □ Innovations in nursing
VI	20	Philosophy and Theories of Nursing □ Values, Conceptual models, approaches. □ Nursing theories: Nightingale's, Henderson's, Roger's, Peplau's, Abdella's, Lewine's, Orem's, Johnson's, King's, Neuman's, Roy's, Watson's, etc and their applications, □ Health belief models, communication and management, etc □ Concept of Self health. □ Evidence based practice model.
VIII	10	Nursing process approach □ Health Assessment- illness status of patients/clients (Individuals, family, community), Identification of health- illness problems, health behaviors, signs and symptoms of clients. □ Methods of collection, analysis and utilization of data relevant to nursing process. □ Formulation of nursing care plans, health goals, implementation, modification and evaluation of care.
IX	30	Psychological aspects and Human relations □ Human behavior, Life processes & growth and development, personality development, defense mechanisms, □ Communication, interpersonal relationships, individual and group, group dynamics, and organizational behavior, □ Basic human needs, Growth and development, (Conception through preschool, School age through adolescence, Young & middle adult, and Older adult) □ Sexuality and sexual health. □ Stress and adaptation, crisis and its intervention, □ Coping with loss, death and grieving, □ Principles and techniques of Counseling.

Unit	Hours	Content
X	10	Nursing practice □ Framework, scope and trends. □ Alternative modalities of care, alternative systems of health and complimentary therapies. □ Extended and expanded role of the nurse, in promotive, preventive, curative and restorative health care delivery system in community and institutions. □ Health promotion and primary health care. □ Independent practice issues,- Independent nurse-midwifery practitioner. □ Collaboration issues and models-within and outside nursing. □ Models of Prevention, □ Family nursing, Home nursing, □ Gender sensitive issues and women empowerment. □ Disaster nursing. □ Geriatric considerations in nursing. □ Evidence based nursing practice- Best practices □ Trans-cultural nursing.
XI	25	Computer applications for patient care delivery system and nursing practice □ Use of computers in teaching, learning, research and nursing practice. □ Windows, MS office: Word, Excel, Power Point, □ Internet, literature search, □ Statistical packages, □ Hospital management information system: softwares.

Practical

Clinical posting in the following areas:

- Specialty area- in-patient unit - 2 weeks
- Community health center/PHC - 2 weeks
- Emergency/ICU - 2 weeks

Activities

- Prepare Case studies with nursing process approach and theoretical basis
- Presentation of comparative picture of theories
- Family case- work using model of prevention
- Annotated bibliography
- Report of field visits (5)

Methods of Teaching

- Lecture cum discussion
- Seminar
- Panel discussion
- Debate
- Case Presentations
- Exposure to scientific conferences
- Field visits

Methods of evaluation :

- Tests
- Presentation
- Seminar
- Written assignments

Advance nursing Procedures

Definition, Indication and nursing implications;

- CPR, TPN, Hemodynamic monitoring, Endotracheal intubation, Tracheostoma, mechanical ventilation, Pacemaker, Hemodialysis, Peritoneal dialysis, LP, BT Pleural and abdominal paracentesis OT techniques, Health assessment, Triage, Pulse oxymetry

Internal Assessment

Techniques	Weightage
Test- (2 tests)	50
Assignment	25
Seminar/presentation	25

	100

CLINICAL SPECIALITY – I

MENTAL HEALTH (PSYCHIATRIC) NURSING

Placement : 1st Year

Hours of Instruction
Theory 150 hours
Practical 650 hours Total
: 800 hours

Course Description

This course is designed to assist students in developing expertise and in- depth understanding in the field of Psychiatric Nursing. It will help students to appreciate the client as a holistic individual and develop skill to function psychiatric nurse specialist . It will further enable the student to function as educator, manager, and researcher in the field of Psychiatric nursing

Objectives

At the end of the course the students will be able to:

1. Appreciate the trends and issues in the field of psychiatry and psychiatric nursing.
2. Explain the dynamics of personality development and human behaviour.
3. Describe the concepts of psychobiology in mental disorders and its implications for psychiatric nursing
4. Demonstrate therapeutic communications skills in all interactions
5. Demonstrate the role of psychiatric nurse practitioner in various therapeutic modalities
6. Establish and maintain therapeutic relationship with individual and groups
7. Uses assertive techniques in personal and professional actions
8. Promotes self-esteem of clients, others and self
9. Apply the nursing process approach in caring for patients with mental disorders
10. Describe the psychopharmacological agents, their effects and nurses role
11. Recognize the role of psychiatric nurse practitioner and as a member of the psychiatric and mental health team
12. Describe various types of alternative system of medicines used in psychiatric settings
13. Incorporate evidence based nursing practice and identify the areas of research in the field of psychiatric nursing

Course Content

Units	Hours	Content
I	15	Introduction □ Mental Health and Mental Illness □ Historical perspectives □ Trends, issues and magnitude □ Contemporary practices □ Mental health laws/Acts □ National mental health program -National mental health authority, state mental health authority □ Human rights of mentally ill □ Mental Health/ Mental Illness Continuum □ Classification of mental illnesses-ICD, DSM □ Standards of Psychiatric nursing □ Challenges and Scope of psychiatric nursing □ Multi-disciplinary team and role of nurse Role of psychiatric nurse- extended and expanded
II	10	Concepts of Psychobiology □ The Nervous System: • An Anatomical Review • The Brain and limbic system • Nerve Tissue • Autonomic Nervous system • Neurotransmitters □ Neuroendocrinology • Pituitary, Thyroid Gland • Circadian Rhythms □ Genetics □ Neuro psychiatric disorders □ Psychoimmunology • Normal Immune response • Implications for psychiatric Illness □ Implications for Nursing
III	10	Theories of Personality Development and relevance to nursing practice □ Psychoanalytic Theory- Freud's □ Interpersonal Theory-Sullivan's □ Theory of Psychosocial Development-Erikson's □ Theory of object relations □ Cognitive Development Theory □ Theory of Moral Development □ A Nursing Model-Hildegard E.Peplau
IV	5	Stress and its management □ An introduction to the concepts of stress □ Psychological Adaptation to stress □ Stress as a Biological Response. □ Stress as an Environmental Event.

Units	Hours	Content
		□ Stress as Transaction between the Individual and the Environment. □ Stress management.
V	10	Therapeutic communication and interpersonal relationship □ Review communication process, factors affecting communication □ Communication with individuals and in groups □ Techniques of therapeutic communication-touch therapy □ Barrier of communication with specific reference to psychopathology □ Therapeutic attitudes □ Dynamics of a therapeutic Nurse-client relationship; Therapeutic use of self Gaining self-awareness □ Therapeutic nurse-patient relationship its phases ; Conditions essential to development of a therapeutic relationship □ Therapeutic impasse and its management
VI	10	Assertive Training □ Assertive Communication □ Basic Human Rights □ Response Patterns • (Nonassertive Behavior • Assertive Behavior • Aggressive Behavior • Passive-Aggressive Behavior) □ Behavioral Components of Assertive Behavior □ Techniques that Promote Assertive Behavior □ Thought-Stopping Techniques Method Role of The Nurse
VII	10	Promoting Self-Esteem □ Components of Self-Concept □ The Development of Self-Esteem □ The Manifestations of Low-Self-Esteem □ Boundaries Role of The Nurse
	5	Women and Mental Health ┆ Normal reaction to conception, pregnancy and puerperium ┆ Problems related to conception, pregnancy and puerperium and its management. • Counselling – Premarital, marital and genetic

Units	Hours	Content
VIII	10	The nursing process in psychiatric/mental health nursing □ Mental health assessment- History taking, mental status examination □ Physical and neurological examination □ Psychometric assessment □ Investigations, Diagnosis and Differential diagnosis □ Interpretation of investigations □ Nurse's role □ Nursing case management □ Critical pathways of care □ Documentation □ Problem-oriented recording Focus □ charting □ The PIE method
IX	35	Psycho social and physical therapies □ Individual therapy □ Behavioural Therapy- Relaxation therapy, cognitive therapy, positive- negative reinforcement, bio-feedback, guided imagery, ab-reactive therapy □ Group Therapy □ Family Therapy □ Milieu Therapy □ The Therapeutic Community □ Occupational therapy □ Recreational therapy □ Play therapy □ Music therapy □ Light therapy □ Color therapy □ Aroma therapy
XI	5	Electroconvulsive Therapy □ Historical Perspectives □ Indications □ Contraindications □ Mechanisms of Action □ Side Effects □ Risks Associated with Electroconvulsive Therapy □ The Role of The Nurse in Electroconvulsive Therapy
X	10	Psychopharmacology □ Historical Perspectives □ Role of a Nurse in Psychopharmacological Therapy • Antianxiety Agents • Antidepressants Agents • Mood stabilizers • Antipsychotics • Sedative-Hypnotics • Central Nervous System Stimulants □ Future developments

Units	Hours	Content
XII	15	Alternative systems of medicine in mental health □ Types of Therapies • Herbal Medicine • Unani • Siddha • Homeopathic • Acupressure and Acupuncture • Diet and Nutrition • Chiropractic Medicine • Therapeutic Touch and Massage • Yoga • Pet Therapy

Practical

Total = 660 Hours 1
Week = 30 Hours

S.No.	Area of Posting	No. of Week	Total Hours
1	Acute Psychiatric Ward	4	120 Hours
2	Chronic Psychiatric ward	4	120 Hours
3	Psychiatric Emergency Unit	2	60 Hours
4	O.P.D	2	60 Hours
5	Family Psychiatric Unit	2	60 Hours
6	Community Mental Health Unit	4	120 Hours
7	Rehabilitation / Occupational Therapy Unit/Half way home/ Day care centre	4	120 Hours
	Total	22 Weeks	660 Hours

Student Activities

- History taking
- Mental health assessment
- Psychometric assessment
- Personality assessment
- Process recording
- Therapies- Group Therapy
- Family Therapy
- Psychotherapy
- Milieu Therapy
- The Therapeutic Community
- Occupational therapy
- Recreational therapy
- Play therapy
- music therapy
- Pet therapy
- Counselling
- Assisted ECT
- Assisted EEG
- Case studies
- Case presentation
- Project work
- Socio and psycho drama
- Field visits

NURSING RESEARCH AND STATISTICS

Placement: 1st Year

Hours of Instruction
Theory 150 Hours
Practical 100 Hours
Total : 250 Hours

Part-A : Nursing Research

Theory 100 Hours
Practical 50 Hours
Total : 150 Hours

Course Description:

The course is designed to assist the students to acquire an understanding of the research methodology and statistical methods as a basis for identifying research problem, planning and implementing a research plan. It will further enable the students to evaluate research studies and utilize research findings to improve quality of nursing practice, education and management.

General Objectives:

At the end of the course, the students will be able to:

1. Define basic research terms and concepts.
2. Review literature utilizing various sources
3. Describe research methodology
4. Develop a research proposal.
5. Conduct a research study.
6. Communicate research findings
7. Utilize research findings
8. Critically evaluate nursing research studies.
9. Write scientific paper for publication.

Content Outline

Unit	Hours		Course Content
	Theory	Practical	
I	10		Introduction: □ Methods of acquiring knowledge – problem solving and scientific method. □ Research – Definition, characteristics, purposes, kinds of research □ Historical Evolution of research in nursing □ Basic research terms □ Scope of nursing research: areas, problems in nursing, health and social research □ Concept of evidence based practice □ Ethics in research □ Overview of Research process
II	5	5	Review of Literature □ Importance, purposes, sources, criteria for selection of resources and steps in reviewing literature.
III	12		Research Approaches and designs □ Type: Quantitative and Qualitative □ Historical, survey and experimental –Characteristics, types advantages and disadvantages □ Qualitative: Phenomenology, grounded theory, ethnography
IV	10	5	Research problem: □ Identification of research problem □ Formulation of problem statement and research objectives □ Definition of terms □ Assumptions and delimitations □ Identification of variables □ Hypothesis – definition, formulation and types.
V	5	5	Developing theoretical/conceptual framework. □ Theories: Nature, characteristics, Purpose and uses □ Using, testing and developing conceptual framework, models and theories.
VI	6		Sampling □ Population and sample □ Factors influencing sampling □ Sampling techniques □ Sample size □ Probability and sampling error □ Problems of sampling

Unit	Hours		Course Content
	Theory	Practical	
VII	20	10	Tools and methods of Data collection: □ Concepts of data collection □ Data sources, methods/techniques quantitative and qualitative. □ Tools for data collection – types, characteristics and their development □ Validity and reliability of tools □ Procedure for data collection
VIII	5		Implementing research plan □ Pilot Study, review research plan (design)., planning for data collection, administration of tool/interventions, collection of data
IX	10	10	Analysis and interpretation of data □ Plan for data analysis: quantitative and qualitative □ Preparing data for computer analysis and presentation. □ Statistical analysis □ Interpretation of data □ Conclusion and generalizations □ Summary and discussion
X	10		Reporting and utilizing research findings: □ Communication of research results; oral and written □ Writing research report purposes, methods and style- vancouver, American Psychological Association(APA), Campbell etc □ Writing scientific articles for publication: purposes & style
XI	3	8	Critical analysis of research reports and articles
XII	4	7	Developing and presenting a research proposal

Activities:

- Annotated Bibliography of research reports and articles.
- Review of literature of selected topic and reporting
- Formulation of problem statement, objective and hypothesis
- Developing theoretical/conceptual framework.
- Preparation of a sample research tool
- Analysis and interpretation of given data
- Developing and presenting research proposal
- Journal club presentation
- Critical evaluation of selected research studies
- Writing a scientific paper.

Method of Teaching

- Lecture-cum-discussion
- Seminar/Presentations
- Project
- Class room exercises
- Journal club

Methods of Evaluation

- Quiz, Tests (Term)
- Assignments/Term paper
- Presentations
- Project work

Internal Assessment

Techniques	Weightage (15marks)
Term Test(2 tests)	40%
Assignment	20%
Presentation	20%
Project work	20%
Total	100%

Part –B : Statistics

Hours of Instruction
Theory 50 Hours
Practical 50 Hours Total
: 100 Hours

Course Description

At the end of the course, the students will be able to develop an understanding of the statistical methods and apply them in conducting research studies in nursing.

General Objectives

At the end of the course the students will be able to:

1. Explain the basic concepts related to statistics
2. Describe the scope of statistics in health and nursing
3. Organize, tabulate and present data meaningfully.
4. Use descriptive and inferential statistics to predict results.
5. Draw conclusions of the study and predict statistical significance of the results.
6. Describe vital health statistics and their use in health related research.
7. Use statistical packages for data analysis

Unit	Hours		Course Content
	Theory	Practical	
I	7	4	Introduction: □ Concepts, types, significance and scope of statistics, meaning of data, □ sample, parameter □ type and levels of data and their measurement □ Organization and presentation of data – Tabulation of data; □ Frequency distribution □ Graphical and tabular presentations.
II	4	4	Measures of central tendency: □ Mean, Median, Mode
III	4	5	Measures of variability; □ Range, Percentiles, average deviation, quartile deviation, standard deviation
IV	3	2	Normal Distribution: □ Probability, characteristics and application of normal probability curve; sampling error.

Unit	Hours		Course Content
	Theory	Practical	
V	6	8	Measures of relationship: □ Correlation – need and meaning □ Rank order correlation; □ Scatter diagram method □ Product moment correlation □ Simple linear regression analysis and prediction.
VI	5	2	Designs and meaning: □ Experimental designs □ Comparison in pairs, randomized block design, Latin squares.
VII	8	10	Significance of Statistic and Significance of difference between two Statistics (Testing hypothesis) □ Non parametric test – Chi-square test, Sign, median test, Mann Whitney test. □ Parametric test – ‘t’ test, ANOVA, MANOVA, ANCOVA
VIII	5	5	Use of statistical methods in psychology and education: □ Scaling – Z Score, Z Scaling □ Standard Score and T Score □ Reliability of test Scores: test-retest method, parallel forms, split half method.
IX	4	2	Application of statistics in health: □ Ratios, Rates, Trends □ Vital health statistics – Birth and death rates. □ Measures related to fertility, morbidity and mortality
X	4	8	Use of Computers for data analysis □ Use of statistical package.

Activities

- Exercises on organization and tabulation of data,
- Graphical and tabular presentation of data
- Calculation of descriptive and inferential statistics(chi square, t-test, correlation)
- Practice in using statistical package
- Computing vital health statistics

Methods of Teaching:

- Lecture-cum-discussion
- Demonstration – on data organization, tabulation, calculation of statistics, use of statistical package, Classroom exercises, organization and tabulation of data,

- Computing Descriptive and inferential statistics; vital and health statistics and use of computer for data entry and analysis using statistical package.

Methods of Evaluation

- Test, Classroom statistical exercises.

