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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(With effect from 2022-2023 batches)

Competency Based Postgraduate Curriculum for MD Emergency Medicine

REGULATIONS GOVERNING

POST GRADUATE DEGREE PROGRAMMES

CURRICULUM 2022-2023

SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION AND RESEARCH

Comprising Sri Devaraj Urs Medical College

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
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REGULATIONS AND CURRICULA
FOR
POST GRADUATE DEGREE PROGRAMMES
IN
MEDICAL SCIENCES
2022-2023

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VISION:

"UNIVERSITY OF EXCELLENCE - KNOWLEDGE FOR POSTERITY"

MISSION:

1. To be a global Centre of excellence for Teaching, Training and Research inthe field of Higher education.
2. To inculcate scientific temper, research attitude and social accountability amongst faculty and students.
3. To promote with value based education for the overall personality development and leadership qualities to serve the humanity.

OBJECTIVES:

1. To provide need based infrastructure and facilities to students to become responsible professionals with social commitment and accountability.
2. To implement effectively innovative programs in teaching learning and evaluation.
3. To impart scientific and socio cultural temperament among students to forge national identity and needs.
4. To provide instruction and training in Basic and advanced branches of learning.
5. To provide facilities for research for the advancement and dissemination of knowledge.
6. To undertake extra mural studies, consultancy, extension programmes and field outreach services for the development of society.
7. To collaborate with other Universities, Institutions of excellence and research organizations within the country and outside for the purpose of teaching, training and research.
8. To undertake need based activities for the betterment of socially and educationally backward society.

At a glance this logo is abstract, yet it contains the vital ingredients for an institution like Sri Devaraj Urs Academy of Higher Education and Research, Tamaka, Kolar.

The institution's medical background, Humanitarian values, Compassion,

Approachability, Social Commitment and the subsequent research towards the most precious thing, the human life, is the core theme.

The graphic form of a person in the Centre of a bud represents the humanity. It denotes the growing process of life and its existence. And the two hands safeguarding them show the care and a sense of security. It is also capable of holding something within the vast expanse of knowledge by the University for the People's benefit. Hence, the motto "Knowledge for Posterity" is very appropriate and gives a punch in Red. The four light blue half circles (smaller to bigger) depict the unending quest for knowledge and imparting it to a wider horizon, growing higher and higher.
And finally, the whole unit is embedded in a "D" shaped graphic template as background to give it a corporate identity.

COLORS USED:

Deep Blue: Credible, Confident and Dependable. Represents Peace, Tranquility, Stability, Harmony, Trust, Security, Cleanliness and Loyalty

Light Blue: For Sky and Water (color scheme for 4 half circles)

Red: A dominant color for strengths.

Green: For Nature, Health and Generosity. It is cool quality soothes and has great healing powers

REGULATIONS FOR POST GRADUATE DEGREE PROGRAMME INMEDICAL SCIENCES

CHAPTER- I

1. Branches of Study

1.1 Postgraduate Degree Programme
The following programmes may be pursued.

A. M.D. (Doctor of Medicine)

1. Anatomy
2. Physiology
3. Biochemistry
4. Pharmacology
5. Pathology
6. Microbiology
7. Forensic Medicine
8. Community Medicine
9. General Medicine
10. Dermatology, Venereology and Leprosy
11. Anesthesiology
12. Paediatrics
13. Radio-Diagnosis
14. Psychiatry
15. Emergency Medicine

B. M.S. (Master of Surgery)

1. General Surgery
2. Obstetrics and Gynecology
3. Orthopedics
4. Ophthalmology
5. OTO-Rhino-Laryngology

1.2. Eligibility for Admission

1.2.1 MD / MS Degree Programme: A candidate affiliated to this academy and who has passed final year M.B.B.S. examination after pursuing a study in a medical college recognized by the Medical Council of India, from a recognized Medical College affiliatedto any other Academy recognized as equivalent thereto, and has completed one year compulsory rotating internship in a teaching Institution or other Institution recognizedby the Medical Council of India, and has obtained permanent registration of any StateMedical Council will be eligible for admission.

1.2.2 A Candidate seeking admission should have successfully cleared the qualifying examination – NEET (National Eligibility cum Entrance Test) conducted by NBE (National Board of Examination).

1.3. Obtaining Eligibility Certificate by the Academy before making Admission

No candidate will be admitted for any postgraduate degree programme unless the candidate has obtained and produced the eligibility certificate issued by the Academy. The candidate has to make an application to the Academy with the following documents along with the prescribed fee:

1. S.S.L.C Marks card
2. 10+2 Certificate
3. All MBBS Marks Cards
4. Internship Completion Certificate
5. Attempt /Academic certificate
6. Degree Certificate
7. Transfer Certificate
8. Migration Certificate
9. Study/Bonafide Certificate
10. Character & Conduct certificate
11. MCI Recognized Certificate by college
12. Karnataka Medical Council/State medical council
13. MCC Allotment Letter
14. NEET Admission Ticket
15. NEET Rank card
16. Caste (SC/ST) /OBC certificate (domicile) & Income Certificate
17. Aadhaar card of both candidate and parents / sponsors
18. Bond for SR Ship
19. Remaining Years fee bond

NOTE: The NRI/NRI Sponsor students have to submit the documents as per the MCC/DGHSCriteria for NRI status

Candidates should obtain the Eligibility Certificate before the last date for admission as notified by the Academy.

A candidate who has been admitted to postgraduate programme should register his / her name in the Academy within a month of admission after paying the registration fee.

1.4. Intake of Students

The intake of students to each programme will be in accordance with the ordinance in this behalf.

1.5. Duration of Study

a) M.D /M.S Degree Programme

The programme of study will be for a period of 3 years consisting of 6 academic terms.