Internal Assessment

Techniques

Weightage 10 marks

Test – (2 tests)

100%

NURSING MANAGEMENT

Placement : II Year

Hours of Instruction
Theory 150 Hours
Practical 150 Hours
Total : 300 Hours

Course Description

This course is designed to assist students to develop a broad understanding of Principles, concepts, trends and issues related to nursing management. Further, it would provide opportunity to students to understand, appreciate and acquire skills in planning, supervision and management of nursing services at different levels to provide quality nursing services.

Objectives

At the end of the course, students will be able to:

1. Describe the philosophy and objectives of the health care institutions at various levels.
2. Identify trends and issues in nursing
3. Discuss the public administration, health care administration vis a vis nursing administration
4. Describe the principles of administration applied to nursing
5. Explain the organization of health and nursing services at the various levels/institutions.
6. Collaborate and co-ordinate with various agencies by using multi-sectoral approach
7. Discuss the planning, supervision and management of nursing workforce for various health care settings.
8. Discuss various collaborative models between nursing education and nursing service to improve the quality of nursing care
9. Identify and analyse legal and ethical issues in nursing administration
10. Describe the process of quality assurance in nursing services.
11. Demonstrate leadership in nursing at various levels

Course Content

Unit	Hours	Content
I	10	Introduction □ Philosophy, purpose, elements, principles and scope of administration □ Indian Constitution, Indian Administrative system vis a vis health care delivery system: National, State and Local □ Organisation and functions of nursing services and education at National, State , District and institutions: Hospital and Community □ Planning process: Five year plans, Various Committee Reports on health, State and National Health policies, national population policy, national policy on AYUSH and plans,
II	10	Management □ Functions of administration □ Planning and control □ Co-ordination and delegation □ Decision making – decentralization basic goals of decentralization. □ Concept of management Nursing management □ Concept, types, principles and techniques □ Vision and Mission Statements □ Philosophy, aims and objective □ Current trends and issues in Nursing Administration □ Theories and models Application to nursing service and education
III	15	Planning □ Planning process: Concept, Principles, Institutional policies □ Mission, philosophy, objectives, □ Strategic planning □ Operational plans □ Management plans □ Programme evaluation and review technique(PERT), Gantt chart, Management by objectives(MBO) □ Planning new venture □ Planning for change □ Innovations in nursing Application to nursing service and education
IV	15	Organisation □ Concept , principles, objectives, Types and theories, Minimum requirements for organisation, Developing an organizational Structure, levels, organizational Effectiveness and organizational Climate, □ Organising nursing services and patient care: Methods of patient assignment- Advantages and disadvantages, primary nursing care, □ Planning and Organising: hospital, unit and ancillary services(specifically central sterile supply department, laundry, kitchen, laboratory services, emergency etc)

Unit	Hours	Content
		□ Disaster management: plan, resources, drill, etc Application to nursing service and education
V	15	Human Resource for health □ Staffing • Philosophy • Norms: Staff inspection unit(SIU), Bajaj Committee, High power committee, Indian nursing council (INC) • Estimation of nursing staff requirement- activity analysis • Various research studies □ Recruitment: credentialing, selection, placement, promotion □ Retention □ Personnel policies □ Termination □ Staff development programme □ Duties and responsibilities of various category of nursing personnel Applications to nursing service and education
VI	15	Directing □ Roles and functions □ Motivation: Intrinsic, extrinsic, Creating motivating climate, Motivational theories □ Communication : process, types, strategies, Interpersonal communication, channels, barriers, problems, Confidentiality, Public relations □ Delegation; common delegation errors □ Managing conflict: process, management, negotiation, consensus □ Collective bargaining: health care labour laws, unions, professional associations, role of nurse manager □ Occupational health and safety Application to nursing service and education
VII	10	Material management □ Concepts, principles and procedures □ Planning and procurement procedures : Specifications □ ABC analysis, □ VED (very important and essential daily use) analysis □ Planning equipments and supplies for nursing care: unit and hospital □ Inventory control □ Condemnation Application to nursing service and education
VIII	15	Controlling □ Quality assurance – Continuous Quality Improvement • Standards • Models • Nursing audit

Unit	Hours	Content
		□ Performance appraisal: Tools, confidential reports, formats, Management, interviews □ Supervision and management: concepts and principles □ Discipline: service rules, self discipline, constructive versus destructive discipline, problem employees, disciplinary proceedings- enquiry etc □ Self evaluation or peer evaluation, patient satisfaction, utilization review Application to nursing service and education
IX	15	Fiscal planning □ Steps □ Plan and non-plan, zero budgeting, mid-term appraisal, capital and revenue □ Budget estimate, revised estimate, performance budget □ Audit □ Cost effectiveness □ Cost accounting □ Critical pathways □ Health care reforms □ Health economics □ Health insurance □ Budgeting for various units and levels Application to nursing service and education
X	10	Nursing informatics □ Trends □ General purpose □ Use of computers in hospital and community □ Patient record system □ Nursing records and reports □ Management information and evaluation system (MIES) □ E- nursing, Telemedicine, telenursing □ Electronic medical records
XI	10	Leadership □ Concepts, Types, Theories □ Styles □ Manager behaviour □ Leader behaviour □ Effective leader: Characteristics, skills □ Group dynamics □ Power and politics □ lobbying □ Critical thinking and decision making □ Stress management Applications to nursing service and education

Unit	Hours	Content
XII	10	Legal and ethical issues Laws and ethics □ Ethical committee □ Code of ethics and professional conduct □ Legal system: Types of law, tort law, and liabilities □ Legal issues in nursing: negligence, malpractice, invasion of privacy, defamation of character □ Patient care issues, management issues, employment issues □ Medico legal issues □ Nursing regulatory mechanisms: licensure, renewal, accreditation □ Patients rights, Consumer protection act(CPA) □ Rights of special groups: children, women, HIV, handicap, ageing □ Professional responsibility and accountability □ Infection control □ Standard safety measures

PRACTICALS

1. Prepare prototype personal files for staff nurses, faculty and cumulative records
2. Preparation of budget estimate, Revised estimate and performance budget
3. Plan and conduct staff development programme
4. Preparation of Organisation Chart
5. Developing nursing standards/protocols for various units
6. Design a layout plan for speciality units /hospital, community and educational institutions
7. Preparation of job description of various categories of nursing personnel
8. Prepare a list of equipments and supplies for speciality units
9. Assess and prepare staffing requirement for hospitals, community and educational institutions
10. Plan of action for recruitment process
11. Prepare a vision and mission statement for hospital, community and educational institutions
12. Prepare a plan of action for performance appraisal
13. Identify the problems of the speciality units and develop plan of action by using problem solving approach
14. Plan a duty roster for speciality units/hospital, community and educational institutions
15. Prepare: anecdotes, incident reports, day and night reports, handing and taking over reports, enquiry reports, nurses notes, Official letters,

curriculum vitae, presentations etc

16. Prepare a plan for disaster management
17. Group work
18. Field appraisal report

CLINICAL SPECIALITY - II

PSYCHIATRIC (MENTAL HEALTH) NURSING

Placement: II Year

Hours of Instruction
Theory 150 hrs
Practical 950 hrs
Total : 1100 Hours

Course Description

This course is designed to assist students in developing expertise and in- depth understanding in the field of Psychiatric Nursing. It will help students to develop advanced skills for nursing intervention in various psychiatric conditions. It will enable the student to function as psychiatric nurse practitioner/specialist. It will further enable the student to function as educator, manager, and researcher in the field of Psychiatric nursing

Objectives

At the end of the course the students will be able to:

1. Apply the nursing process in the care of patients with mental disorders in hospital and community
2. Demonstrate advanced skills/competence in nursing management of patients with mental disorders
3. Identify and care for special groups like children, adolescents, women, elderly, abused and neglected, people living with HIV/AIDS.
4. Identify and manage psychiatric emergencies.
5. Provide nursing care to critically ill patients with mental disorders
6. Utilize the recent technology and various treatment modalities in the management of patients with mental disorders
7. Demonstrate skills in carrying out crisis intervention.
8. Appreciate the legal and ethical issues pertaining to psychiatric nursing.
9. Identify areas of research in the field of psychiatric nursing.
10. Prepare a design for layout and describe standards for management of Psychiatric units/emergency units/hospitals
11. Teach psychiatric nursing to undergraduate students & in-service nurses.

Course Content

Unit	Hours	Content
I	2	Principles and practice of Psychiatric nursing □ Review
II	10	Crisis Intervention □ Crisis, Definition □ Phases In The Development of A Crisis □ Types of Crisis; Dispositional , Anticipated Life Transitions Traumatic Stress, Maturation/ Development , Reflecting Psychopathology □ Psychiatric Emergencies and their management □ Grief and grief reaction □ Crisis Intervention; Phases □ Post traumatic stress disorder (PTSD) □ Role of the Nurse
III	4	Anger/ Aggression Management □ Anger and Aggression, Types, Predisposing Factors □ Management □ Role of The Nurse
IV	5	The Suicidal Client □ Epidemiological Factors □ Risk Factors • Predisposing Factors: Theories of Suicide-Psychological, Sociological ,Biological □ Nursing Management
V	5	Disorders of Infancy, Childhood, and Adolescence □ Mentally Challenged □ Autistic Disorders □ Attention-Deficit/Hyperactivity Disorder □ Conduct Disorders, behavioural disorders □ Oppositional Defiant Disorder □ Tourette's Disorders □ Separation Anxiety Disorder □ Psychopharmacological Intervention and Nursing Management
VI	5	Delirium, Dementia, and Amnesic Disorders □ Delirium □ Dementia □ Amnesia □ Psychopharmacological Intervention and Nursing Management
VII	10	Substance-Related Disorders □ Substance-Use Disorders □ Substance-Induced Disorders □ Classes Of Psychoactive Substances □ Predisposing Factors

Unit	Hours	Content
		❑ The Dynamics Of Substance-Related Disorders ❑ The Impaired Nurse ❑ Codependency ❑ Treatment Modalities For Substance-Related Disorders and Nursing Management
VIII	10	Schizophrenia and Other Psychotic Disorders (Check ICD10) ❑ Nature of the Disorder ❑ Predisposing Factors ❑ Schizophrenia -Types • Disorganized Schizophrenia • Catatonic Schizophrenia • Paranoid Schizophrenia • Undifferentiated Schizophrenia • Residual Schizophrenia ❑ Other Psychotic disorders • Schizoaffective Disorder • Brief Psychotic Disorder • Schizophreniform Disorder • Psychotic Disorder Due to a General Medical Condition • Substance-Induced Psychotic Disorder ❑ Treatment and Nursing Management
IX	8	Mood Disorders ❑ Historical Perspective ❑ Epidemiology ❑ The Grief Response ❑ Maladaptive Responses To Loss ❑ Types Of Mood Disorders ❑ Depressive disorders ❑ Bipolar disorders ❑ Treatment and Nursing Management
X	8	Anxiety Disorders ❑ Historical Aspects ❑ Epidemiological Statistics ❑ How Much is too Much? ❑ Types • Panic Disorder • Generalized Anxiety Disorder • Phobias • Obsessive-Compulsive Disorder • Posttraumatic Stress Disorder • Anxiety Disorder Due to a General Medical Condition • Substance-Induced Anxiety Disorder ❑ Treatment Modalities ❑ Psychopharmacology & Nursing Management
XI	5	Somatoform And Sleep Disorders ❑ Somatoform Disorders ❑ Historical Aspects

Unit	Hours	Content
		• Epidemiological Statistics • Pain Disorder • Hypochondriasis • Conversion Disorder • Body Dysmorphic Disorder □ Sleep Disorder □ Treatment Modalities and Nursing Management
XII	4	Dissociative Disorders and Management □ Historical Aspects □ Epidemiological Statistics □ Application of the Nursing Management □ Treatment Modalities and Nursing Management
XIII	4	Sexual And Gender Identity Disorders □ Development Of Human Sexuality □ Sexual Disorders □ Variation In Sexual Orientation □ Nursing Management
XIV	4	Eating Disorders □ Epidemiological Factors □ Predisposing Factors : Anorexia Nervosa And Bulimia Nervosa obesity □ Psychopharmacology □ Treatment & Nursing Management
XV	4	Adjustment and Impulse Control Disorders □ Historical and Epidemiological Factors • Adjustment Disorders • Impulse Control Disorders □ Treatment & Nursing Management
XVI	4	Medical Conditions due to Psychological Factors □ Asthma □ Cancer □ Coronary Heart Disease □ Peptic Ulcer □ Essential Hypertension □ Migraine Headache □ Rheumatoid Arthritis □ Ulcerative Colitis □ Treatment & Nursing Management
XVII	8	Personality Disorders □ Historical perspectives □ Types Of Personality Disorders • Paranoid Personality Disorder • Schizoid Personality Disorder • Antisocial Personality Disorder • Borderline Personality Disorder

Unit	Hours	Content
		• Histrionic Personality Disorder • Narcissitic Personality Disorder • Avoidance Personality Disorder • Dependent Personality Disorder • Obsessive-Compulsive Personality Disorder • Passive-Aggressive Personality Disorders □ Identification, diagnostic, symptoms □ Psychopharmacology □ Treatment & Nursing Management
XVIII	8	The Aging Individual □ Epidemiological Statistics □ Biological Theories □ Biological Aspects of Aging □ Psychological Aspects of Aging □ Memory Functioning □ Socio-cultural aspects of aging □ Sexual aspects of aging □ Special Concerns of the Elderly Population □ Psychiatric problems among elderly population □ Treatment & Nursing Management
XIX	5	The person living with HIV Disease □ Psychological problems of individual HIV/AIDS □ Counseling □ Treatment & Nursing Management
XX	5	Problems Related to Abuse or Neglect □ Vulnerable groups, Women, Children, elderly, psychiatric patients, under privileged, challenged □ Predisposing Factors □ Treatment & Nursing management- Counseling
XXI	7	Community Mental Health Nursing □ National Mental Health Program- Community mental health program □ The Changing Focus of care □ The Public Health Model □ The Role of the Nurse □ Case Management □ The community as Client • Primary Prevention • Populations at Risk • Secondary prevention • Tertiary Prevention □ Community based rehabilitation
XXII	5	Ethical and Legal Issues in Psychiatric/Mental Health Nursing □ Ethical Considerations □ Legal Consideration

Unit	Hours	Content
		• Nurse Practice Acts • Types of Law • Classification within Statutory and Common Law • Legal Issues in Psychiatric/Mental Health Nursing • Nursing Liability
XXIII	5	Psychosocial rehabilitation □ Principles of rehabilitation □ Disability assessment □ Day care centers □ Half way homes □ Reintegration into the community □ Training and support to care givers □ Sheltered workshops □ Correctional homes
XXIV	5	Counseling □ Liaison psychiatric nursing □ Terminal illnesses-Counseling □ Post partum psychosis-treatment, care and counseling □ Death dying- Counseling □ Treatment, care and counseling – • Unwed mothers • HIV and AIDS
XXV	5	Administration and management of psychiatric units including emergency units □ Design & layout □ Staffing, □ Equipment, supplies, □ Norms, policies and protocols □ Quality assurance □ Practice standards for psychiatric nursing □ Documentation
XXVI	5	Education and training in psychiatric care □ Staff orientation, training and development, □ In-service education program, □ Clinical teaching programs.

Practical

**Total = 960 Hours 1
Week = 30 Hours**

S.No.	Area of Posting	No. of Week	Total Hours
1	Acute Psychiatric Ward	4	120 Hours
2	Chronic Psychiatric Ward	4	120 Hours
3	De-addiction Unit	4	120 Hours
4	Psychiatric Emergency Unit	4	120 Hours
5	O.P.D (Neuro and psychiatric)	3	90 Hours
6	Child Psychiatric Unit and child guidance clinic	2	60 Hours
7	Post natal ward	1	30 Hours
8	Family Psychiatric Unit	2	60 Hours
9	Field visits	2	60 Hours
10	Rehabilitation	2	60 Hours
11	Community Mental Health Unit	4	120 Hours
	Total	32 Weeks	960 Hours

Essential Psychiatric nursing skills Procedures

Observed

1. Psychometric tests
2. Personality tests
3. Family therapy
4. Assisted
5. CT
6. MRI
7. Behavioral therapy.

Procedures Performed

1. Mental status examination
2. Participating in various therapies – Physical; ECT,
3. Administration of Oral, IM, IV psychotropic drugs
4. Interviewing skills
5. Counseling skills
6. Communication skills
7. Psychoeducation
8. Interpersonal relationship skills
9. Community Survey for identifying mental health problems
10. Rehabilitation therapy
11. Health education and life skills training.
12. Supportive psychotherapeutic skills
13. Group therapy
14. Milieu therapy
15. Social/Recreational therapy.
16. Occupational therapy.

**STAFFING PATTERN RELAXED TILL
2012**

Qualifications & Experience Of Teachers Of College Of Nursing

Sr. No.	Post, Qualification & Experience
1	Professor-cum-Principal - Masters Degree in Nursing - 10 years of experience and minimum of 5 years of teaching experience <u><i>Desirable :</i></u> <i>Independent published work of high standard / doctorate degree / M.Phil.</i>
2	Professor-cum-Vice Principal - Masters Degree in Nursing - 10 years of experience and minimum of 5 years of teaching experience <u><i>Desirable :</i></u> <i>Independent published work of high standard / doctorate degree / M.Phil.</i>
3	Reader / Associate Professor - Master Degree in Nursing. - 7 years of experience and minimum of 3 years teaching experience <u><i>Desirable :</i></u> <i>Independent published work of high standard /doctorate degree / M.Phil.</i>
4	Assistant Professor /Lecturer - Master Degree in Nursing. - 3 years experience

Pay scales- as per UGC scales

Sri Devaraj Urs Academy of Higher Education and Research

(A deemed to be university declared under section 3 of UGC Act 1956)

Comprising Sri Devaraj Urs Medical College

[Constituent unit of Sri Devaraj Urs Educational Trust for Back Ward Classes (Regd.)]

TAMAKA, KOLAR-563103, KARNAKATAKA, INDIA

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Ph.D. Nursing Course Regulations and Curriculum

(With effect from 2024-2025 batches)



SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION AND RESEARCH

Constituent Unit, Sri Devaraj Urs College of Nursing

A Deemed To Be University

Declared under section 3 of UGC Act 1956

MHRD GOI NO.F, 9-36/2006-U.3 (A), Dt.25th may 2007

Post box No.62, TAMAKA, KOLAR-563103, KARNAKATAKA, INDIA

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SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION AND RESEARCH

(A Deemed to be University declared under Section 3 of UGC Act 1956)

Comprising Sri Devaraj Urs Medical College

[Constituent unit of Sri Devaraj Urs Educational Trust for Backward Classes (Regd.)]

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No.SDUAHER/KLR/ADMN/ 238 /2024-25

Date : 18th April 2024

NOTIFICATION

Sub: Approval of commencement and curriculum for B.Sc.,
M.Sc., Post B.Sc. and Ph.D. Nursing Programs under
Faculty of Nursing (FoN).

Ref: 1. Proceedings of 46th Academic Council meeting
held on 26th Feb. 2024.
2. Proceedings of the 77th meeting of the Board of
Management held on 28th March 2024.

As per the approval of the Academic Council and Board of Management meetings cited at above reference, The Academy has approved the commencement and curriculum of the following programs under Faculty of Nursing :

1. B.Sc. Nursing.
2. M.Sc. Nursing
3. Post B.Sc. Nursing
4. Ph.D. Nursing

Registrar

Registrar

Sri Devaraj Urs Academy of Higher
Education and Research
Tamaka, Kolar - 563 103.

Copy to:

1. P.A. to V.C. SDUAHER.
2. The Dean, Faculty of Nursing, SDUAHER.
3. The Principal, SDUCON.
4. The Finance Officer, SDUAHER.
5. O/C.

- बातचीत पर
 - नर्सिंग चिकित्साविधान पर
 - अन्य सिद्धांत: अभ्यास स्तर/निर्देशात्मक/स्थिति विशिष्ट सिद्धांत
4. नर्सिंग सिद्धांतों का विश्लेषण और नर्सिंग सिद्धांतों का मूल्यांकन
 5. नर्सिंग सिद्धांत और अभ्यास
 6. नर्सिंग सिद्धांत और शोध
 7. नर्सिंग में विज्ञान, सिद्धांत, अभ्यास और शोध के बीच अंतर संबंध (4, 5, 6, 7 = 10 घंटे)

डॉ. टी. दिलीप कुमार, अध्यक्ष
[विज्ञापन-III/4/असा./171/2025-26]

INDIAN NURSING COUNCIL

NOTIFICATION

New Delhi, the 5th June, 2025

F. No. 11-1/2024-INC (XII)—In exercise of the powers conferred by sub-section (1) of Section 16 of Indian Nursing Council Act, 1947 (XLVIII of 1947), as amended from time to time, the Indian Nursing Council hereby makes the following regulations namely —

SHORT TITLE AND COMMENCEMENT

- i. These Regulations may be called the **Indian Nursing Council (Revised Guidelines for starting Ph.D. in Nursing Program in the Universities approved by the Council), Regulations, 2024.**
- ii. These Regulations shall come into force on the date of notification of the same in the Official Gazette of India.

DEFINITIONS

In these Regulations, unless the context otherwise requires,

- i. 'the Act' means the Indian Nursing Council Act, 1947 (XLVIII of 1947) as amended from time to time;
- ii. 'the Council' means the Indian Nursing Council constituted under the Act.

Indian Nursing Council (Revised Guidelines for starting Ph.D. in Nursing Program in the Universities approved by the Council), Regulations, 2024

1. BACKGROUND

National Health Policy 2017 (NHP 2017) recognizes the key role health research plays in the development of nation's health. The policy aims to strengthen governance systems so that nurses can assume leadership position, improve regulation of practice and strengthen the quality of nursing education. Doctoral education in nursing will prepare more qualified nurses who can meet the country's health and nursing care demand. Many universities in India are recognizing this need and plan to start Ph.D. Program in Nursing. This necessitates uniform and standard curriculum and guidelines to run the program effectively and achieve the intended outcomes. The Council has revised the Ph.D. curriculum and guidelines that will guide all universities who intend to start and promote doctoral education in nursing in their respective Universities.

2. PHILOSOPHY

NHP 2017 emphasizes the need to prepare nurses to function in specialty and super-specialty areas of tertiary care institutions with the proposed expansion of tertiary care services alongside expansion of medical colleges and starting new AIIMS nationwide. There is an acute shortage of nursing faculty in undergraduate and postgraduate nursing programs in India. Doctoral education is essential to prepare nurse scholars to improve the quality of nursing education and practice in India.

Doctoral education builds upon and extends competence acquired at the undergraduate and postgraduate levels, emphasizes theory development and research skills. The function of nurse scholars is to assume leadership roles in complex healthcare and education systems, develop a theoretical and empirical base for nursing practice in both current and emerging health care systems, conduct nursing research and participate in developing healthcare policies. The entire thrust is on professional preparation in nursing that could lead to evidence based practice for clinical effectiveness.

3. PURPOSE

Doctoral education is to prepare nurse scholars who will contribute both to the development and application of knowledge in nursing for enhancing quality of nursing education, research, practice and dissemination of nursing knowledge.

4. OBJECTIVES

The doctoral prepared nurse will be able to:

- Conduct research relevant to nursing.
- Develop nursing theories and nursing science.
- Synthesize knowledge from nursing and other allied sciences to develop and test theory that affects health status.
- Demonstrate the leadership skills in nursing practice, education and research.
- Disseminate the results of theory development and research.

5. ELIGIBILITY CRITERIA FOR UNIVERSITIES TO START Ph.D. NURSING PROGRAM

- The University shall have M.Sc. Nursing program found suitable by the Council under Section 13 & 14 of the Act.
- The University shall have regular faculty with recognized Ph.D. qualification under Section 10 of the Act with relevant experience along with their research publications as placed below under at S.No. 7.

State Government/Central Universities

- Every College of Nursing having M.Sc. Nursing program found suitable by the Council under Section 13 & 14 of the Act and approved by the University to start Ph.D. in Nursing shall have minimum of two guides (regular faculty) having recognized Ph.D. qualification under Section 10 of the Act.

6. RESEARCH GUIDE

- Guides can select **two scholars only every year** but not more than 6 scholars at any given period of time.
- Scholars can have co-guide from nursing or other disciplines if necessary.
- The Ph.D. doctoral holders who are within health care disciplines can be appointed as co-guides.
- In Deemed/Private University, the guide should be from the same University.
- In State University, the guide can be from any college within the same University.

7. ELIGIBILITY CRITERIA FOR RESEARCH GUIDE

- Ph.D. degree in nursing with 5 years postgraduate teaching experience with minimum **5 scientific publications** in National/International Journals.
- Maximum age to be a guide shall be 65 years.
- Guide cannot have more than 6 candidates (including being co-guide) at any given point of time.
- Scholars can have co-guide from nursing or other discipline, if necessary.
- The Ph.D. doctorate holders who are not formal teachers can be appointed as co-guides.

8. RESEARCH SCHOLARS

- Full time research scholars are those who register for Ph.D. on full time basis and are not employed anywhere.
- Part time research scholars are those who are presently employed in any College/School/Hospital/Institute/Nursing department within the University jurisdiction.
- Scholars can select the guide from the list of guides placed in the University website.

9. (I) ELIGIBILITY CRITERIA FOR RESEARCH SCHOLARS

Applications are invited from eligible scholars who have obtained —

- (a) M.Phil. in Nursing or M.Sc. Nursing or a Post Graduate degree in Nursing recognized by Council with **3 years teaching or Clinical experience** after M.Sc. Nursing for enrolment for Ph.D. in Nursing (part-time) under Faculty of Nursing in the respective University.
- (b) The scholars should have passed M.Sc. Nursing with a minimum of 60% marks.
- (c) Working in Teaching Institution/Hospital/Community Centre/Nursing Department within the University jurisdiction.

(II) Criteria for Selection

- (a) Selection for the Ph.D. Nursing Program will be based on merit either by entrance or by M.Sc. Nursing (minimum 60% marks).
- (b) If the University opts to conduct entrance examination, then selection for the Ph.D. Nursing Program of the candidate will be based on —

- i. Entrance test marks obtained out of 90 marks (Minimum weightage pass marks for entrance will be 60% of 90 i.e. 54).
- ii. 5 marks for candidates possessing M.Phil. in Nursing.
- iii. 5 marks weightage for publications.

10. RESERVATION IN ADMISSION: As per University Grants Commission (UGC) guidelines.

11. DURATION

Full time: Three years, maximum of 5 years - working nurse cannot be considered under full time category.

Part time: Five years, maximum of 7 years.

A candidate can register for Ph.D. course on part time basis.

- (a) A candidate should complete research work and submit the thesis to the University within five years from the date of provisional registration.
- (b) Maximum period for submission of thesis will be Seven years from the date of provisional registration subject to the approval from the Board of Research Studies/Doctoral Studies on the recommendations of the guide. There will be no provision for further extension of the period.

Under extraordinary circumstances, affecting a student warranting extension of period for submission of thesis, the student should submit an application to the Registrar (Evaluation) through the guide who will refer the same to the Board of Research Studies/Doctoral Studies for its opinion, which will be submitted to the High Power Committee. The decision of the Vice Chancellor in the matter shall be final.

12. CALENDAR OF EVENTS

- Provisional registration - 1st July every year.
- Submission of half yearly progress report - 15th July every year/15th January every year.
- No two-half yearly progress report should be submitted simultaneously.
- Conducting the Pre-Ph.D. examination after the approval of 1st and 2nd half yearly progress reports and completion of one year from the date of provisional registration.
- Exact date of the examination will be notified by the University.
- Confirmation of registration after successfully completing the Pre-Ph.D. examination.
- Submission of ethical clearance certificate within one year after provisional registration.
- Ethical clearance/permission from the Institution/Concerned Authorities should be obtained from where data is being collected.
- Submission of final synopsis of research work leading to Ph.D. degree after approval of all half yearly reports and on permission to submit the synopsis of Ph.D. registration committee.
- Submission of Ph.D. thesis along with the application within 6 months after the approval of the final synopsis and permission to be sought by Ph.D. registration committee to submit the thesis.
- Final Viva-Voce examination after the acceptance and approval of Ph.D. thesis by the examiners (date to be notified by the University).

13. PROCEDURE FOR REGISTRATION

- I. Selected candidates applying for registration shall submit the duly filled registration form through Head of the Research/Nursing Department or College of Nursing within the stipulated time along with the prescribed fee. The candidate shall furnish the information detailed below —
 - (a) Qualification and details of previous study and research, if any, and full particulars of the publications to his/her credit in accredited journals. (attested copies to be furnished)
 - (b) Name and address of the recognized Guide/Co-Guide under whom the candidate proposes to carry out research.
 - (c) Name of the department and institution where the candidate proposes to work and to conduct research.
 - (d) Title and synopsis of the proposed research work.
- II. Candidates in service shall forward application along with the consent of the guide with name, signature & seal and a No Objection Certificate from the Head of the Department and Head of the Institution where the candidate is working (place of work) while submitting the application along with the documents mentioned under schedule for the candidates.
- III. All applications received by the University before the stipulated time and date shall be placed before the Board of Research/Doctoral Studies. The Board/Committee shall examine the applications and after screening process shall recommend to the University for Provisional Registration within three months from the last date notified for the receipt of applications.

Provisional registration shall be effective from the date mentioned as the last date for payment of prescribed fees in the concerned specialty for the selected candidate.
- IV. No candidate shall, without previous permission of the respective Board/Committee join any other course of study or appear for any other examination conducted by the University or by any other University during the period of registration.

14. BOARD OF RESEARCH/DOCTORAL STUDIES

The Board/Committee will consist of —

- (a) Dean of the Faculty of Nursing
- (b) Selected Ph.D. qualified Committee Members
- (c) One subject expert

15. PROGRESS REPORT

After provisional registration, every candidate shall submit half yearly progress report regularly through the guide.

Every such half yearly report shall be submitted for the period from 1st January to the end of June and from 1st July to the end of December. However, the first report for the fraction of six months period shall be submitted ending either in June or December.

The half yearly progress report shall cover the following aspects —

- (a) Progress in the review of literature,
- (b) New data acquired or theoretical background/techniques developed,
- (c) Progress/standardization in research methodology,
- (d) Discussion of the work done.

If the candidate fails to submit two consecutive half yearly progress reports in time, his/her provisional registration shall stand cancelled.

If two consecutive half yearly progress reports are not satisfactory, the Board/respective Committee shall recommend to the University for cancellation of the registration.

16. PRE-Ph.D. EXAMINATION

The provisional registration of the candidate shall be confirmed only after he/she has passed the Pre-Ph.D. examination which shall be conducted after the completion of one year from the date of provisional registration of the candidate.

The scheme of Pre-Ph.D. examination to be conducted by the University shall be as follows —

S.No.	Subject	Duration	Marks
Paper I	Research Methodology & Applied Statistics	3 hours	100
Paper II	Nursing Science & Theory Development	3 hours	100
	Seminar/Term paper in the area of research (Internal assessment)	—	100
	Viva Voce (Proposal defense)*	—	100

* > = 60% of marks will be considered as pass.

Note: 70% attendance is compulsory for contact hours. If the student does not have 70%, he/she will not be allowed to appear for the Pre-Ph.D. examination, however they have to make up for the same next academic year.

The syllabi for both the papers shall be as prescribed by the Indian Nursing Council.

Scope for changing the research topic: The research topic can be changed within one year.

17. PROCEDURE FOR PRE-Ph.D. EXAMINATION

(a) The Board of Research/Doctoral Studies shall prepare a panel of both external & internal examiners and will constitute the Board of Examiners for the conduct of the Pre-Ph.D. examination.

(b) The Board of Examiners for the Pre-Ph.D. examination consists of the following —

1. There shall be double valuation of the answer scripts of Paper I and Paper II by the same examiners who have set the question papers. The marks list shall be sent by the examiners directly to Registrar (Evaluation) of the University concerned.
2. If the difference of the marks in valuation between the two examiners exceeds 15% of the concerned answer scripts, the same will be valued by the third examiner. The marks awarded by the third examiner shall be sent to Registrar (Evaluation) of the University concerned for the announcement of results.
3. The Viva-Voce (proposal defense) examination shall be conducted in presence of the panel consisting of —
 - Two examiners (Subject Experts) appointed by the University
 - Guide/Co-Guide
 - i. The candidate shall be declared as successful in the examination if he/she secured not less than 60% of marks in each paper.
 - ii. In case the candidate is not successful in the Pre-Ph.D. examination in the first attempt he/she may be given two more chances to appear for entire examination after a period of six months. Further, if he/she is unable to attend or appear in the supplementary examination, then he/she

has to appear in the next regular examination, after that he/she will not be permitted to sit in the examination.

- iii. If the candidate is not successful in the Pre-Ph.D. examination, even in the second appearance, his/her provisional registration shall stand cancelled.

18. CHANGE OF GUIDE

Change of guide may be allowed within a period of less than two years. In extraordinary circumstances warranting change of guide, the guide and/or the student should place the facts before the Board of Research/ Doctoral Studies for its opinion. The decision and the recommendations of the Board of Research Studies/ Committee shall be final.