1.6. Method of training

The training of postgraduate for degree will be residency pattern with graded responsibilities in the management and treatment of patients entrusted to his/her care. The participation of the students in all facets of educational process is essential. Every candidate should participate in seminars, group discussions, grand rounds, case demonstration, clinics, journal review meetings, CPC and clinical meetings. Every candidate should participate in the teaching and training programme of undergraduate students. Training includes involvement in laboratory and experimental work and research studies.

1.6.1. Teaching methodology

1.6.1.1 Includes Didactic lectures, small group discussion such as seminars, journal clubs, symposia, reviews and guest lectures for acquiring theoretical knowledge.

1.6.1.2 Bedside teaching, grand rounds, structured interactive group discussions and clinical demonstrations should be the hallmark of clinical/practical learning with appropriate emphasis on e-learning. Student should have hand-on training in performing various procedures and ability to interpret various tests/investigations.

1.6.1.3 Exposure to newer specialized diagnostic/therapeutic procedures concerning her/his subject should be given.

1.6.4 Self-learning tools like assignments and case-based learning should be promoted.

1.6.2. Clinical postings and Rotation of posting

Basic medical sciences students will be posted to allied and relevant clinical departments or institutions. Students working in clinical departments will be posted to basic medical sciences and allied speciality departments or institutions. It should be done as concurrent studies during the 1st year of training Similarly Inter-unit rotation in the department should be done for a period of up to one year. Rotation in appropriate related subspecialties should **not extend for a period exceeding 06 months.** Postings to other specialty departments will be during the second year.

All postgraduates' students pursuing MD/MS in broad specialities shall undergo a compulsory residential rotation of three months in District Hospital / District Health system as a part of the course curriculum. Such rotation shall take place in the 3rd or 4th or 5th semester of the postgraduates programme. This rotation shall be termed as District residency programme and the postgraduate medical student undergoing training shall be termed as a District Resident.

Satisfactory completion of the District Residency shall be an essential condition before the candidate is allowed to appear in the final examination of the respective postgraduate course. The District Residency Programme Coordinator (DRPC) shall issue certificate of satisfactory completion of DRP and report on the performance of the District Resident on a prescribed format to the concerned Medical College and the Government of State/Union Territory. No. MCI-18(1)/2020-Med./121415.—date16/09/2020

1.6.3. Clinical meetings:

Clinical meetings will be conducted within the department weekly and also inter departmental meetings will be conducted monthly to discuss uncommon/interesting cases.

1.6.4 Log book:

Each student should maintain a logbook and document day to-day activities like documentation of ward work, teaching and learning activities , clinical case discussion, procedures performed , seminars, journal clubs, symposium ,CPC meets, inter-unit/interdepartmental teaching sessions, mortality meets, workshops, CME/conferences .The Log books will be checked and assessed periodically by the faculty members imparting the training. This will in turn be evaluated/assessed by an external reviewer appointed by the Director of PG Studies biannually during the months of July and January. The log book should be preserved and presented at the time of summative examinations conducted by the Academy.

1.6.5 Research activities:

1.6.5.1 The student should know the basic concepts of research methodology plan a research project and be able to retrieve information from the library. The student should have a basic knowledge of statistics.

1.6.5.2 A postgraduate student of a postgraduate degree programme in broad specialities should present one poster presentation, read one paper at a national/state conference and publish one research paper which should be published /accepted for publication/sent for publication during the period of his postgraduate studies so as to make him eligible to appear at the postgraduate degree examination. MCI Notification No.18(1)/2009/ medicine/55455 Dated:09-12-2009

1.6.5.3 Department should encourage e-learning activities.

1.6.6 Basic Programme in Biomedical Research:

In order to improve the research skills of post-graduate students, the Board of Governors (BoG) has recommended a uniform research methodology programme across the country, the online programme, “Basic programme in Bio-medical Research”, will be offered by ICMR-National Institute of Epidemiology (ICMR-NIE), Chennai (www.nie.gov.in). The programme will explain fundamental concepts in

Research methodology. This programme is being offered through SWAYAM programme of ministry of human resource development through SWAYAM NPTEL (http://swayam.gov.in/nc details/NPTEL)

1.6.7 Synopsis and Dissertation:

Every candidate will submit to the Registrar of the Academy in the prescribed proforma, a synopsis containing particulars of proposed dissertation work within six months from the date of commencement of the programme on or before the dates notified by the Academy. The synopsis will be sent through the proper channel.

Such synopsis will be reviewed and the dissertation topic will be registered by the Academy. No change in the dissertation topic or guide will be made without prior approval of the Academy.

Every candidate pursuing MD/MS degree programme is required to carry out work on a selected research project under the guidance of a recognized post graduate teacher. The results of such a work will be submitted in the form of a dissertation.

The dissertation is aimed to train a post graduate student in research methods and techniques. It includes identification of a problem, formulation of a hypothesis, search and review of literature, getting acquainted with recent advances, designing of a research study, collection of data, critical analysis and comparison of results and drawing conclusions.

The dissertation should be written under the following headings:

- Introduction
- Aims or Objectives of study
- Review of Literature
- Material and Methods
- Results
- Discussion
- Conclusion
- Summary
- References
- Tables
- Annexures

The written text of dissertation will be not less than 50 pages and will not exceed 150 pages excluding references, tables, questionnaires and other annexures. It should be neatly typed in double line spacing on one side of paper (A4 size, 8.27" x 11.69") and bound properly. Spiral binding should be avoided. The dissertation will be certified by the guide, Head of the department and Head of the Institution.

Six hard copies of dissertation and one soft copy thus prepared will be submitted to

the Controller of Examination (CoE), six months before final examination on or before the dates notified by the Academy.