19. SUBMISSION OF THESIS

- Any candidate who has completed the minimum period of three years doing prescribed research from the date of his/her provisional registration and not less than three months before the expiry of the maximum period prescribed for submission of thesis may submit an application along with five copies of synopsis of the thesis through the Guide, the Head of the institution to the respective Board of Research Studies/Committee for permission to submit the thesis as per the University procedures.
- After the approval, four copies of the approved final synopsis (hard copy/CD) shall be sent to Board of Research/Doctoral Studies/Evaluation Committee who shall proceed with the Constitution of Board of Examiners for the adjudication of the Ph.D. thesis and keep it ready prior to the submission of the thesis.
- Every candidate shall submit with his/her application, five copies of the thesis embodying the results of the research carried out by him/her within six months after the submission of the final synopsis as per the University procedures.
- A candidate may also submit along with his/her thesis papers published by him/her embodying the results of investigation for the Ph.D. degree and also any other contribution/s to the knowledge of his/her subject or any cognate branch of the subject.
- Every candidate shall submit with his/her thesis, a certificate from the guide/s under whom he/she worked, that the thesis, submitted is a record of research work done by the candidate during the period of study under him/her that it has not previously formed the basis for the award of any degree or diploma, associateship/fellowship or any other similar award.
- If, however, the thesis submitted has formed in part the basis for the award of previous research degree the candidate shall clearly set forth in a preface or written statement the portion(s) which have formed the basis for the award of the previous degree.
- Along with the thesis the candidate will also produce a “No Due Certificate” from the Head of the Department and Head of the Institution and from the University Librarian and Finance Section if applicable.

20. Ph.D. EXAMINATION

For the adjudication of Ph.D. thesis there shall be a Board of Examiners of two external members to be chosen by the University, from the panel of examiners recommended by the Board of Research/Doctoral Studies/Ph.D. Evaluation Committee. The guide shall be the Chairperson of the Board of Examiners. However, under extraordinary circumstances, Board of Research/Doctoral Studies/Evaluation Committee may appoint a Chairperson other than the Guide from the panel of Board of Examiners. The external examiners must be from outside the University who are subject experts who fulfill the criteria of a guide.

Each external examiner appointed to adjudicate the thesis shall send the report to the Chairperson within two months from the date of receipt of the thesis. Such reports should include —

- (a) A critical account of the work of the candidate as embodied in the thesis and the evaluation of the work in term of its contribution to the advancement of knowledge.
- (b) Details of any questions to be asked or points to be clarified at the Viva-Voce examination.
- (c) Definite recommendations as to whether the Ph.D. degree should be awarded or not.

The Chairperson shall forward the report of the examiners along with the consolidated recommendations of the Board of Examiners to the Ph.D. Evaluation Committee/Board.

If both the examiners give definite recommendations against the award of the degree, the thesis shall be rejected. If one of the examiners gives a definite recommendation against the award of the degree the thesis may be referred to third external examiner, from out of the panel recommended by the Board of Research/Doctoral Studies/Ph.D. Evaluation Committee. If the report of the third examiner is favorable, then the candidate shall be eligible to appear for the Viva-Voce examination and if it is not favorable, then the thesis shall be rejected.

If one of the examiners makes qualified recommendations with valid reasons (for e.g. to resubmit the thesis after suitable modifications), the Chairperson shall communicate the same to the Registrar Ph.D. Nursing Evaluation, who will in turn intimate the candidate for resubmitting the thesis with the suitable modifications within six months from the date of communication. The resubmitted thesis with suitable modifications will be sent to the same examiner and the reports received thereon by the Chairperson shall be communicated to the Registrar Evaluation/Ph.D. Evaluation Committee.

No candidate shall, however, be permitted to submit the thesis more than two times.

The thesis may be published in any form after obtaining necessary permission from the University.

21. VIVA-VOCE EXAMINATION

Viva-Voce examination shall be conducted after the receipt of the satisfactory report, on the thesis from all the examiners. The Viva-Voce examination shall be conducted by a Board constituted as follows —

- i. Guide/Chairperson
- ii. Guide/Co-Guide (in case Guide is not the Chairperson)
- iii. At least one of the external examiners shall be present at the Viva-Voce examination. However, under extraordinary circumstances, where any external examiner cannot be present at the Viva-Voce examination, the Vice-Chancellor may appoint any external substitute examiner from the panel constituted by the Board of Research/Doctoral Studies/Ph.D. Evaluation Committee.

Teachers and research scholars of the concerned departments/institutions may be invited as observers only to attend the Viva-Voce examination.

The Viva-Voce examination is primarily designed to test the understanding of the candidate of the subject matter of the thesis including methodology employed and his/her competence in the general field of study. Since the points raised by the examiners of thesis are to be clarified during the Viva-Voce examination, the report of the examiners who adjudicated the thesis will be made available to the Board for Viva-Voce examination. The candidate shall produce all the relevant documents, materials, and preparations etc., concerned with the research project during Viva-Voce examination.

Members of the Board for the Viva-Voce examination shall report specifically on whether the candidate's performance on the examination is satisfactory and therefore be considered as accepted or not accepted.

A candidate who is not successful at the Viva-Voce examination may be permitted to undergo the Viva-Voce examination for a second time after a period of three months. No candidate shall be permitted to take the Viva-Voce examination on more than two occasions.

22. AWARD OF Ph.D. DEGREE

The degree will be awarded by the University, after the candidate successfully completes Viva-Voce examination. The Chairperson shall consolidate the recommendations for the award of Ph.D. degree based on the following —

- i. The report of examiners who adjudicated the thesis,
- ii. Evaluation of the candidate's performance in the Viva-Voce examination.

The Chairperson shall forward the consolidated and individual reports with recommendation to the Registrar (Ph.D. Evaluation) of the University. Based on these reports, the University shall award the Ph.D. degree after the recommendations are approved by the Vice-Chancellor.

23. List of Annexures shall be placed in the University Prospectus of Ph.D. Nursing.

1. Annexure I - Fee Structure
2. Annexure II - Application Form after selection of the candidates for Ph.D. Nursing
3. Annexure III - List of documents to be enclosed
4. Annexure IV - List of recognized guides
5. Annexure V - Proforma for Registration of Topic
6. Annexure VI - Guidelines for preparing thesis protocols/proposal
7. Annexure VII - Style of writing bibliography

I. RESEARCH METHODOLOGY AND APPLIED STATISTICS

Contact hours = 60 hours; Self study = 30 hours; Total hours of instruction: 90 hours (6 credits)

One credit = 15 contact hours

Unit-I Introduction (3 hours)

Methods of acquiring knowledge, problem solving and scientific method, characteristics of high quality research, importance of nursing research, priorities/areas of nursing research - priority setting process, current and future directions for nursing research, research innovations and trends - latest types of research.

Unit-II Research process overview (5 hours)

Phases of quantitative and qualitative research - review, research paradigms, research question - policy relevant questions/problem, statement and key concepts used in research and hypothesis - types and formulation.

Unit-III Review of literature (5 hours)

Sources, steps, literature retrieval from various databases, and preparation of literature review, scoping review and systematic reviews.

Unit-IV Designing and conducting research: (25 hours)*Research Approaches: Quantitative and qualitative**Quantitative Research: Non-experimental and experimental*

- Non-experimental/observational studies: Survey approach, longitudinal, cross-sectional, cohort, case control studies
- Experimental designs: Purposes, characteristics, types of design, pre-experimental and quasi and true experimental design: clinical trials, and steps of experimental research
- Sampling: Sample, population, sampling methods, sampling criteria, determination of sample size
- Data collection: Methods and tools/instruments
- Selection and construction of scales/tools, testing validity and reliability
- Data analysis, management and interpretation
- Rigor and validity in quantitative research.

Qualitative Research

- Ethnography, phenomenology, grounded theory
- Sampling
- Data collection: Methods, tools used for qualitative research, observation, focused group discussion, measurement and record analysis and field trips
- Data analysis, interpretation and data management
- Trustworthiness and rigor in qualitative research

Other types: (4 hours)

- Mixed methods research
- Translational research
- Implementation research
- Health systems research: Policy relevant research
- Epidemiological, evaluation research, and historical research

Unit-V Quantitative analysis: Statistical (10 hours)

- Descriptive, inferential and advance statistics
- Parametric and non-parametric methods
- Multivariate analysis

Unit-VI Ethical considerations in nursing research (2 hours)

- General considerations
- Ethical considerations specific to approaches, design and data collection procedures
- Ethics Committee: Composition, role and importance - Guidelines for ethical clearness
- Ethical issues: Relation to scientific and professional community (Plagiarism)

Unit-VII Communicating research findings (4 hours)

- Research critique
- Project proposal for funding
- Research utilization

Unit-VIII Scientific writing (2 hours)

- Research grant writing and bidding
- Intellectual property rights
- Patency rights
- Copyrights

II. NURSING SCIENCE AND THEORY DEVELOPMENT INCLUDING NURSING LEADERSHIP**Contact hours = 75 hours; Self study = 45 hours; Total hours of instruction: 120 hours (8 credits)****One credit = 15 contact hours**

1. Nursing leadership in health care delivery system
Contact hours: 20 hours; Self study: 10 hours (2 credits)
2. Philosophy of nursing science and theoretical perspectives
Contact hours: 15 hours ; Self study: 15 hours (2 credits)
3. Nursing theories and theory development
Contact hours: 40 hours ; Self study: 20 hours (4 credits)

I. NURSING LEADERSHIP IN HEALTH CARE DELIVERY SYSTEM (20 hours)

Course overview: This course is designed to prepare the doctoral student to identify and utilize the nursing science and leadership roles as a basis for analyzing, developing and implementing national health policy and population policy and development of nursing profession.

Objectives: Upon completion of this course the student will be able to —

1. analyze the health problems and societal forces, health economics and politics in relation to corresponding national health policy and population policy
2. relate the impact of health policy and population policy to structure, content, distribution and financing of health services in general and nursing services in particular
3. analyse the leadership theories
4. identify the leadership roles necessary for the nursing leaders for developing nursing profession and people's health

Syllabus:

- I. Current health issues and policies (8 hours)
 1. Analysis of current health problems - national & global
 2. Health care delivery system in India
 3. National health policy, population policy and alternative systems of medicine, National Educational Policy (NEP)
 4. Health policy issues relevant to nursing practice - Development of nursing services in health policy
 5. The functions and roles of law in health care delivery - Existing legislations related to nursing. Laws for new and emerging roles (e.g.) Nurse practitioner, private practice (nursing homes)
 6. Social system and health policy
 7. Politics and health policy - lobbying for development of nursing profession
 8. Health economics and health policy (economics of health care and nursing)
 9. Health insurance
 10. Quality improvement including accreditation
- II. Nursing leadership (8 hours)
 1. Leadership theories including transformational versus transactional leadership
 2. Nursing leadership and decision making
 3. Nursing leadership and change process
 4. Human resource planning and management by nurse leaders
 5. Profession building in health care system - advocacy, lobbying
 6. Nursing ethics
 - Code of ethics, professional conduct for nurses in India
 - Nursing standards, nursing practice, standards and quality assurance
 7. Human relations
 - Valuing human being
 8. Communication skills
- III. Nursing informatics (4 hours)
 - Nursing management information system, Networking institutions through literature search.
 - Nursing Universities, Internet, Literature search
 - Knowledge about basic computers
 - Review

OR

 1. Overview of computers and nursing
 2. Computer systems: Data processing, the internet, a nursing resource
 3. Nursing informatics and health care policy, privacy, confidentiality and security
 4. Nursing informatics theory, clinical information systems
 5. Applications: Practice applications, administrative application (information technology for nursing managers), educational applications and research applications
 6. Consumer use of informatics
 7. The future of informatics

II. PHILOSOPHY OF NURSING SCIENCE AND THEORETICAL PERSPECTIVES (15 hours)

Course overview: This is an introductory course. It begins the students' integrative analysis of the conceptual and empirical base of the domain of nursing. This course enables the student to trace the historical development and current status of nursing science in the context of the philosophy and history of science. (Study of nursing as a scientific discipline)

Objectives: Upon completion of this course, the student will be able to —

1. analyse the historical roots and current status of contemporary nursing science
2. explicate the paradigms of inquiry which influence the investigation of nursing phenomena
3. explore the impact of scientific issues on the development of nursing science

Syllabus

1. Introduction to the course, study of philosophy, history of philosophy
2. History and philosophy of nursing science
3. Nursing as a science and a discipline (evolution and development)
4. Nursing knowledge and development
 - Historical roots
 - Domains of nursing
 - Paradigms in nursing
 - Knowledge development
5. Paradigms that influence approach to nursing science development
6. Epistemological and ontological assumptions of diverse approaches to knowledge generation in nursing

III. NURSING THEORIES AND THEORY DEVELOPMENT (40 hours)

Course overview: This is designed to facilitate the refinement of the critical skills necessary for analyzing and evaluating theoretical formulations, synthesizing theoretical components into conceptual models and developing testable hypotheses. The interrelationships among theory and practice and research in nursing will be examined.

Objectives: Upon completion of this course the student will be able to —

1. describe strategies for concept and theory development
2. get overview of nursing theories
3. evaluate theories used in nursing practices
4. demonstrate skill in developing and testing conceptual models that will impact nursing science
5. examine interrelationship among science, theory, practice and research in nursing

Syllabus

1. Epistemology (5 hours)
 - Concepts, statements and theories
 - Strategies for theory development
 - Evaluation of theories
 - Metatheory
2. Overview of theory in nursing (10 hours)
 - Overview of theory
 - Importance of theory in nursing
 - Historical overview
 - Classification of theories in nursing
 - Issues in theory development in nursing
 - Nursing Theory: an examination of the concept development of nursing theory
3. Overview of nursing theories (15 hours)
The theorists and the theories
 - On nursing clients
 - On human being - Environment interactions
 - On interactions
 - On nursing therapeutics
 - Other theories: Practice level/Prescriptive/situation specific theories
4. Analysis of nursing theories & evaluation of nursing theories
5. Nursing theory and practice
6. Nursing theory and research
7. Inter relationships between science, theory, practice and research in nursing. (4,5,6,7=10 hours)

Dr. T. DILIP KUMAR, President

[Adv.-III/4/Exty./171/2025-26]



SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION AND RESEARCH

(A Deemed to be University declared under Section 3 of UGC Act 1956)

Comprising Sri Devaraj Urs Medical College

[Constituent unit of Sri Devaraj Urs Educational Trust for Backward Classes (Regd.)]

TAMAKA, KOLAR-563 103, KARNATAKA, INDIA

Ph: 918152-243003, +91 9448395232, Fax : +918152 - 243008 E-mail - registrar@sduaher.ac.in / office@sduaher.ac.in. Website: www.sduaher.ac.in

No. SDUAHER /KLR /ADMN /2187/2024-25

30.09.2024

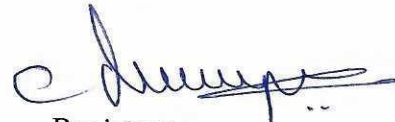
REVISED NOTIFICATION

Ref: 1.INC Notification No: 1-6/LT/2024-INC, dated: 20-09-2024

2.Approval of the Hon'able Vice Chancellor, dated:30-09-2024

In continuation of this office notification dated 29-07-2024, the Calendar of events for Admission of P.B. B.Sc (N) Program for the academic year 2024-25 is hereby notified as follows:

SL.NO	DESCRIPTION OF EVENTS	SCHEDULE
PART-I		
01	Last date of admission	31 st October 2024
02	Commencement of academic session	18 th September 2024
03	Online submission of list of students to the Registrar SDUAHER	5 th November 2024
04	Getting admission registered certified by the Registrar SDUAHER	15 th November 2024 Before 3.30pm
05	Last date for admission approval statement	30 November 2024
06	Submission of I A marks	17 th July 2025
07	Examination	2 nd week of August 2025
08	Declaration of results	On or before 4 th week of August 2025


Registrar

Copy to:

1. P.A to Vice Chancellor, SDUAHER
2. The Finance Officer, SDUAHER
3. The Controller of Examinations, SDUAHER
4. The Principal, Sri Devaraj Urs College of Nursing, Tamaka, Kolar.
5. Office Copy

Registrar
Sri Devaraj Urs Academy of Higher
Education and Research
Tamaka, Kolar - 563 103.

Sri Devaraj Urs Academy of Higher Education and Research

(A deemed to be university declared under section 3 of UGC Act 1956)

Comprising Sri Devaraj Urs Medical College

[Constituent unit of Sri Devaraj Urs Educational Trust for Back Ward Classes (Regd.)]

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Ph.918152-243003,+91 9448395232,[E-mail -registrar@sduaher.ac.in/office@sduaher.ac.in](mailto:E-mail-registrar@sduaher.ac.in/office@sduaher.ac.in) Website:
www.sduaher.ac.in

Post. Basic B.Sc. Nursing Course Regulations and Curriculum

(With effect from 2024-2025 batches)



SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION AND RESEARCH

Constituent Unit, Sri Devaraj Urs College of Nursing

A Deemed To Be University

Declared under section 3 of UGC Act 1956

MHRD GOI NO.F, 9-36/2006-U.3 (A), Dt.25th may 2007

Post box No.62, TAMAKA, KOLAR-563103, KARNAKATAKA, INDIA

Ph.08152-210604, 210605, 243244: Fax: 08152-243008

Website: www.sduaher.ac.in [Email -registrar@sduaher.ac.in/office@sduaher.ac.in](mailto:Email-registrar@sduaher.ac.in/office@sduaher.ac.in)

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Sri Devaraj Urs Academy of Higher Education and Research

(A deemed to be university declared under section 3 of UGC Act 1956)

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TAMAKA, KOLAR-563103, KARNAKATAKA, INDIA

Ph.918152-243003, +91 9448395232, E-mail -registrar@sduahe.ac.in/office@sduahe.ac.in

Website: www.sduahe.ac.in

NOTIFICATION

Sub: Approved of P.B.B.Sc (N) curriculum under the faculty of nursing

Ref: 1) INC notification file No: 1-6/LT/2023-INC, Dated: 26-12-2023

2) Proceedings of 46th Academic council meeting, Dated: 26-02-2024

3) Proceedings of 77th Board of Management meeting, Dated: 28-03-2024

4) No.SDUAHER/KLR/ADMN/238/2024-25, Dated: 18-04-2024

Sri Devaraj Urs Academy of Higher Education and Research, Kolar was established in the year 2007 under section 3 of the UGC Act, 1956. Sri Devaraj Urs College of Nursing becomes a constituent unit of SDUAHER from 1st July 2024. The academic council and board of management of SDUAHER approved P.B B.Sc Nursing curriculum from the academic year 2024-25 in conformity with Indian Nursing Council regulations and curriculum for P.B. B.Sc (N) programme, Regulations 2001.

(Dr. Muninaraayana C)
Registrar

AIMS AND OBJECTIVES

Aims

Post Basic B.Sc. degree in Nursing is a broad based education aimed to build upon the skills and competencies acquired at the diploma in nursing level. It is specifically directed to the upgrading of critical thinking skills, competencies and standards required for practice of professional nursing and midwifery as envisaged in National Health Policy. The course is intended to enable the graduates:

- " Assume responsibilities as professional, competent nurses and midwives at basic level in providing promotive, preventive, curative, and rehabilitative services.
- " Make independent decisions in nursing situations, protect the rights of and facilitate individuals and groups in pursuit of health, function in the hospital, community nursing services, and conduct research studies in the areas of nursing practice. They are also expected to assume the role of teacher, supervisor, and manager in clinical/public health settings.

Objectives

On completion of Post-Basic B.Sc. Nursing degree course the graduates will be able to:

1. Assess health status, identify nursing needs, plan, implement and evaluate nursing care for patients / clients that contribute to health of individuals, families and communities.
2. Demonstrate competency in techniques of nursing based on concepts and principles from selected areas of nursing, physical, biological and behavioral sciences.
3. Participate as members of health team in the promotive, preventive, curative and restorative health care delivery system of the country.
4. Demonstrate skills in communication and interpersonal relationship.
5. Demonstrate leadership qualities and decision-making abilities in various situations.
6. Demonstrate skills in teaching to individuals and groups in community health settings.
7. Demonstrate managerial skills in community health settings.
8. Practice ethical values in their personal and professional life.
9. Participate in research activities and utilize research findings in improving nursing practice.
10. Recognise the need for continued learning for their personal and professional development.

SECTION II

(As per Regulations and Syllabus prescribed by Indian Nursing Council, New Delhi - 2001 Revision)

REGULATIONS

1. Title of the course

The course of study shall be called Post Basic B.Sc. in Nursing or B.Sc. Nursing (Post Basic)

2. Eligibility:

A candidate seeking admission must :

- i) hold a diploma in General Nursing & Midwifery (GNM)
- ii) be a registered nurse
- iii) have a minimum of two years experience in a hospital or community health nursing.
- iv) have passed pre university examination in arts/science/commerce conducted by Department of Pre University Education, Karnataka State or its equivalent recognized by Rajiv Gandhi University of Health Sciences.
- v) have working knowledge of English
- vi) be medically fit
- vii) have good personal and professional record.

3. Age

No candidate who is above 48 years of age on 31st December of the year of admission shall be eligible.

4. Duration of Study

The course of study shall be for two academic years from the date of commencement of term notified by the university.

5. Medium of Instruction

English shall be the medium for the course as well as for the examination.

6. Course of Study

Candidates shall undergo course of instruction in the subjects, mentioned in Table 1.

Table -1
Distribution of Subjects and Teaching hours for First and Second year.

Sl. No.	Subject	Theory Hours	Practical Hours
	1st Year		
1.	Nursing Foundation	45	
2.	Nutrition & Dietetics	30	15
3.	Biochemistry & Biophysics	60	
4.	Psychology	60	15
5.	Microbiology	60	30
6.	Maternal Nursing	60	240
7.	Child Health Nursing	60	240
8.	Medical & Surgical Nursing	90	270
9.	English (Qualifying)	60	
	Total	525	810

Note : For teaching of Kannada separate syllabi given vide University letter, No.UA/Misc-59/2001- 2002 dated 16.07.2002 and 16.12.2002, and for Constitution UA/Misc- 63/2002-2003 dated 28.10.2002

Sl. No.	Subject	Hours Theory	Hours Practical
	2nd Year		
10.	Sociology	60	
11.	Community Health Nursing	60	240
12.	Mental Health Nursing	60	240
13.	Introduction to Nursing Education	60	75
14.	Introduction to Nursing Administration	60	180
15.	Introduction to Nursing Research & Statistics	45	120
	Total	345	855

Note:

1. Teaching of Anatomy, Physiology, Pharmacology and Pathology will be integrated with clinical subjects.
2. English is a qualifying subject
3. Introduction to Nursing Research and Statistics is a subsidiary subject.

7. Attendance

A minimum of not less than 80 % attendance in theory and practical / clinical separately in each subject in each academic year is essential for appearing in the examination. A candidate pursuing in the course shall study in the college for the entire period as a full time student. No candidate is permitted to work in a hospital / nursing home / laboratory / college while studying this course. No candidate should join any other course of study or appear for any other examination conducted by

this university or any other university in India or abroad during the period of registration. Each academic year shall be taken as a unit for calculating the attendance.

8. Internal assessment

Regular periodic assessment shall be conducted throughout the course. Although the question of number of tests is left to the institution, at least three tests in theory and practical each year be held. The test preceding the university examination may be similar to the pattern of university examination. Average of the marks of the three tests for theory and practical separately, shall be sent to the university. Two assignments be given in the first year. Marks obtained in the assignments shall be added to theory marks for internal assignment.

A candidate shall secure at least 35% of marks in internal assessment to be eligible to appear in the university examination.

9. Scheme of examination

The university shall conduct two examinations annually at an interval of not less than 4 to 6 months as notified by the university from time to time. A candidate who satisfies the requirement of attendance, progress and conduct as stipulated by the university shall be eligible to appear for the university examination. Certificate to that effect shall be produced from the Head of the institution along with the application for examination and the prescribed fee.

Schedule of Examination

For the Post Basic B.Sc. Nursing course, there shall be two university examinations, one at the end of I year of the course and the other at the end of II year of the course.

Criteria for Pass

A candidate shall secure at least 50 % of total marks in each subject in theory paper and practical separately except in English. The marks obtained in the internal assessment shall be added to the marks obtained in the university examination for each subject for computing the 50 % minimum marks required for passing. In case of English, a candidate shall secure at least 33 % of maximum marks for passing (inclusive of internal assessment and university examination).

Carry Over Benefit

A candidate is permitted to carry over a maximum of three main subjects provided he/she has passed in five other main subjects in I year. The candidate has to pass the carried over subjects before appearing in the II year university examination.

Table - 2
Distribution of subjects, duration and marks.

Sl. No.	1st Year	Duration Hrs.	Internal Assessment	University Examination	Total Marks
	Theory Paper Subjects				
1.	Nursing foundation	2	15	35	50
2.	Nutrition & Dietetics	2	15	35	50
3.	Biochemistry & Biophysics	3	25	75	100
4.	Psychology	3	25	75	100
5.	Microbiology	3	25	75	100
6.	Maternal Nursing	3	25	75	100
7.	Child Health Nursing	3	25	75	100
8.	Medical & Surgical Nursing	3	25	75	100
9.	English (Qualifying)*	3	25	75	100
	Practicals				
1.	Medical & Surgical Nursing			50	100
2.	Maternal Nursing			50	100
3.	Child Health Nursing			50	100

Sl. No.	2nd Year	Duration Hrs.	Internal Assessment	University Examination	Total Marks
	Theory Paper Subjects				
1.	Sociology	3	25	75	100
2.	Community Health Nursing	2.	25	75	100
3.	Mental Health Nursing	3	25	75	100
4.	Introduction to Nursing	3	25	75	100
	Education				
5.	Introduction to Nursing	3	25	75	100
6.	Administration				
7.	Introduction to Nursing	3	50	50	50
8.	Research & Statistics**	2		50	
	Practicals				
1.	Community Health Nursing		50		100
2.	Mental Health Nursing		50		100
3.	Research Project **		50		50

* English is a qualifying subject

** Respective colleges will conduct the examination for this subject. It will not be University examination

SECTION *III*

COURSE DESCRIPTION

Nursing Foundation

Placement: First Year

Time Allotted: Theory - 45 Hrs.

COURSE DESCRIPTION

This course will help students develop an understanding of the philosophy, objectives and responsibilities of nursing as a profession. The purpose of the course is to orient to the current concepts involved in the practice of nursing and developments in the nursing profession.

OBJECTIVES

At the end of the course, the student will :

1. Identify professional aspects of nursing.
2. Explain theories of nursing.
3. Identify ethical aspects of nursing profession.
4. Utilise steps of nursing process.
5. Identify the role of the nurse in various levels of health services.
6. Appreciate the significance of quality assurance in nursing.
7. Explain current trends in health and nursing.

COURSE

CONTENTS UNIT

I :Development of

nursing as a profession

- its philosophy
- objectives and responsibilities of a graduate nurse

Trends influencing nursing practice

Expanded role of the nurse

Development of nursing education in India and trends in nursing education .

Professional organizations, career planning

Code of ethics & professional conduct for nurses.

UNIT II :

Ethical, legal and other issues in nursing
Concepts of health and illness, effects on the person .

Stress and adaptation.
Health care concept and nursing care concept
Developmental concept, needs, roles and problems of the developmental stages of individual - newborn, infant, toddler, pre-adolescent, adolescent, adulthood, middle-age, old age

UNIT III :

Theory of nursing practice
Meta paradigm of nursing - characterized by four central concepts i.e. nurse, person (client/patient), health and environment.

UNIT IV :

Nursing process.
Assessment: Tools for assessment, methods, recording. Planning:
Techniques for planning care, types of care plans.
Implementation: Different approaches to care, organizations and implementation of care, recording.
Evaluation: Tools for evaluation, process of evaluation.

UNIT V :

Quality assurance: nursing standards, nursing audit, total quality management Role of council and professional bodies in maintenance of standards.

UNIT VI :

Primary health care concept:
- community oriented nursing
- holistic nursing
- primary nursing
Family oriented nursing concept:
- problem oriented nursing
- progressive patient care
- team nursing

UNIT VII

Biomedical Waste Management
- Waste sharps, Solid wastes, Discarded Medicines, Cytotoxic drugs.
(Please see Annexure-I)

NUTRITION & DIETETICS

Placement: First Year

Time Allotted: Theory - 30
hrs. Practical - 15
hrs.

COURSE DESCRIPTION

This course is designed to provide the students with a wide knowledge of dietetics in Indian setting, that the practice of teaching optimum and realistic dietary planning can become an integral part of nursing practice.

OBJECTIVES

At the end of the course, the student will:

1. Explain the principles and practices of nutrition and dietetics.
2. Plan therapeutic diets in different settings.
3. Identify nutritional needs of different age groups and plan diet accordingly.
4. Prepare meals using different methods utilizing cookery rules.

COURSE CONTENTS

UNIT I

Introduction to nutrition and dietetics. Balanced diet, factors on which it depends. Factors to be considered in planning.
Guides available for planning.
Food Hygiene, preparation and preservation. Review of nutrients - micro & macro.

UNIT II

Introduction to diet therapy.
Routine hospital diets.
Therapeutic diet under each unit i.e. Cardiovascular diseases, Gastrointestinal diseases, Renal disorders, Endocrine and metabolic disorders, Allergy, Infections and fevers, Pre and post operative stage, Deficiency diseases and malnutrition, overweight and underweight.

UNIT III

Infant and child Nutrition
Feeding of normal infants: factors to be considered in planning, nutritional requirements.

Feeding of premature infants: factors to be considered in planning, nutritional requirements.
Supplementary feeding of infants: Advantage and method of introduction.
Weaning, effects on mother and child.
Psychology of infant and child feeding.
Feeding the sick child. Diet in diseases of infancy and childhood. Deficiency states - malnutrition and under nutrition.
Feeding pre-school child: nutritional needs, factors to be considered in planning diets. Problems in feeding.
School lunch programme: Advantages, Need in India.

UNIT IV

Community Nutrition: Need for community nutrition programme.
Nutritional needs for special groups: infant, child, adolescent, pregnant woman, lactating mother and old people.
Substitutes for non-vegetarian foods.
Selection of cheap and nutritious foods. Nutrition education needs and methods. Methods of assessing nutritional status of individual! group / community.
Current nutritional problems and national programmes.

PRACTICUM

I. Methods of cooking and cookery rules.

1. Simple preparation of beverages, soups, cereals and pulses, eggs, vegetables, meat.
2. Menu Plans.

II. Preparation of supplementary food for infants.

1. Food for toddlers.
2. Low cost nutritious dishes for vulnerable groups.
3. Dietary case study of patient on special diet and planning of low cost dietary instructions for home adaptations.
4. Planning of therapeutic diets.

BIOCHEMISTRY & BIOPHYSICS

Placement: First year

Time Allotted:

Section A (Biochemistry) - Theory 30 hrs. Section
B (Biophysics) - Theory 30 hrs.

COURSE DESCRIPTION

This course introduces the basic principles of Biochemistry and Biophysics related to nursing.

OBJECTIVES

At the end of the course, the student will:

1. Identify the basic principles of Biochemistry and Biophysics.
2. Synthesize the knowledge of these principles in various nursing situations.

Section A : Biochemistry

Theory - 30 hrs.

COURSE

CONTENTS

UNIT I

Introduction: Importance of Biochemistry in nursing. Study of cell and its various components.

UNIT II

Water and Electrolytes: Water- Sources, property & functions in human body. Water and fluid balance.

Electrolytes of human body, functions, sources.

UNIT III

Enzymes Mechanism

of action

Factors affecting enzyme activity

Diagnostic applications

Precautions for handling specimens for enzyme estimation . Digestion and absorption of carbohydrates, proteins and fats

Various factors influencing the digestion and absorption, mal-absorption syndrome.

UNIT IV

Carbohydrates: Catabolism of carbohydrates for energy purposes .

Mitochondrial oxidation and oxidation phosphorylation.

Fats of glucose in the body. Storage of glucose in the body, glycogenesis, glycogenolysis and neoglucogenesis, blood glucose and its regulation.

Glucose tolerance test, hyperglycemia, hypoglycemia, glycemia.

UNIT V

Protein: Amino acids, hormones.'

Essential amino acids. Biosynthesis of protein in the cells. Role of nucleic acid in protein synthesis.

Nitrogenous constituents of Urine, Blood, their origin - urea cycle, uric acid formation, gout. Plasma proteins and their functions.

UNIT VI

Fat: Biosynthesis of fats and storage of fats in the body. Role of liver in fat metabolism

Biological importance of important lipids and their functions.

Cholesterol and lipoprotein

sources, occurrence and distribution

blood level and metabolism

Ketone bodies and utilization.

Inter-relationships in metabolism and cellular control of metabolic processes.

UNIT VII

Biomedical Waste Management

- Liquid waste generated from laboratory. Chemical waste.

(Please see Annexure-I)

Section B : Biophysics

Theory - 30 hours

COURSE

CONTENTS

UNIT I

Introduction: Concepts of unit and measurements.

Fundamental and derived units.

Units of length, weight, mass, time.

UNIT II

Vector and scalar motion, speed, velocity and acceleration.

UNIT III

Gravity: Specific gravity, centre of gravity, principles of gravity.

Effect of gravitational forces on human body.

Application of principles of gravity in nursing.

UNIT IV

Force, Work, Energy: Their units of measurement.

Type and transformation of energy, forces of the body, static forces.

Principles of machines, friction and body mechanics.

Simple mechanics - lever and body mechanics, pulley and traction, including plane, screw. Application of these principles in nursing.

UNIT V

Heat: Nature, measurement, transfer of heat Effects

of heat on matter

Relative humidity, specific heat

Temperature scales

Regulation of body temperature. Use

of heat for sterilization

Application of these principles in nursing

UNIT VI

Light: Laws of reflection

Focussing elements of the eye, defective vision and its correction, use of lenses Relationship

between energy, frequency and wavelength of light

Biological effects of light Use

of light in therapy

Application of these principles in nursing

UNIT VII

Pressures: Atmospheric pressure, hydrostatic pressure, osmotic pressure Measurements of pressures in the body

Arterial and venous blood pressures ocular pressure

intracranial pressure

applications of these principles in nursing.