The dissertation will be valued by examiners appointed by the Academy. Approval of dissertation work is an essential precondition for a candidate to appear in the Academy examination.

Guide: The academic qualification and teaching experience required for recognition by this Academy as a guide for dissertation work is as per Medical Council of India, Minimum Qualifications for Teachers in Medical Institutions Regulations, 1998. Teachers in a medical college/institution having a total of eight years teaching experience out of which at least four years teaching experience as Assistant Professor with at least one research publication in indexed journals gained after obtaining post graduate degree will be recognized as post graduate teachers. (No. MCI- 12(2)/2019-Med. Misc./189334.- Dated: 12th February 2020)

Co-guide: may be included provided the work requires substantial contribution from a sister department or from another medical institution recognized for teaching/training by Sri Devaraj Urs Academy /Medical Council of India. The co- guide will be a recognized post graduate teacher of Sri Devaraj Urs Academy.

Change of guide: In the event of a registered guide leaving the college for any reason or in the event of death of guide, guide may be changed with prior permission from the academy.

1.6.8 Journal Club:

Journal club will be conducted once a week. All the PG students are expected to attend and actively participate in discussion and enter the relevant details in the log book. Further, every candidate must make a presentation from the allotted journal(s), selected articles, at least four times a year and a total of 12 presentations in three years. The presentations would be evaluated using check lists and would carry weightage for internal assessment (See checklist - I in Chapter V). A time table with names of the student and the moderator should be announced periodically,(Quarterly).

1.6.9 Subject Seminar:

Subject seminar will be conducted once a week. All the PG students are expected to attend and actively participate in discussion and enter the relevant details in the log book, Further, every candidate must present selected topics at least four times a year and a total of 12 seminar presentations in three years. The presentations would be evaluated using check lists and would carry weightage for internal assessment (See checklist-II in Chapter V). A timetable for the subject with names of the student and the moderator should be announced periodically, (Quarterly).

1.6.10 Student Symposium:

Student Symposium as an additional inter departmental programme will be conducted periodically, once in three months. The evaluation may be similar to that described for subject seminar.

1.6.11 Ward Rounds:

Ward rounds are service or teaching rounds.

i. ***Service Rounds****:* Postgraduate students and Interns will do every day for the care of the patients. Newly admitted patients should be worked up.by the PGs and presented to the seniors the following day.

ii. ***Teaching Rounds****:* Every unit will have 'grand rounds' for teaching purpose.

A diary should be maintained for day to day activities by the students.

Entries of (i) and (ii) should be made in the Log book.

1.6.12 Clinico-Pathological Conference:

CPC will be conducted once in two months for all post graduate students. Presentation will be done by rotation. If cases are not available due to lack of clinical postmortems, it could be supplemented by published CPCs.

1.6.13 Inter Departmental Meetings:

These will be conducted once a month. These meetings will be attended by post graduate students and relevant entries must be made in the Log Book.

1.6.14 Teaching & Learning Skills:

Post graduate students must teach under graduate students (Eg. medical, nursing) by taking demonstrations, bed side clinics, tutorials, lectures etc.

Assessment is made using a checklist by surgery faculty as well as students. (See model checklist -III in Chapter V). Record of their participation should be documented in the Log book. Training of post graduate students in Educational Science and Technology is recommended.

Further, all postgraduate students are required to attend at least about 35 hours of didactic lecture as notified by the individual departments.

1.6.15 Entrustable Professional Activity:

EPAs are units of professional practice, defined as tasks or responsibilities to be entrusted to the unsupervised execution by a trainee once he or she has attained sufficient specific competence. EPAs are independently executable, observable, and measurable in their process and outcome, and therefore, suitable for entrustment decisions. The Entrustable professional activity (EPA) concept allows faculty to make competency-based decisions on the level of supervision required by trainees. The Academy has identified few such EPA's for all students in various degree programme.

These are:

1. EPA 1: Gather a history and perform a physical examination

2. EPA 2: Prioritize a differential diagnosis following a clinical encounter
3. EPA 3: Recommend and interpret common diagnostic and screening tests
4. EPA 4: Obtain informed consent for tests and / or procedures
5. EPA 5: Recognize a patient requiring Emergency care and initiating resuscitation.
6. EPA 6: Give or receive a patient handover to transition care responsibility.
7. EPA 7: Undertake complete patient monitoring of all the zones of emergency.
8. EPA 8: Provide life support services in Emergency situations.
9. EPA 9: Collaborate as a member of an inter-professional team.
10. EPA 10: Perform general procedures of an Emergency physician.
11. EPA 11: Perform point of care Ultrasound in resuscitation of Patient
12. EPA 12: Enter and discuss orders and prescriptions
13. EPA 13: Prepare a complete transfer of patient into the hospital or out of the hospital with comprehensive discharge summary.

1.7. EPA 13: Form clinical questions and retrieve evidence to advance patient care.

Continuing Medical Education (CME):

Every PG student must attend at least 2 CME programmes either at state/regional /zonal/national levels.

1.8. Conferences:

Attending conferences is optional. However it has to be encouraged. All students are encouraged to attend conferences (at state/national/international levels) to enable them to make paper/poster presentations, which is a mandatory requirement to fulfill before appearing for final examinations.

1.9. Attendance, Progress and Conduct:

- A candidate pursuing degree programme will work in the concerned department of the institution for the full period as a full time student. No candidate is permitted to run a clinic/laboratory/nursing home while studying postgraduate programme.
- Academic term of 6 months will be taken as a unit for the purpose of calculating attendance. The candidate should have 80% attendance in each academic term of 6 months.