UNIT VIII

Sound: Frequency, Velocity and Intensity

Vocalisation and hearing. Noise pollution and its prevention. Use of ultrasound.

Application of these principles in nursing.

UNIT IX

Electricity and Electromagnetism: Nature of Electricity. Voltage, Current, Resistance and their Units Flow of electricity in solids, electrolytes, gases and vacuum.

Electricity and human body.

ECG, EEG, EMG, ECT

Pace makers and defibrillation.

Magnetism and electricity.

M.R.I. Scanning, CAT Scan

UNIT X

Atomic Energy: Structure of Atom, Isotopes and Isobars. Radioactivity:

Use of radioactive isotopes.

Radiation protection units and limits, Instruments used for detection of Ionising radiation. X-rays.

UNIT XI

Principles of Electronics: Common electronic equipments used in patient care.

Practicum

Experiments and Tests should be demonstrated wherever applicable.

PSYCHOLOGY

Placement: First Year

Time allotted: Theory - 60 hrs
Practical - 15 hrs

COURSE DESCRIPTION

This course is designed to reorient and widen the student's knowledge of fundamentals of psychology. The student is offered an opportunity to apply the theoretical concepts in, the clinical setting and thereby understand the psychodynamics of patient behaviour. This course would also help the student to develop an insight into her own behaviour.

OBJECTIVES

At the end of the course, the student will

1. Apply psychological principles while performing nursing duties.
2. Distinguish the psychological processes during health and sickness.
3. Analyze own behaviour patterns.
4. Tabulate the psychological needs of the patients for planning nursing care.
5. Participate in psychometric assessment of the client.

COURSE CONTENTS

UNIT I

Introduction: Definition of psychology, scope and methods of psychology. Relationship with other subjects.

UNIT II

Sensation, Attention and Perception: Definitions .

Sensory processes: Normal and abnormal Attention
and distraction: contributory factors.

Characteristics of perception, Perception: normal and abnormal

UNIT III

Motivation: Definition and nature of motivation .

Biological and social motives

Frustration and conflicts

Self-actualization

UNIT IV

Emotions: Definition of emotions, Expression and perception Emotions
in sickness

UNIT V

Personality: Definition, Constituents of personality
Personality in sickness and nursing

UNIT VI

Psychological aspects of nursing
Behaviour and sickness. Psychological needs of
Child and adolescents
Adult
Aged
Attendants
Chronically ill individual

UNIT VII

Individual differences
Significance of individual differences.
Heredity and environment.
Role of individual differences both in health and sickness. Implications of
individual differences in nursing.

UNIT VIII

Intelligence and Abilities: Definition
Intelligence and abilities during sickness.
Measurement of intelligence and abilities.

UNIT IX

Learning: Definition, Conditions of learning.
Laws of learning
Learning during health and sickness.

UNIT X

Memory and forgetting: Definition and nature of memory . Memory
during health and sickness.
Forgetting during health and sickness.

UNIT XI

Attitudes: Definition, Development and modification. Role
of attitudes in health and sickness.

UNIT XII

Concept of mental hygiene & mental health.
Characteristics of a mentally healthy person.
Defense mechanisms

PRACTICUM

- 1) Simple experiments on
 - (i) perception
 - (ii) measuring thresholds
 - (iii) reaction time.
- 2). Administration of psychological tests
- 3) Observation and recording data: (i) field observation (ii) interview (iii) case study (iv) self-rating.

MICROBIOLOGY

Placement: First Year

Time Allotted: Theory-60 hrs.
Practical - 30 hrs.

COURSE DESCRIPTION

This course reorients the students to the fundamentals of Microbiology and its various sub-divisions. It provides opportunities to gain skill in handling and use of microscope for identifying various micro-organisms. It also provides opportunities for safe handling of materials containing harmful bacteria and methods of destroying microorganisms.

OBJECTIVES

At the end of the course, the student will:

1. Identify common disease producing micro-organisms.
2. Explain the basic principles of microbiology and their significance in health and disease.
3. Demonstrate skill in handling specimens.
4. Explain various methods of disinfection and sterilization.
5. Identify the role of the nurse in hospital infection control system.

COURSE

CONTENTS UNIT

I

Structure and Classification of Microbes.
Morphological types
Size and form of bacteria.
Motility
Classification of Micro-organisms.

Practical : Use and care of microscope.

Common examination: Blood smear, Moulds, Yeasts.

UNIT II

Identification of Micro-organisms.
Discussion of laboratory methods.
Diagnosis of bacterial diseases.

Practical : Staining techniques-gram staining, acid fast staining.

Hanging drop preparation.

UNIT III

Growth and Nutrition of Microbes

Temperature.
Moisture
Blood

Practical : Preparation of Media and culture techniques.
Collection, handling and transportation specimens of various

UNIT IV

Destruction of Micro-organisms.
Sterilization and disinfection
Chemotherapy and antibiotics
Effects of heat and cold
Hospital Infection control procedure and role of nurses.

Practical: Sterilization methods - Physical, Chemical and Mechanical

UNIT V

Disease producing micro-organisms. Gram
positive bacilli
Tuberculosis and Leprosy
Anaerobes
Cocci
Spirochaete.
Rickettsiae

Practical: Identification and study of the following bacteria: Streptococci, pneumococci and Staphylococci, Corynebacteria, Spirochetes and gonococci. Enteric bacteria. Posting in infection control department.

UNIT VI

Pathogenic Fungi
Dermatophytes
Systemic Mycotic infection
Laboratory diagnosis of mycotic infection

UNIT VII

Immunity
Immunity and hypersensitivity - Skin test. Antigen
and antibody reaction Immunization against
disease.

Practical: Demonstration of serological methods.

UNIT VIII

Parasites and Vectors.

Characteristics and classification of parasites. Protozoal infection including amoebiasis Helminthes infection

Diagnosis of parasitic infection

Vectors and diseases transmitted by them.

Practical: Identification of Parasites and Vectors.

UNIT IX

Viruses.

Classification and general character of viruses

Diseases caused by viruses in man and animal and their control.

UNIT X

Micro-organisms transmitted through food. Food poisoning. Food- borne infections.

UNIT XI

Biomedical Waste Management

- Microbiology and bio technology waste. Animal waste
(Please see Annexure -I)

PRACTICUM

Each Student will practice in the laboratory as indicated in each unit of the courses outline. While giving nursing care in the wards they will practice collection and processing of specimens, prevention and control of hospital infections, sterilization, immunization, chemotherapy and maintenance of personal and environmental hygiene. Observation visit to incinerator, posting in CSSD and infection control department. Biomedical Waste Management.

MATERNAL NURSING

Placement: First year

Time Allotted: Theory - 60 hrs
Practical - 240 hrs

COURSE DESCRIPTION

This course is designed to widen the student's knowledge of obstetrics during pregnancy, labour and puerperium. It also helps to acquire knowledge and develop skill in rendering optimum nursing care to a child bearing mother in a hospital or community and help in the management of common gynecological problems.

OBJECTIVES

At end of the course, the student will:

1. Describe the physiology of pregnancy, labour and puerperium.
2. Manage normal pregnancy, labour and puerperium.
3. Explain the physiology of lactation and advice on management of breast feeding.
4. Be skilled in providing pre and post operative nursing care in obstetric conditions.
5. Identify and manage high risk pregnancy including appropriate referrals.
6. Propagate the concept and motivate acceptance of family planning methods.
7. Teach, guide and supervise auxiliary midwifery personnel.

COURSE CONTENTS

UNIT I

Introduction and historical review. Planned parenthood
Maternal morbidity and mortality rates
Legislations related to maternity benefits, MTP actd, incentives for family planning etc.

UNIT II

Review of the anatomy and physiology of female reproductive system Female pelvis (normal and contracted)
Review of foetal development.

UNIT III

Physiology of pregnancy.
Signs and symptoms and diagnosis of pregnancy
Antenatal care, management of pregnancy, labour and puerperium .
Pregnant women with HIV / AIDS
Management of common gynaecological problems

UNIT IV

The New born baby
Care of the baby at birth including resuscitation. Essential
Newborn Care
Feeding
Jaundice and infection
Small & large for date babies.
Intensive care of the new born
Trauma and haemorrhage.

UNIT V

Management of abnormal pregnancy, labour and puerperium. Abortion,
ectopic pregnancy and vesicular mole.
Pregnancy induced hypertension, gestational diabetes, anaemia, heart disease. Urinary
infections, Antepartum hemorrhage
Abnormal labour (malposition & malpresentation) Uterine
inertia
Disorders of puerperium
Management of engorged breast, cracked nipples, breast abscess and mastitis Puerperal sepsis
Post partum hemorrhage
Inversion and prolapse of uterus, obstetrical emergencies
Obstetrical procedures i.e. forceps, vacuum, episiotomy, caesarean section

UNIT VI

Drugs in obstetrics.
Effects of drugs during pregnancy, labour and puerperium on mother and baby.

UNIT VII

National Welfare Programmes for women.
National Family Welfare Programme
Infertile couple
Problems associated with unwanted pregnancy. Unwed
mothers.

PRACTICUM

1. The students will:
 - a. Be posted in antenatal clinic, MCH clinic, antenatal ward, labour room, postnatal ward, maternity OT, MTP room.
 - b. Visit welfare agencies for women and write observation report.

- c. Follow nursing process in providing care to 3-6 patients.
 - d. Write at least two nursing care studies and do a presentation.
 - e. Give at least one planned health teaching to a group of mothers.
2. Practice following nursing procedures.
- a. Antenatal & Post natal examination, per vaginal exam.
 - b. Conduct normal delivery, stitching of episiotomy, (For male candidates minimum conduct of 5 deliveries)
 - c. Motivation of family for adopting family planning methods.
 - d. Motivate family for planned parenthood.
 - e. Assist in various diagnostic and therapeutic procedures including IUD insertion and removal.

CHILD HEALTH NURSING

Placement: First Year

Time Allotted : Theory - 60 Hrs
Practical - 240 Hrs

COURSE DESCRIPTION

This course is aimed at developing an understanding of the modern approach to childcare, the common health problems of children and neonates in health and sickness.

OBJECTIVES

At the end of the course, the student will

1. Explain the modern concept of child care and the principles of child health nursing.
2. Describe the normal growth and development of children at different ages.
3. Manage sick as well as healthy neonates and children.
4. Identify various aspects of preventive pediatric nursing and apply them in providing nursing care to children in hospital and community.

COURSE

CONTENTS UNIT

I

Introduction

Modern concept of child care Internationally
accepted rights of the child

National policy and legislations in relation to child health and welfare. National
programmes related to child health and welfare.

Changing trends in hospital care, preventive, promotive and curative aspects of child health. Child
morbidity and mortality rates.

Differences between an adult and child. Hospital
environment for a sick child.

The role of a paediatric nurse in caring for a hospitalised child. Principles
of pre and post operative care of infants and children. Paediatric nursing
procedures.

UNIT II

The healthy child

Growth and development from birth to adolescence

The needs of normal children through the stages of development and parental guidance.

Nutritional needs of children & infants breast-feeding, supplementary / artificial feeding and weaning.

Accidents, causes and prevention

Value of play and selection of play material

Preventive immunization.

UNIT III

Nursing care of a neonate Nursing
care of a normal newborn Neonatal
resuscitation
Nursing management of a low birth weight baby Nursing
management of common neonatal disorders.
Organization of neonatal unit. Prevention of infections in the nursery.

UNIT IV

Nursing management in common childhood diseases
Nutritional deficiency disorders.
Respiratory disorders and infections
Gastrointestinal infections, infestations and congenital disorders. Cardio
vascular problem-congenital defects and rheumatic fever.
Genito-urinary disorder - Nephrotic syndrome, Wilms' tumor, infection and congenital disorders. Neurological
infections and disorders- convulsions, epilepsy, meningitis, hydrocephalus, spina bifida.
Hematological disorders - Anemias, thalassemia, ITP, Leukemia, hemophilia. Endocrine
disorders - Juvenile Diabetes Mellitus.
Orthopedic disorders - club feet, hip dislocation and fracture. Disorders of
skin, eye and ears.
Common communicable diseases in children, their identification, nursing management in hospital and
home and prevention.
Paediatric emergencies - poisoning, foreign bodies, haemorrhage, burns and drowning.

UNIT V

Management of behaviour disorders in children.
Management of challenged children:
Mentally challenged
Physically challenged
Socially challenged

PRACTICUM

The student will:

1. Be posted in paediatric medical and surgical ward, OPD in hospital, health centre and neonatal unit.
2. Visit a centre for handicapped children and child welfare centre and write observation report.
3. Write an observation study of normal children of various age groups in home/nursery school/creche
4 Follow nursing process in providing care to 3-6 children.

5. Write at least two nursing care studies and do a presentation
6. Give two planned health teachings, one in hospital and one in OPD/health centre.
7. Practice the following nursing procedures:
 8. Taking pediatric history
 9. Physical assessment of children
 10. Baby bath
 11. Feeding
 12. Restraining
 13. Calculation of dosage of drugs and administration of medications and injections
 14. Collection of specimens
 15. Enema, bowel wash, colostomy irrigation
 16. Steam and Oxygen inhalation
 17. Preparation to assist with diagnostic tests and operations
 18. Examination/Assessment of a newborn
 19. Neonatal resuscitation
 20. Care of a baby in incubator and on ventilator
 21. Photo therapy
 22. Assist in exchange transfusion and other therapeutic procedures.

MEDICAL SURGICAL NURSING

Placement: First Year

Time Allotted: Theory - 90 Hrs
Practical - 270 Hrs

COURSE DESCRIPTION

The purpose of this course is to widen the students' knowledge and develop proficiency in caring for patients with medical surgical problems. This course includes review of relevant anatomy and physiology, pathophysiology in medical-surgical disorders and the nursing management of these conditions. .

OBJECTIVES

At the end of the course, the student will

1. Explain relevant Anatomy and Physiology of various systems of the body.
2. Explain pathophysiology of various disorders.
3. Explain the actions, side effects and nursing implications in administering drugs for various disorders.
4. Discuss the recent advancement in the treatment and care of patients with medical surgical conditions.
5. Develop skill in giving comprehensive nursing care to patients following the steps of nursing process.
6. Assist the patients and their families in identifying and meeting their own health needs.
7. Appreciate the role of the nurse in the medical surgical health team.

COURSE CONTENTS UNIT I

Introduction to medical surgical nursing.

Review of concepts of comprehensive nursing care in medical surgical conditions. Nurse, patient and his/her family.

Functions of nurse in the outpatient department.

Intensive care unit.

UNIT II

Nursing management of patient with specific problems. Fluid and electrolyte imbalance.

Dyspnea and cough, respiratory obstruction Fever

Shock

Unconsciousness

Pain

Acute illness

Chronic illness

Terminal illness
Age related illness
Patient under going surgery Incontinence

UNIT III

Nursing management of patient with neurological and neuro surgical conditions. Review of anatomy and physiology of the nervous system.
Pathophysiology, diagnostic procedures and management of :
Cerebro-vascular accident.
Cranial, spinal and peripheral neuropathies. Head
-ache and intractable pain.
Epilepsy.
Infectious and inflammatory diseases and trauma of the Nervous System.
Common disorders of the system.
Recent advances in diagnostic and. treatment modalities. Drugs
used in these disorders.
Tumors of brain & spinal cord, congenital malformations, degenerative diseases.

UNIT IV

Nursing management of patient with cardiovascular problems. Review of relevant anatomy and physiology of cardio vascular system.
Pathophysiology, diagnostic procedures and management of Ischemic Heart diseases.
Cardiac arrhythmias.
Congestive heart failure.
Rheumatic and other valvular heart diseases
Endocarditis, cardiomyopathies, congenital heart diseases, hypertension, heart block
Cardiac emergencies: cardiac arrest, acute pulmonary oedema, cardiac tamponade, cardiogenic shock, aneurysms and peripherovascular disorders, recent advancement in cardiology.

UNIT V

Nursing management of patient with respiratory problems.
Review of anatomy and physiology of respiratory system, Pathophysiology, diagnostic procedures and management of upper respiratory tract infections.
Bronchitis
Asthma
Emphysema, Empyema, Atelectasis, COPD Bronchiectasis Pneumonia
Pulmonary tuberculosis Lung
abscess
Pleural effusion
Tumours and Cysts

Chest injuries
Respiratory arrest and insufficiency Pulmonary
embolism
Drugs used in the management of these patients Special
respiratory therapies.

UNIT VI

Nursing management of patient with genito-urinary problems. Review of
anatomy and physiology of the genito-urinary system Nephritis
Renal calculus Acute
renal failure Chronic
renal failure
End stage renal disease
Special procedures, dialysis, renal transplant Drugs
used in management of these patients Congenital
disorders, urinary infections Benign prostate
hypertrophy.