- Every student will attend symposia, seminars, conferences, journal review meetings, grand rounds, CPC, case presentation, clinics and lectures during each year as prescribed by the department and not absent himself / herself from work without valid reasons.
- Every candidate is required to attend a minimum of 80% of the training during each academic term of the post graduate programme. Provided further, leave of any kind will not be counted as part of academic term without prejudice to minimum 80% attendance of training period every term.
- All the candidates joining the Post Graduate training programme will work as 'Full Time Residents' during the period of training and will attend not less than 80% (Eighty percent) of the imparted training during each academic term. Including assignments, full time responsibilities and participation in all facets of the education process.
- Any student who fails to complete the programme in the manner stated above will not be permitted to appear for the Academy Examinations.
- A Postgraduate student of a postgraduate degree programme would be required to present one poster presentation, to read one paper at a national/state conference and to present one research paper which should be published / accepted for publication/sent for publication during the period of postgraduate studies so as to make him eligible to appear at the postgraduate degree examination.
  Ref: As MCI Notification dated 09-12-2009, vide No.MCI.18 (1)/2009- Med.55455 and Para No.4.

Procedure for defaulters:

Every department will have a committee containing Head of the department and PG guides to review such situations. The defaulting candidate is counseled by the guide and head of the department. In extreme cases of default the departmental committee may recommend that defaulting candidate be withheld from appearing the examination, if she/he fails to fulfill the, requirements in spite of being given adequate chances to set himself or herself right.

2 Monitoring Progress of Studies:

It is essential to monitor the learning progress of each candidate through continuous appraisal and regular assessment. It not only helps teachers to evaluate students, but also students to evaluate themselves. The monitoring will be done by the staff of the department based on participation of students in various teaching / learning activities. It may be structured and assessment be done using checklists that assess various aspects. Checklists are given in Chapter V.

The learning out comes to be assessed should include:

- Personal Attitudes,
- Role play
- Acquisition of Knowledge,
- Clinical and operative skills,
- Teaching skills and
- Dissertation.

a. Personal Attitudes:

The essential items are:

- Caring attitudes
- Initiative
- Organizational ability
- Potential to cope with stressful situations and undertake responsibility
- Trustworthiness and reliability
- To understand and communicate intelligibly with patients and others
- To behave in a manner which establishes professional relationships with patients and colleagues
- Ability to work in team
- A critical enquiring approach to the acquisition of knowledge

The methods used mainly consist of observation. It is appreciated that these items require a degree of subjective assessment by the guide, supervisors, self, peers, faculty from the unit and nurses. (Multi source feedback MSF)check list XII

b. Acquisition of Knowledge:

The methods used comprise of

2.1 Log book: (Check List – XIII Chapter – V)

'Log Book' which records participation in various teaching / learning activities by the students. The number of activities attended and the number in which presentations are made must be recorded. The log book will periodically be validated by the supervisors. Some of the activities are listed. During the training period, the post graduate student should maintain a Log Book indicating various teaching / learning activities, duration of the postings/work done in Wards including super specialty, OPDs and Casualty. This should indicate the specified number of cases for clinical discussion, procedures and operations observed, assisted and performed /presented seminars and review articles from various journals in inter- unit/inter departmental teaching sessions.

The purpose of the Log Book is to:

- Help maintain a record of the work done during training,
- Enable Consultants to have direct information about the work; intervene if necessary,
- Use it to assess the experience gained periodically.

The log book will be used to aid the internal evaluation of the student.
The Log books will be checked and assessed periodically, monthly basis by guide / head of the unit/ head of the department and biannually by external reviewer.

Procedure for defaulters:
Every department will have a committee to review such situations. The "defaulting candidate is counseled by the guide and head of the department. In extreme cases of default the departmental committee will recommend that defaulting candidate be withheld from appearing the examination, if she/he fails to fulfill the requirements in spite of being given adequate chances to set himself or herself right

2.2 Journal Review Meeting (Journal Club):
The ability to do literature search, in depth study, presentation skills, and use of audio-visual aids are to be assessed. The assessment is made by faculty members and peers attending the meeting using a checklist (see Model Checklist -I, in Chapter V)

2.3 Seminars / Symposia:
The topics will be assigned to the student well in advance to facilitate in depth study. The ability to do literature search, in depth study, presentation skills and use of audio- visual aids will be assessed using a checklist (see Model Checklist -II, Chapter -V)

2.4 Clinico'-Pathological conferences:
This will be a multidisciplinary case study of an interesting case to train the candidate to solve diagnostic and therapeutic problems by using an analytical approach. The presenter(s) are to be assessed using a check list similar to that used for seminar.

2.5 Surgical Audit:
Periodic morbidity and mortality meeting must be held. Attendance and participation in these must be insisted upon. This may not be included in assessment.

2.6 Clinical skills
Day to Day work: Skills in outpatient and ward work will be assessed periodically. The assessment should include the candidates' sincerity and punctuality, analytical ability and communication skills (see Model Checklist -V, Chapter V). – Mini CEX (Model check list VII, Chapter V)

2.7 Clinical meetings (Clinical Presentations :) *:*
Candidates should periodically present cases to his peers and faculty members. This should be assessed using a check list (see Model checklist V, Chapter V).

2.8 Clinical and Operative skills:

The candidate will be given graded responsibility to enable learning by apprenticeship. The performance is assessed by the guide by DOPS (Model check list VI, Chapter V). Particulars are recorded by the student in the log book.

2.9 Teaching skills:

Post graduates are required to teach undergraduate medical students and paramedical students, if any *(as a part of Post graduate training)*. This performance should be based on assessment by the faculty members of the department and from feedback from the undergraduate students (See Model checklist III, Chapter V) - Microteaching Pedagogy (Model check list VIII, Chapter V)

2.10 Dissertation in the Department:

Periodic presentations must be made in the department. Initially the topic selected is to be presented before submission to the Academy for registration and again before finalization for critical evaluation and before final submission of the completed work (See Model Checklist IX & X, Chapter V)

2.11 Periodic tests:

The concerned departments will conduct quarterly tests. The final test will be held three months before the final examination. The tests may include written papers, practical's / clinical and viva voce. Records and marks obtained in such tests will be maintained by the Head of the Department and sent to the Academy, when called for.

2.12 Records:

Monthly and quarterly reviews of records, log books and marks obtained in tests will be maintained by the Head of the Department and will be made available to the Academy, when called for.

2.13 Communication skills:

Weekly morbidity and mortality meetings for the Post Graduate Medical Education with all the broad and super speciality departments will be done to improve the communication skills and soft skills of Emergency Physician.

3. ASSESSMENT:

3.1 Formative Assessment

It is essential to monitor the learning progress of each candidate through **continuous appraisal and regular assessment.** It not only helps teachers to evaluate students, but also students to evaluate themselves. The monitoring to be done by the staff of the department based on participation of students in various teaching /learning

activities. It may be structured and assessment be done using checklists that assess, various aspects. This includes assessment of patient care, procedural & academic skills, interpersonal skills, professionalism, self-directed learning and ability to practice in the system.

Checklists are given in Chapter-V

Assessment during the MS/MD training should be based on:

Assessment at end of rotation (Quarterly Postgraduate Student's Appraisal Form) by the Unit Head. The student to be assessed periodically as per categories listed in **Postgraduate Student Appraisal Form** (See Model checklist-X, Chapter V).

Multisource Feedback (MSF) – Quarterly

MSFs should be obtained quarterly from:- 2 from faculty of the unit/department; 2 from peers posted in the unit; 2 from interns,2 from staff nurses from the areas attached to the unit,2 from patient/patient relative. (Checklist XII – Chapter V)

Periodic assessment –The Quarterly tests may include written papers (theory), practical's / clinical and viva voce.

Quarterly Postgraduate Student's Appraisal Form (See Model checklist-X I, Chapter V).

- Journal based/ recent advances learning
- Patient based or Skill based learning
- Self-directed learning and teaching
- Departmental & interdepartmental learning activity
- External & Outreach activities/ Continuing Medical Education (CME)
- Attendance, Progress and Conduct

A candidate pursuing degree programme should work in the concerned department of the institution for the full period as a full time student. No candidate is permitted to run a clinic/laboratory/nursing home while studying post graduate programme.

Academic term of 6 months will be taken as a unit for the purpose of calculating attendance. Every student will attend symposia, seminars, conferences, journal review meetings, grand rounds, CPC, case presentation, clinics and lectures during each year as prescribed by the department and not absent himself / herself from work without valid reasons.

Every candidate is required to attend a minimum of 80% of the training during each academic term of the post graduate programme. Provided further, leave of any kind will not be counted as part of academic term without prejudice to minimum 80% attendance of training period every term.

All the candidates joining the Post Graduate training programme will work as 'Full Time Residents' during the period of training and will attend not less than 80% (Eighty percent) of the imparted training during Academic Term of 6 months including assignments, full time responsibilities and participation in all facets of the education process.
Any student who fails to complete the programme in the manner stated above will not be permitted to appear for the Academy Examinations.

A Postgraduate student of a postgraduate degree programme in broad specialities/super specialities would be required to present one poster presentation, to read one paper at a national/state conference and to present one research paper which should be published / accepted for publication/sent for publication during the period of postgraduate studies so as to make him eligible to appear at the postgraduate degree examination.
Ref: As MCI Notification dated 09-12-2009, vide No.MCI.18 (1)/2009-Med.55455 and Para No.4.

Procedure for defaulters:

Every department should have a committee containing Head of the department and PG guides to review such situations. The defaulting candidate is counseled by the guide and head of the department. In extreme cases of default the departmental committee may recommend that defaulting candidate be withheld from appearing the examination, if she/he fails to fulfill the, requirements in spite of being given adequate chances to set himself or herself right.

3.2 Scheme of examinations

Summative assessment

The summative examination would be carried out as per the Rules given in POSTGRADUATE MEDICAL EDUCATION REGULATIONS, 2000 and amended up to 2018. (The Clause 14 under the heading "EXAMINATION" shall be substituted in terms of Gazette Notification published on 05.04.2018).
The examination will be in three parts:

3.2.1 DISSERTATION

Every post graduate student will carry out work on an assigned research project under the guidance of a recognized Post Graduate Teacher, the result of which will be written and submitted in the form of a dissertation. Work for writing the dissertation is aimed at contributing to the development of a spirit of enquiry, besides exposing the candidate to the techniques of research, critical analysis, acquaintance with the latest advances in medical science and the manner of identifying and consulting available literature. Dissertation will be submitted at

least six months before the Theory and Clinical / Practical examination. The dissertation will be examined by a minimum of three examiners; one internal and two external examiners, who will not be the examiners for Theory and Clinical examination. A candidate will be allowed to appear for the Theory and Practical/Clinical examination only after the acceptance of the dissertation by the examiners.

3.2.2. THEORY

There will be four question papers, each of three hours duration. Each paper will consist of ten questions each question carrying 10 marks, so the total marks for each paper will be 100. Questions on recent advances maybe asked in any or all the papers. The examinations will be organised on the basis of 'Grading 'or 'Marking system' to evaluate and to certify candidate's level of knowledge, skill and competence at the end of the training. The Clause 14 under the heading "EXAMINATION" shall be substituted in terms of Gazette Notification published on 05.04.2018 and the same is as under:-

Obtaining a minimum of 40% marks in each theory paper and not less than 50% cumulatively in all the four papers for degree examinations and three papers in diploma examination. Obtaining of 50% marks in Practical examination shall be mandatory for passing the examination as a whole in the said degree/diploma examination as the case may be. Obtaining a minimum of 50% marks in 'Theory' as well as 'Practical' separately will be mandatory for passing examination as a whole. The examination for MS/MD will be held at the end of 3rd academic year.