UNIT VII

Nursing management of patients with problems of the digestive systems.
Review of anatomy and physiology of gastrointestinal system and accessory organs.
Pathophysiology, diagnostic procedures and management of
GI Bleeding
Peptic ulcer
Infections Acute
abdomen
Colitis, diarrhoea, dysentery & mal-absorption syndrome. Cholecystitis
Hepatitis, hepatic coma and cirrhosis of liver
Portal hypertension
Pancreatitis
Tumors, hernias, fistulas, fissures, hemorrhoids. Drugs
used in the management of these patients.

UNIT VIII

Nursing management of patients with endocrine problems
Review, of anatomy and physiology and patho-physiology of patients with Thyroid
disorders
Diabetes mellitus
Diabetes insipidus
Adrenal tumour
Pituitary disorders.

Diagnostic procedures
Nursing management of patient with above problems.
Drugs used in endocrine problems.

UNIT IX

Nursing management of patients with musculoskeletal problems. Review of anatomy and physiology and pathophysiology Arthritis, osteomyelitis, bursitis, Fractures, dislocation and trauma
Prolapsed disc
Osteomalacia and osteoporosis
Tumor
Amputation Diagnostic procedures
Nursing management of patients with above problems.
Prosthesis and rehabilitation.
Transplant & replacement surgeries.

UNIT X

Nursing management of patients with disorders of female reproductive tract Disorder of menstruation
Infections of the genital tract
Benign and malignant tumors of the genital tract
Recto Vaginal Fistula(R.V.F.), Vesico Vaginal Fistula (V.V.F.)
Climacteric changes and associated problems.

UNIT XI

Nursing management of patients with Oncological disorders. Types of neoplasms and related pathophysiology.
Diagnostic procedures
Modalities of treatment and nurse's role.
Special therapies.- chemotherapy and radiotherapy.
Preventive measures, other therapies.

UNIT XII

Nursing management of patient with burns.
Nursing management of patient with reconstructive surgeries.

UNIT XIII

Nursing management of patients with common communicable diseases & STD'S Nursing management of patients with immunological disorders including HIV / AIDS

UNIT XIV

Nursing management of patients with diseases of eye, ear, nose, throat & skin.

UNIT XV

Nursing management of patients with blood disorders

Review of Anatomy & Physiology of Blood and Blood products.

Patho-physiology, diagnostic procedures and management of blood disorders Anemia

Leukemia

Bleeding disorders

Hemophilia

Purpura etc.

Blood transfusion, safety checks, procedure and requirements, management of adverse transfusion reaction, records for blood transfusion.

Management and counseling of blood donors, phlebotomy procedure, and post donation management

Blood bank functioning and hospital transfusion committee

Bio-safety and waste management in relation to blood transfusion.

UNIT XVI

Nursing in emergencies.

Cardiac emergencies

Trauma

Poisoning

Crisis management: Thyroid crisis, Hypertensive crisis, adrenal crisis.

PRACTICUM

Students should rotated in the selected medical & surgical areas, like Cardio Thoracic, Neurology, Urology, Orthopedics, Gynecology, Oncology, Burns and Reconstructive surgical units.

The students should given patient assignment. They have to practice patient centered comprehensive nursing.

Each student is required to give planned health teachings, conduct clinical teaching, case presentation and drug study.

ENGLISH

Placement: First Year

Time allotted: Theory - 60hrs.

COURSE DESCRIPTION

This course is designed to help the student understand and usage of English language required for their professional work.

OBJECTIVES

After the course the students will develop

1. Ability to speak and write grammatically correct English
2. Effective skill in reading and understanding the English language.
3. Skill in reporting

COURSE

CONTENTS UNIT

I

Remedial Study of Grammar.
Review of grammar, vocabulary and effective use of dictionary. Prepare task oriented seminars.
Symposia and panel discussion.

UNIT II

The ability to understand selected passage and express meaning in one's own words. Reading and comprehension of the prescribed books.

UNIT III

The study of various forms of composition Note taking
Diary
Nurses notes, anecdotal records Writing of Summary
Nurses reports on health problems
The student will submit one sample of each item from her own practical experience.

UNIT IV

Verbal communication Oral reports
Summarization of discussion Debate

Listening comprehension - Film, Cassette and Radio.

PRACTICUM

The clinical experience in the wards and bed side nursing will provide opportunity for students to fulfill the objectives of learning language.

Assignment on writing and conversation through participation in discussion, debates, seminars and symposia. The students will gain further skills in task oriented communication.

SOCIOLOGY

Placement: Second Year

Time allotted: Theory - 60 hrs

COURSE DESCRIPTION

This course is to reorient students to sociology related to community and social institution in India and its relationship with health, illness and nursing

OBJECTIVES

At the end of the course, the student will

1. Describe sociological concepts that are applicable to nursing.
2. Determine role of sociology in nursing as related to social institutions in India
3. Develop positive attitudes towards individual, family and community

COURSE

CONTENTS UNIT

I

Introduction

Importance of study of sociology in nursing, relationship of anthropology, sociology, etc.

UNIT II

Individual and the Society Socialization

Interdependence of the individual and society

Personal disorganization.

UNIT III

Culture

Nature of culture

Evolution of culture

Diversity and uniformity of culture

UNIT IV

Social organization

Social groups, crowds and public groups, nations, race.

Social institutions: The family, marriage, education, religion, arts, economic organization, political organization.

The urban & rural community in India: Ecology, characteristics of the village, characteristics of the town and city.

Social stratification : Class and caste.

UNIT V

Social Process

Process of Social Interaction: Competition, conflict-war, cooperation, accommodation and assimilation.

UNIT VI

Social change

Nature and process of Social Change: Factors influencing cultural change. Cultural lag.

UNIT VII

Social Problems

Social disorganization, control & planning: poverty, population, housing, illiteracy, food supplies, growth of urbanization, prostitution, minority groups, rights of women & children, child labour, child abuse, delinquency and crime, substance abuse.

COMMUNITY HEALTH NURSING

Placement: Second Year

Time Allotted: Theory - 60 hrs
Practical - 240 hrs

COURSE DESCRIPTION

The course enables the students to understand the national health care delivery system and to participate in the delivery of community health nursing.

OBJECTIVES

At the end of the course, the student will

1. Explain the concept of various factors contributing to health of individual, family and community.
2. Identify the role of community health nurse.
3. Describe national health care delivery system.
4. Describe epidemiological methods and principles of prevention and control of illness in the community.
5. Identify the role of personnel working in the community health set up.
6. Plan the work of community health nurse and supervise and train health workers.

COURSE

CONTENTS UNIT

I

Introduction

Introduction to Community Health - Concepts, Principles and elements of Primary Health Care. Introduction to community health nursing.

Concepts of community health nursing - Community nursing process.

Objectives, scope and principles of community health nursing.

UNIT II

Family Health Services

Concept, objectives, scope and principles. Individual, family and community as a unit of service. Principles and techniques of home visiting.

Establishing working relationship with the family.

Working with families in relation to prevention of disease, promotion of health. Care of the sick in the home, physically handicapped and mentally challenged. Surveillance and monitoring.

UNIT III

Organisation and administration of health services in India. National health policy

Health Care Delivery system in India.
Health team concept
Centre, State, district, urban health services, rural health services System
of medicines
Centrally sponsored health schemes
Role of voluntary health organizations and international health agencies Role
of health personnel in the community
Public health legislation.

UNIT IV

Health Education
Aims, concepts and scope of health education. National
plan for health education Communication
techniques
Methods and media for health education programmes Planning
for health education and role of nurse

UNIT V

Role of the community health nurse.
National health programmes
Maternal and child health programmes Family
welfare and school health services Occupational
health services.
As a member of the health team.
Training and supervision of health care workers.

UNIT VI

Epidemiology
Definition - Concepts, aims, objectives, methods, principles,
Epidemiology - Theories and Models.
Application of Epidemiology, principles and concepts in community health.

UNIT VII

Bio Statistics and Vital Statistics Introduction,
definition and scope, legislation
Report, recording and compiling of vital statistics at the local, state, national and international level. Definitions
and methods of computing vital statistics.
Methods of presenting data Management
Information System.

PRACTICUM

Each student will prepare a community profile.

The students will be allotted families for gaining experience in identifying family health needs, health counselling and guidance and family budgeting for optimum health.

The students will participate in the activities of primary health centre, Sub-centre, MCH Centre.

Visits will be made to selected health and welfare agencies, water purification plant and sewage disposal plant, Infectious disease hospital.

Conduct health educational programmes for individual/groups/community.

MENTAL HEALTH AND NURSING

Placement: Second Year

Time Allotted: Theory - 60 hrs
Practical - 240 hrs.

COURSE DESCRIPTION

This course enable the students to recognize and appreciate the causes, symptoms and process of abnormal human behaviour. It also introduces the student to the present day treatment modalities in the light of psychological, social and cultural factors affecting human behaviour. This course helps the student to learn principles of mental health and psychiatric nursing and to develop beginning skills in the management of the mentally ill in hospital and community.

OBJECTIVES

At the end of course, the student will

1. Identify and describe the philosophy and principles of mental health nursing.
2. Describe the historical development of mental health and psychiatric nursing.
3. Classify mental disorders.
4. Develop skill in history taking and performing mental status examination.
5. Describe etiological factors, psycho-pathology, clinical features, diagnostic criteria and treatment methods used for mental disorders.
6. Manage the patients with various mental disorders.
7. Communicate therapeutically with patients and their families.
8. Identify role of the nurse in preventive psychiatry.
9. Identify the legal aspects in practice of mental health and psychiatric nursing.

COURSE

CONTENTS UNIT

I

Introduction and Historical Development History of psychiatry
Historical development of mental health nursing.
Philosophy, principles of mental health and psychiatric nursing. Concept of normal and abnormal behaviour.
Role and qualities of mental health and psychiatric nurse
Mental health team and functions of team members.
Legal aspects in psychiatry and mental health services.

UNIT II

Classification and assessment of mental disorders
Terminologies used in Psychiatry
Classification of mental disorders
Etiological factors and psychopathology of mental disorders

History taking and assessment methods for mental disorders.

UNIT III

Therapeutic Communication

Communication process

Interview skills, therapeutic communication techniques. Nurse Patient Relationship, Therapeutic impasse and its management Process recording.

UNIT IV

Management of mental Disorders.

UNIT V

Etiological factors, psychopathology, types, clinical features, diagnostic criteria, treatment and nursing management of patient with following disorders:

Neurotic Disorders: Anxiety Neurosis, Depressive Neurosis, Obsessive Compulsive Neurosis, Phobic Neurosis and Hypochondriacal Neurosis, Stress related and Somatoform disorders.

Psychotic Disorders: Schizophrenic form, affective and organic psychosis. Organic

Brain Syndromes

Psychosomatic disorders

Personality disorders

Disorders of childhood and adolescence.

UNIT V

Management of patients with Substance use disorders Substance use and misuse.

Dependence, intoxication and withdrawal

Classification of psychoactive substances

Etiological & contributory factors

Psychopathology

Clinical features

Diagnostic criteria

Treatment and nursing management of patient with substance use disorders. Preventive and rehabilitative aspects in substance abuse.

UNIT VI

Management of mental sub-normality

Classification of mental sub-normality

Etiological factors, psychopathology, psychometric assessment, diagnostic criteria and management of sub-normality.

UNIT VII

Psychiatric emergencies

Types of emergencies, psychopathology, clinical features, assessment and diagnosis, treatment and nursing management of patient with psychiatric emergencies.

Crisis Intervention therapy

UNIT VIII

Therapeutic Modalities

Principles, indication, contraindications and role of nurse in various treatment methods Therapeutic community and Milieu therapy

Occupational therapy

Psychotherapy

Behaviour therapy

Family therapy

Pharmacotherapy

Electro Convulsive therapy

Other miscellaneous therapies

UNIT IX

Preventive Psychiatry

Model of prevention

Role of nurse in preventive Psychiatry Psychiatric social work

Community mental health nursing

Community mental health agencies

National mental health programmes

PRACTICUM

The student will be provided opportunity to :

Observe, record and report the behavior of their selected patients. Record the process of interaction.

Assess the nursing needs of their selected patients, plan and implement the nursing intervention. Counsel the attendant and family members of patient.

Participate in the activities of psychiatric team.

Write observation report after a field visit to the following places: Child guidance clinic,

School/Special Schools (For mentally subnormal),

Mental Hospital,

Community mental health centres

De-addiction centre.

Introduction to Nursing Education

Placement: Second Year

Time Allotted: Theory - 60 hrs.
Practical - 75 Hrs.

COURSE DESCRIPTION

This course introduces the students to principles and concepts of education, curriculum development and methods and media of teaching. It also describes the steps in curriculum development and implementation of educational programmes in nursing.

OBJECTIVES

At the end of the course, the students will

1. Describe the philosophy and principles of education.
2. Explain the teaching - learning process
3. Develop the ability to teach, using various methods and media.
4. Describe the process of assessment.
5. Describe the administrative aspects of school of nursing
6. Participate in planning and organizing an in-service education programme.
7. Develop basic skill of counselling and guidance.

COURSE

CONTENTS UNIT

I

Introduction to education.

Meaning of education, aims, function and principles. Philosophy of education

Factors influencing development of Philosophy of nursing education.

UNIT II

Teaching learning process

Nature and characteristics of learning,

Principles and maxims of teaching

Formulating objectives

Lesson planning.

UNIT III

Methods of teaching Teaching

methods. Lecture

Discussion

Demonstration

Group discussion
Project
Role-play
Panel discussion
Symposium
Seminar
Field trip
Workshop
Exhibition
Programmed instruction
Computer assisted learning.
Clinical teaching methods:
Case methods
case presentation
nursing rounds and reports
bedside clinic
conference (individual and group)
recording of interaction process.

UNIT IV

Educational media
The communication process: factors affecting communication. Purposes and types of audio-visual aids.
Graphics aid: chalk-board, charts, graphs, posters, flash cards, flannel graph/khadigraph, bulletin, cartoon, Three dimensional aids: objects, specimen, models, puppets.
Printed aids: pamphlets and leaflets
Projected aids: slides, films and televisions, VCR, VCP, overhead projector, camera, microscope. Audio-aids: tape-recorder, public address system, computer

UNIT V

Methods of assessment
Purpose and scope of evaluation and assessment
Criteria for selection of assessment techniques and methods
Assessment of knowledge: essay type question, SAQ (Short Answer Questions), MCQ (multiple choice questions),
Assessment of skills: Observation, Check list. Practical Examination, Viva, Objective structured clinical examination.
Assessment of attitude: Attitude scale

UNIT VI

Management of School of Nursing

Planning of School of nursing, organization.

Recruitment of teaching staff, budget, facilities for the school, student selection and admission procedure, administrative planning for students, welfare services for students, maintenance of school records, preparation of annual reports. INC guidelines for school of nursing.

UNIT VII

Guidance and Counselling Definition

Basic principles of guidance and counselling

Organisation of guidance and counselling services

Counselling process

Managing disciplinary problems

Management of crisis

UNIT VIII

In-service education

Introduction to nature and scope of in-service education programme Principles of adult learning

Planning for in-service programme

Techniques, and methods of staff education programme Evaluation of in-service programme.

PRACTICUM

Each student should:

Conduct five planned teaching using different methods and media. Prepare different types of teaching aids

Plan, organize and conduct inservice education programme. Conduct at least one counselling session.

Prepare rotation plans.

INTRODUCTION TO NURSING SERVICE ADMINISTRATION

Placement: Second Year

Time Allotted: Theory - 60 hrs.
Practical - 180 Hrs.

COURSE CONTENTS

This course is designed to give an opportunity to the student to gain an understanding of the principles of administration and its application to nursing service. It is also intended to assist the students to develop an understanding of professional leadership need.

OBJECTIVES

At the end of the course, the student will

1. Identify the principles of administration
2. Describe the principles and techniques of supervision
3. Explain the principles and methods of personnel management
4. Explain the principles of budgeting
5. Organise and manage a nursing unit effectively
6. Identify dynamics of organizational behaviour, styles and functions of effective leadership.

COURSE

CONTENTS UNIT

I

Principles and Practice of Administration

Significance, elements and principles of administration,

Organisation of Hospital -Definition, Aims, functions and classifications, health team.

Policies of hospital, different departments with special emphasis to department of nursing & office management.

Responsibilities of the nursing personnel specially of ward sister, medico legal aspects, concept of cost effectiveness.

UNIT II

Nursing Unit Management

Physical layout of a nursing unit and necessary facilities

Factors affecting the quality of nursing care.

Maintenance of a therapeutic environment Administration of the unit -management of patient care. Maintenance of physical environment.

Assignment of duties and time plan.

Patient assignment, safety measures, prevention of accidents and infections, Maintenance of patients records and reports, legal responsibilities.

Maintenance of quality nursing care, nursing audit.

UNIT III

Personnel management

Staff recruitment and selection, appointment, promotions, personnel policies and job descriptions.

Job analysis.

Staffing the unit, staffing norms, rotation plan, leave planning, performance appraisal, staff welfare and management of disciplinary problems.