3.2.3. Clinical / Practical and viva voce Examination

Clinical examination will be conducted to test the knowledge, skills, attitude and competence of the post graduate students for undertaking independent work as a specialist/Teacher, for which post graduate students will examine a minimum one long case and two short cases.

The Oral examination will be thorough and will aim at assessing the post graduate student's knowledge and competence about the subject, investigative procedures, therapeutic technique and other aspects of the specialty, which form a part of the examination.

Assessment may include Objective Structured Clinical Examination (OSCE) Oral/Viva-voce examination needs to assess knowledge on X-rays, instrumentation, operative procedures. Due weightage should be given to Log Book Records and day to-day observation during the training.

ALLOTMENT OF MARKS

THEORY	MARKS ALLOTMENT	MAXIMUM MARKS	
PAPER-I	10 X 10	100	400
PAPER-II	10 X 10	100	
PAPER-III	10 X 10	100	
PAPER-IV	10 X 10	100	

CLINICALS/ PRACTICALS		200
VIVA VOCE	80	100
PEDAGOGY	20	
TOTAL		**700**

3.2 Examiners:

There will be at least four examiners in each subject. Out of them two will be external examiners and two will be internal examiners. The qualification and teaching experience for appointment as an examiner will be as laid down by the Medical Council of India. No person will be appointed as internal examiner in any subject unless he/she has three years' experience as recognized PG teacher in the concerned subject. For external examiners he/she should have minimum six years of experience as recognized PG teacher in the concerned subject.

3.2.4 Criteria for declaring as pass in Academy Examination:

A candidate should score minimum 40% marks in each theory paper and not less than 50% marks cumulatively in all the papers in postgraduate degree/diploma, to be declared as pass in the examinations. A candidate shall secure not less than 50% marks in each head of passing which shall include (1) Theory, (2) Practical including clinical and viva voce examination. A candidate securing less than 50% of marks as described above shall be declared to have failed in the examination. (No. MCI-23(1)/2014/Med/153433 Dated 28-01-2015) A failed candidate may appear in any sub-sequent examination upon payment of fresh fee to the Registrar of the University.

3.2.5 Declaration of distinction:

A successful candidate passing the Academy examination in first attempt will be declared to have passed the examination with distinction, if the grand total aggregate marks are 75 percent and above. Distinction will not be awarded for candidates passing the examination in more than one attempt.

3.2.6 Number of Candidates per day.

The maximum number of candidates for practical/clinical and viva-voce examination will be as under: MD / MS Programme: Maximum of 8 per day

4. ELIGIBILITY CRITERIA FOR APPEARING FOR EXAMINATIONS 4.1 ATTENDANCE

All the candidates joining the Post Graduate training programme will work as 'Full Time Residents' during the period of training and will attend not less than 80% (Eighty percent) of the imparted training during Academic Term of 6 months including assignments, full time responsibilities and participation in all facets of the education process.

- Every student will attend all teaching programmes during each year as prescribed by the department and not absent himself / herself from work without valid reasons
- Every candidate is required to attend a minimum of 80% of the training during each academic year of the post graduate programme. Provided further, leave of any kind will not be counted as part of academic term without prejudice to minimum 80% attendance of training period every term.
- Any student who fails to complete the programme in the manner stated above will not be permitted to appear for the Academy Examinations.

4.2. PROGRESS AND CONDUCT

- Every student will attend symposia, seminars, conferences, journal review meetings, grand rounds, CPC, case presentation, clinics and lectures during each term as prescribed by the department and not absent himself / herself from work without valid reasons.
- Every candidate is required to attend a minimum of 80% of the training during each academic term of the post graduate programme. Provided further, leave of any kind will not be counted as part of academic term without prejudice to minimum 80% attendance of training period every term.

4.3. RESEARCH ACTIVITIES-PAPER/POSTER/PUBLICATIONS

- A Postgraduate student of a degree programme in broad speciality would be required to present one poster presentation, to read one paper at a national/state conference and to present one research paper which should be published / accepted for publication/sent for publication during the period of postgraduate studies so as to make him eligible to appear at the postgraduate degree examination. Ref: As MCI Notification dated 09-12-2009, vide No.MCI.18 (1)/2009-Med.55455 and Para No.4.
- It is mandatory for all postgraduate students to undergo training in online programme in "Basic Programme in Biomedical Research" Which should be completed by the end of second semester .Not completing the programme will make them ineligible for appearing for the final academy examinations.(MCI-23(1)/2019-Med./141602 dated 27-08-2019).

4.4 DISSERTATION

Every post graduate student will carry out work on an assigned research project under the guidance of a recognized Post Graduate Teacher, the result of which will

be written and submitted in the form of a dissertation. Dissertation will be submitted at least six months before the Theory and Clinical / Practical examination. The dissertation will be examined by a minimum of three examiners; one internal and two external examiners, who will not be the examiners for Theory and Clinical examination. A candidate will be allowed to appear for the Theory and Practical/Clinical examination only after the acceptance of the dissertation by the examiners.

4.5 District Residency Programme

All postgraduates' students pursuing MD/MS in broad specialties shall undergo a compulsory residential rotation of three months in District Hospital / District Health system as a part of the course curriculum. Such rotation shall take place in the 3rd or 4th or 5th semester of the postgraduates programme. This rotation shall be termed as District residency programme and the postgraduate medical student undergoing training shall be termed as a District Resident.