UNIT IV

Supervision

Principles of supervision, nature and objectives . Tools and techniques of supervision

Evaluation

Nursing audit

Staff development - orientation program Skill training

Leadership development.

Problem solving process.

UNIT V

Material Management

Principles of material management,

Quality control.

Inventory, care of equipment, safekeeping

Role of nursing personnel in material management.

UNIT VI

Financial Management

Budgeting - Principles of budgeting, audit.

UNIT VII

Organisational Behaviour

Group dynamic and human relation, organizational communication (hospital information system) Public relations, leadership styles and functions.

Methods of reporting. Maintaining records and reports.

PRACTICUM

Observe the functioning of nursing administration at various level, i.e. institution, department, unit. Each student will practice ward management under supervision

Student will prepare rotation plan of the staff, write reports, give verbal reports of the ward and assist in maintaining the inventory of the nursing unit.

Visit to private and Government hospital and write observation reports.

INTRODUCTION TO NURSING RESEARCH AND STATISTICS

Placement : Second Year

Time Allotted: Theory - 45 Hrs.
Practical -120 Hrs.

COURSE DESCRIPTION

The course is designed to assist the students to develop an understanding of basic concepts of research and statistics, use the findings of nursing research in nursing practice, apply the knowledge in conducting project(s) and solve problems related to nursing using scientific method.

OBJECTIVES

At the end of the course, the students will :

1. Define the terms and concepts of nursing research
2. Identify needs and scope of nursing research
3. Identify and define a research problem
4. Locate and list sources of literature for a specific study
5. Describe different research approaches, methods of data collection and sampling techniques with a special reference to survey method.
6. Develop tool for data collection
7. Enumerate steps of data analysis and present data summary in tabular form
8. Use descriptive and co-relational statistics in data analysis
9. Conduct a group research project

COURSE CONTENTS

A. INTRODUCTION TO RESEARCH

METHODOLOGY UNIT I

Steps of scientific methods.
Definition of research
Need for nursing research
Characteristics of good research. Research Process.

UNIT II

Statement of research problem. Statement of purpose and objectives. Definition of research terms.
Review of literature.

UNIT III

Research approaches: - historical, survey and experimental

UNIT IV

Sampling Techniques and methods of data collection.

Sampling

Instruments-questionnaire. Interview Observation

schedule, records, measurements Reliability and

validity of instruments.

UNIT V

Analysis of Data: Tabulation

Classification and summarization

Presentation

Interpretation of data.

UNIT VI

Communication of research findings.

Writing Report:

Organizing materials for writing

Format of the report

Use of computers.

B. INTRODUCTION TO STATISTICS UNIT VII

Descriptive Statistics.

Frequency Distribution - Types of measure - frequencies, interval, graphic methods of describing frequency.

Measures of Central Tendency - Mode, Median and Mean. Measures

of variability: Range, Standard deviation Introduction to normal

probability.

UNIT VIII

Correlation

Computation by rank difference methods.

Uses of correlation co-efficient.

UNIT IX

Biostatistics: Crude rates and standardized rates, ratio and estimation of the trends.

UNIT X

Introduction to computers in nursing
Introduction to computers and disk-operating system,
Introduction to word processing
Introduction to data base
Windows applications, word, excel, power point, multimedia. Use
of statistical packages.
Introduction to Internet & use of electronic mail
Computer aided teaching & testing.

PRACTICUM

Students will conduct research project in small groups in selected areas of nursing and submit a report (Group studies may include studying of existing health practices, improved practices of nursing (procedures), health records, patient records and survey of nursing literature).

SECTION IV

TEXT AND REFERENCE BOOKS

LIST OF BOOKS FOR B.SC. POST BASIC NURSING COURSE

CHEMISTRY

Sl. No.	Authors Name	Title of The Book	Edition	Year	Name of the Publisher	Place of Publication
1.	Inamdar M.	Chemistry For Nurses	1	2002	Vora Medical	Mumbai

SOCIOLOGY

Sl. No.	Authors Name	Title of The Book	Edition	Year	Name of the Publisher	Place of Publication
1.	Sachdeva D.R. & Bhushan	An Introduction To Sociology	34	2002	Kitab Mahal	New Delhi

PSYCHOLOGY

Sl. No.	Authors Name	Title of The Book	Edition	Year	Name of the Publisher	Place of Publication
1.	Hurlock	Developmental Psychology A Life-Span Approach				
2.	Morgen & King	Psychiatry For Guidance Nurse	6 & 7	1979 & 1993	Me Graw Hill	Book Co.
3.	Anthinkad J	Introduction To Psychology			Jaypee Brothers	Medical Publishers, New Delhi

MENTAL HEALTH NURSING

Sl. No.	Authors Name	Title of The Book	Edition	Year	Name of the Publisher	Place of Publication
1.	Townsend, Mary	Psychiatric Mental Health Nursing	3	2005	F.A. Davis	Philadel phia

2.	Kapoor, Bimla	Text Book of Psychiatric Nursing	1	1998	Kumar Publishing	Delhi
3.	Ahuja, Niraj	A Short Text Book of Psychiatry	4	1999	Jaypee	New Delhi
4.	Staurt, Sundeen	Principles & Practices of Psychiatric Nursing	7	2001	Harcourt (India) Pvt., Mosby Inc	New Delhi
5.	Frisch Noreen C	Psychiatric Mental Health Nsg.	2	2002	Thomson, Delmer	Austalia
6.	Fontaine K.L	Mental Health Nsg.	1	1999	Addison Wisley	Newyork
7.	Sreevani R	A Guide To Mental Health & Psychiatric Nsg.	1	2004	Jaypee	New Delhi
8.	Boyd, Mary Ann	Psychiatric Nursing	2	2002	Lippincott	Philadel phia

CHILD HEALTH NURSING

Sl. No.	Authors Name	Title of The Book	Edition	Year	Name of the Publisher	Place of Publication
1.	Gupte	Short Text Book of Pediatrics	10	2004	Jaypee	New Delhi
2.	Tambulwakhar	Pediatric Nursing		1995	Vora Publication	Bombay
3.	Wong	Whaley & Wong's Nursing Care of Infants & Children	5	1995	Mosby	St. Louis
4.	Meharban Singh	Care of The New Born	6	2004	Sagar	New Delhi
5.	Marlow, Dorothy	Textbook of Pediatric Nursing	6	2001	W.B. Saunders	Philadel phia
6.	Chellappa J	Paediatric Nursing	1	1995	Gajanana Pub.,	Bangalore
7.	Hurlock, Elizebeth	Child Growth & Development	5	2003	Macgraw Hill	New Delhi
8.	Rollant, P.D	Pediatric Nsg. Mosby's Review Series	1	1996	Mosby	St.Louis
9.	Ghai O.P	Essential Pediatrics	4	1996	Interprint	New Delhi
10.	Muscarii Mary E	Pediatric Nursing	2	1996	Lippincott	Philadelphia
11.	Behrman R.E	Nelson T. B. of Pediatrics Vol 1 & 2	1	1996	Prism	Bangalore

NUTRITION & DIETETICS

Sl. No.	Authors Name	Title of The Book	Edition	Year	Name of the Publisher	Place of Publication
1.	Swaminathan M.	Essentials Of Food & Nutrition Vol. I & Vol.Ii	2	2003	Bangalore Printing	Bangalore
2.	Swaminathan M.	Food & Nutrition	5	2001	B.P.P.	Bangalore
3.	Bhatia Arti Ed.	Encyclopaedia Of Health & Nutrition Vol 1 To Vol Vi	1	1999	Anmol	Newdelhi
4.	Indrani	Nursing Manual Ofnutrition & Therapeutic Diet	1	2003	Jaypee	New Delhi
5.	Roth,Ruth A	Nutrition & Diet Therapy	8	2003	Thomson Learning	Australia

MATERNAL NURSING

Sl. No.	Authors Name	Title of The Book	Edition	Year	Name of the Publisher	Place of Publication
1.	Myles, Margret	A Text Book Of Midwives	14	2004	Churchill	New York
2.	Alexander J.O	Midwifery Practice Care Topics	1	1996	Macmillan	London
3.	Kargar, Ishbel Ed	Challenges In The Midwifery Care	1	1997	Macmillan	
4.	James David K	High Risk Pregnancy : Management S Option	2	1999	W.B.Saunders	London
5.	Ann Page L	The New Midwifery Science & Sensitive In Practice	1	2000	Churchill	Toronto
6.	Welford Heather	A Marshall Health Guide Pregnancy	1	1998	Marshall Pub	London
7.	Lee, Richard. Ved	Medical Care of The Pregnant Patient	1	2000	American College	Philadel? phia

MICROBIOLOGY

Sl. No.	Authors Name	Title of The Book	Edition	Year	Name of the Publisher	Place of Publication
1.	Jayaram Paniker	Text Book of Parasitology	5	2003	Jaypee	New Delhi
2.	Satish Gupta	Short Text Book of Medical Microbiology	8	2002	Jaypee	New Delhi
3.	Ichhpujan & Batia	Microbiology for Nurses	2	2003	Jaypee	New Delhi

NURSING PRACTICE

Sl. No.	Authors Name	Title of The Book	Edition	Year	Name of the Publisher	Place of Publication
1.	Potter & Perry	Basic Nursing : Theory & Practice	3	1995	Mosby	St. Louis
2.	Polit & Hungler	Nursing Research	6	2001	J.E. Lippincott	Philadelphia
3.	Nancy	Principles & Practice of Nursing	5	2002	N.R. Brothers	Indore

COMMUNITY HEALTH NURSING

Sl. No.	Authors Name	Title of The Book	Edition	Year	Name of the Publisher	Place of Publication
1.	Rao, Kasturi Sundar	Introduction To Community Health Nursing	3	2000	B. I. Publication	Chennai
2.	Park J.E.	Text Book of Preventive & Social Medicine	18	2005	Banarsidas Bhanot	Jabalpur
3.	Stanhope	Community Health Nursing	1	2002	Mosby	Philadelphia
4.	Clemen - Stone, Susan	Comprehensive Community Health Nsg.	8	1998	B.I.Waverly	Newdelhi
5.	Hunt Roberta	Introduction To Community Based Nsg.	2	2001	Lippincott	Philadelphia
6.	Roa, Sridhar,	Principles of Community Medicine	3	2002	A.I.T.B.S	Newdelhi
7.	Gupta, M.C & Mahajan	T.B. of Preventive & Social Medicins.	3	2003	Jaypee Brothers	Newdelhi

MEDICAL SURGICAL NURSING

Sl. No.	Authors Name	Title of The Book	Edition	Year	Name of the Publisher	Place of Publication
1.	Smeltzer S.C. & Bare B.G.	Brunner & Suddarth's Text Book of Medical Surgical Nursing	10	2004	Lippincott	New York
2.	Baughman, Diane C	Hand Book For Brunner Suddorth's T.B. Of Medical Surgical Nsg.	1	1996	Lippincott	Newyork
3.	Black, Joyce	Medical Surgical Nsg; Clinical Mgt.For Continuity of Care Vol 1. & Vol Ii	5	1998	Harcourt Brace	Singapore

4.	Phips Wilma J	Shafer's Med Surgical Nursing	7	1995	B.T.Pubn	Bangalore
5.	Lee, Richard. V Ed	Medical Care of The Pregnant Patient	1	2000	American College	Philadel phia
6.	Black, Joyce M	Medical Surgical Nsg. Vol1 & Vol 1-2	7	2005	Saunders	St.Louis

NURSING ADMINISTRATION

Sl. No.	Authors Name	Title of The Book	Edition	Year	Name of the Publisher	Place of Publication
1.	Awasthi & Maheshwari	Public Administration	21	1996	Aggarwal Educationel	Agra
2.	Davies	Hospital Planning & Administration		1995	Jaypee	New Delhi
3.	Bhagwan, Vishnoo	Public Administration	1	1996	S.Chand	New Delhi
4.	Basu Rumki	Public Administration	1	1996	Sterling	New Delhi
5.	Sakharkar, B.M	Principles Of Hospital Administation And Planning	1	1998	Jaypee	Newdelhi
6.	Kunderi G.D	Hospital Planning, Design & Management	1	1998	Tata Mcgraw -Hill	Newdelhi

NURSING RESEARCH & STATISTICS

Sl. No.	Authors Name	Title of The Book	Edition	Year	Name of the Publisher	Place of Publication
1.	Burns Nancy	Understanding Nursing Research	2	2002	Sounders	Philadel phia
2.	Basavanthappa	Nursing Research	1	1998	Jaypee	New Delhi
3.	Park .K	Text Book of Preventive & Social Medicine	18	2005	Banasti Dass Bhanok	Jabalpur

NURSING FOUNDATION

Sl. No.	Authors Name	Title of The Book	Edition	Year	Name of the Publisher	Place of Publication
	White Lois	Basic Nsg.Foundation of Skills & Concepts	1	2002	Delmer	Australia

ANNEXURE I

BIO-MEDICAL WASTE MANAGEMENT

Waste Category No.	Waste Category Type	Treatment & Disposal Options	Subject/year of Study
Category No. 1	Animal Waste : (Animal tissues, organs, body parts, carcasses, bleeding parts, fluid, blood and experimental animals used in research, waste generated by veterinary hospitals; colleges, discharge from hospitals; animal houses.	Incineration @ /deep burial*	II year Unit III Community Health nursing - 1 hr.
Category No. 2	Microbiology & Biotechnology waste: (Waste from laboratory cultures, stocks of specimens of micro-organisms live or attenuated vaccines, human and animal cell cultures used in research and infectious agents from research and industrial laboratories, wastes from production of biological, toxins, dishes and devices used for transfer of cultures.)	Local autoclaving / micro waving / incineration@	I year Unit IV Microbiology - 1 hr.

Category No. 3	Waste Sharps: (Needles, syringes, scalples, blades, glass etc. that may cause puncture and cuts. This includes both used and unused sharps.)	Disinfection (Chemical treatment / # autoclaving/ micro waving and mutilation/ shredding **	I Year Nursing Foundation - 1 hr. Unit - III
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Category No. 4	Discarded Medicines and Cytotoxic Drugs : (Wastes comprising of outdated, contaminated and discarded medicines)	Incineration@/ destruction and drugs disposal in secured landfills	I year Nursing Foundation - 1 hr. Unit- III
Category No. 5	Soiled Waste: (items contaminated with blood and body fluids including cotton, dressings, soiled plaster casts, liners, bleedings and other material contaminated with blood)	Incineration @ autoclaving/ micro waving	I Year Nursing Foundation - 1 hr. Unit- III
Category No. 6	Liquid Waste : (Waste generated from laboratory and washing, cleaning, housekeeping and disinfecting activities)	Disinfection by chemical treatment and discharge into drains	I Year) Biochemistry and Biophysics - 1 hr. Unit III
Category No. 7	Chemical Waste : (Chemicals used in production of biological, chemicals used in disinfection, as insecticides etc.)	Chemical treatment and discharge into drains for liquids and secured landfill for solids.	I Year Biochemistry and Biophysics - 1 hr. Unit III

Chemical treatment using at least 1% hypo chloride solution or any other equivalent chemical reagent. It must be ensured that chemical treatment ensures disinfection.

** Mutilation/ shredding must be such so as to prevent unauthorized reuse.

@ There will be no chemical pretreatment before incineration. Chlorinated plastics shall not be incinerated.

* Deep burial shall be an option available only in towns with population less than five lakhs and in rural areas.

Colour Coding	Type of Container	Waste Category	Treatment Options
Yellow	Plastic bag	Cat. 1, Cat. 2 and Cat. 5	Incineration/ deep burial
Red	Disinfected container/ Plastic bag	Cat. 2 and Cat. 5	Autoclaving/ Micro waving and chemical treatment
Blue/ White translucent	Plastic bag/ Puncture proof container	Cat. 3	Autoclaving/ Micro waving /chemical treatment and destruction/ shredding
Black	Plastic bag	Cat. 4 and Cat. 7 (solid)	Disposal in secured landfill

- Waste collection bags for waste types needing incineration shall not be made of chlorinated plastics.
- Categories 6 and 7 (liquid) do not require containers/bags.
- Category 2 if disinfected locally need not be put in containers/bags.

Examination

Note : One short answer or short essay questions pertaining to the above chapters in their respective subjects may be asked

Books

- Text book for Environmental Studies 2004 - Erach Bharucha University Grants Commission, New Delhi.
- Journal of the Indian Society of Hospital Waste Management - Dr. D.G. Gopinath, Volume - 2, Issue - I, 2004.
- Biomedical wastage (Management and handling) Rules 1998, Ministry of Forests and Environment, Government of India.
- J. E. Park - Preventive & social medicine Ed. 18 M/S Banarsidas Bhanot Jabalpur 2005
- Potter and Perry - Fundamentals of Nursing ed. Sixth Mosby St. Louis Missouri 2005
- Barbara Kozier - Fundamentals of Nursing ed. Fourth Addison Wesley Canada 1991
- Text Book of Microbiology - Ananth Narayan ed. 7th Orient Longman Chennai 2005