Satisfactory completion of the District Residency shall be an essential condition before the candidate is allowed to appear in the final examination of the respective postgraduate course. The District Residency Programme Coordinator (DRPC) shall issue certificate of satisfactory completion of DRP and report on the performance of the District Resident on a prescribed format to the concerned Medical College and the Government of State/Union Territory. No. MCI-18(1)/2020-Med./121415.—date 16/09/2020

Procedure for defaulters:

Every department should have a committee containing Head of the department and PG guides to review such situations. The defaulting candidate is counseled by the guide and head of the department. In extreme cases of default the departmental committee may recommend that defaulting candidate be withheld from appearing the examination, if she/he fails to fulfill the, requirements in spite of being given adequate chances to set himself or herself right.

CHAPTER II

GOALS AND GENERAL OBJECTIVES OF POSTGRADUATE MEDICAL EDUCATION PROGRAM

GOALS:

The goal of postgraduate medical education will be to produce a competent specialist and /or a medical teacher:

i. Who will recognize the health needs of the community, and carry out professional obligations ethically and in keeping with the objectives of the national health policy;
ii. Who will have mastered most of the competencies, relating to the specialty, that are required to be practiced at the secondary and the tertiary levels of the health care delivery system:
iii. Who will be aware of the contemporary advances and developments in the discipline concerned;
iv. Who will have acquired a spirit of scientific inquiry and is oriented to the principles of research methodology and epidemiology; and
v. Who will have acquired the basic skills in teaching of the medical and paramedical professionals.

GENERAL OBJECTIVES:

At the end of the postgraduate training in the discipline concerned the student will be able to:

i. Recognize the importance of the concerned specialty in the context of the health need of the community and the national priorities in the health sector.
ii. Practice the specialty concerned ethically and in step with the principles of primary health care.
iii. Demonstrate sufficient understanding of the basic sciences relevant to the concerned specialty.
iv. Identify social, economic, environmental, biological and emotional determinants of health in a given case, and lake them into account while planning therapeutic, rehabilitative, preventive and promotive measures/strategies.
v. Diagnose and manage majority of the conditions in the specialty concerned on the basis of clinical assessment, and appropriately selected and conducted investigations.
vi. Plan and advice measures for the prevention and rehabilitation of patients suffering from disease and disability related to the specialty.
vii. Demonstrate skills in documentation of individual case details as well as morbidity and mortality data relevant to the assigned situation,
viii. Demonstrate empathy and humane approach towards patients and their families and exhibit interpersonal behavior in accordance with the societal norms and expectations.
ix. Play the assigned role in the implementation of national health programmes, effectively and responsibly.

x. Organize and supervise the chosen/assigned health care services demonstrating adequate managerial skills in the clinic/hospital or the field situation.
xi. Develop skills as a self-directed learner; recognize continuing educational needs; select and use appropriate learning resources.
xii. Demonstrate competence in basic concepts of research methodology and epidemiology, and be able to critically analyze relevant published research literature.
xiii. Develop skills in using educational methods and techniques as applicable to the teaching of medical/nursing students, general physicians and paramedical health workers.
xiv. Function as an effective leader of a health team engaged in health care, research or training.

STATEMENT OF THE COMPETENCIES

Keeping in view the general objectives of postgraduate training, each discipline will aim at development of specific competencies, which will be defined and spelt out in clear terms. Each department will produce a statement and bring it to the notice of the trainees in the beginning of the programme so that he or she can direct the efforts towards the attainment of these competencies.

COMPONENTS OF THE PG CURRICULUM

The major components of the PG curriculum will be:

- Theoretical knowledge
- Practical/clinical Skills
- Training in Thesis.
- Attitudes, including communication.
- Training in research methodology.

Source: Medical Council of India, Regulations on Postgraduate Medical Education, 2006 and 2008.

COMPETENCY BASED POSTGRADUATE TRAINING PROGRAMMEFOR M.D. EMERGENCY MEDICINE

Additional annexure to be included in all curricula

Postgraduate Students Appraisal Form Pre/Para/Clinical Disciplines

Name of Department/Unit :
Name of the PG Student :
Period of Training : FROM…… TO……..

Sr. No	Particulars	Not Satisfactory		Satisfactory		Satisfactory		More Than Satisfactory	Remarks
		1	2	3	4	5	6	7	8	9
1	Journal based/recent advances learning									
2	Patient based /Laboratory or Skill based learning									
3	Self directed learning and teaching									
4	Departmental and interdepartmental learning activity									
5	External and Outreach Activities/CMEs									
6	Thesis/Research work									
7	Log Book Maintenance									

Publications Yes/No

Remarks*

……..
……
……
……

*Remarks: Any significant positive or negative attributes of a postgraduate student to be mentioned. For score less than 4 in any category, remediation must be suggested. Individual feedback to postgraduate student is strongly recommended.

SIGNATURE OF ASSESSEE **SIGNATURE OF GUIDE**

SIGNATURE OF HOD **SIGNATURE OF UNIT CHIEF**

Section-II

Curriculum of M.D. Emergency Medicine

Goals:

The goals of postgraduate training for M.D. Emergency Medicine students are to train a M.B.B.S. doctor who will be capable and competent to:

- Practice Emergency Medicine with adequate competency and skills with sound knowledge.
- Practice Emergency Medicine in ethical manner, with empathy and due care to the needy.
- Continue to update with the advances regularly.
- Treat his/her team and juniors as learners and share his/her knowledge and skills.
- Be aware of national priorities in health and serve as per need towards achieving the goals of national health policies.

Objectives:

The following objectives are laid out to achieve the goals of the course. These objectives are to be achieved by the time the candidate completes the course. The Objectives are considered under the sub headings.

- Knowledge (Cognitive domain)
- Skills (Psycho motor domain)
- Human Values, Ethical practice and Communication abilities (Affect or domain)

Knowledge:

A list of objectives related to knowledge and higher cognitive abilities that are expected to be achieved during the course are given.

At the end of the training, the candidate must be able and competent to:

- Understand and describe etiology, pathophysiology principles of diagnosis and management of common medical , surgical, pediatric emergencies and apply the same knowledge and skills in the management of patients
- Understand, describe and practice effectively the indications and methods for fluid and electrolyte replacement therapy including blood transfusion nutrition.
- Demonstrate understanding of basic sciences relevant to emergency conditions.

- Identify social, economic, environmental and emotional determinants in a given case, and take them into account during planning therapeutic measures, advice regarding the operative or non-operative management of the case and to carry out the management effectively.
- Undertake audit, use information technology tools and carry out research, both basic and clinical, with the intent of generating knowledge &spread it through publications and presentations for the benefit of scientific community and general public.
- Recognize & refer conditions outside the competency level to appropriate expertise.
- Attend, update and upgrade professional skills regularly as required by participating in
  Instructional courses, workshops, CMEs, conferences or training programmes.
- Be a good teacher by inculcating teaching methodology and skills so as to teach students, colleagues and support staff. .
- Use evidence based medicine and effectively &advocate them in decision making.
- Be capable of managing medico-legal aspects of trauma and other non-traumatic emergency conditions.
- Be effective team leaders in secondary health care facilities & team member.
- Be capable of organizing and executing effective treatment in mass casualties.
- Develop knowledge of ventilator and its setting in different conditions.

Skills

- Be a competent clinician to take proper clinical history, examine the patient, perform essential diagnostic procedures and order relevant tests and interpret them to come to a reasonable diagnosis about the surgical conditions.
- Be a competent emergency physician to perform minor operative procedures. Competent in providing basic and advance lifesaving support services (BLS & ACLS) in emergencies and manage them, manage poly trauma, acute surgical emergencies including abdominal and thoracic emergencies
- The post graduates should be trained in using POCUS and POCT.
- Undertake thorough wound management including various traumatic wounds and burns.
- Mechanical ventilation
- Central venous line, central arterial line etc.

Human Values, Ethical practice and Communication abilities:

- Practice emergency medicine ethically and provide care irrespective of other considerations like caste, creed, religion etc. and social status. Should be sensitive and responsiveness towards patients' age, culture, religion, gender and disability etc.
- Be honest and maintain professional integrity, accountability, compassion and respect in all aspects of patient care.

- Be a good communicator who can explain patients in lay terms the outcome, various options of management and obtain true informed consent.
- Be able to respect patients' autonomy, confidentiality, right for information and decision making.
- Understand the limitations of his knowledge and skills and ask for help from experts and colleagues.
- Follow ethical guidelines during research in animals or human subjects.
- Be a motivated leader to bring about best in his team.
- The student should demonstrate a commitment to excellence and continuous professional development.
- Importance of Golden and window period should be learnt.

The course contents have been identified and categorized as essential knowledge as under.

A. SYSTEMWISE APPROACH TO EMERGENCIES

I. Cardiovascular Emergencies in Adults and Children

1. Arrhythmias
2. Congenital heart disorders
3. Contractility disorders, pump failure
4. 4. Cardiomyopathies, congestive heart failure,acute pulmonary oedema, tamponade
5. Valvular emergencies
6. Inflammatory and infectious cardiac disorders
7. Endocarditis, myocarditis, pericarditis
8. Ischemic heart disease - Acute coronary syndromes, stable angina
9. Traumatic injuries
10. Vascular and thromboembolic disorders
11. Aortic dissection/aneurysm rupture, deep vein thrombosis, hypertensive emergencies,
12. occlusive arterial disease, thrombophlebitis, pulmonary embolism, pulmonary
13. hypertension

II. Dermatological Emergencies in Adults and Children

1. Inflammatory and Infectious disorders.
2. Skin manifestations of immunological disorders, systemic disorders & toxic disorders.

III. Endocrine and Metabolic Emergencies in Adults and Children

1. Acute presentation of inborn errors of metabolism.
2. Adrenal insufficiency, crisis and other adrenal emergencies.
3. Disorders of glucose metabolism.
4. Hyperosmolar hyperglycemic state, hypoglycemia, ketoacidosis.

5. Thyroid emergencies hyperthyroidism, hypothyroidism, myxedema, thyroid storm.

IV.Fluid and Electrolyte Disturbances

1. Acid-Base disorders.
2. Electrolyte disorders.
3. Volume status and fluid balance.

V. Ear, Nose, Throat, Oral and Neck Emergencies in Adults and Children

1. Bleeding.
2. Complications of tumors.
3. Airway obstruction, bleeding.
4. Foreign bodies.
5. Inflammatory and Infectious disorders.
6. Angioedema, epiglottitis, laryngitis, tonsillar abscess.
7. Traumatic problems.
8. Post-operative complications.

VI. Gastrointestinal Emergencies in Adults and Children.

1. Inflammatory and Infectious disorder –appendicitis, cholecystitis, cholangitis, diverticulitis.
2. Complications of inflammatory bowel diseases, gastritis, gastroenteritis, Pancreatitis, peritonitis.
3. Traumatic and mechanical problems- foreign bodies, hernia strangulation, intestinal obstruction and occlusion.
4. Acute hepatitis, Cirrhosis of liver and complication.
5. Vascular disorders: Ischemia and Bleeding.
6. Ischemic colitis, upper and lower gastrointestinal bleeding, mesenteric ischemia.

VII. Gynecological and Obstetric Emergencies

1. Obstetric emergencies- Hypertension, diabetes, anemia, thyroid disorders, ectopic
2. Pregnancy, emergency delivery, eclampsia ,HELLP syndrome during pregnancy,
3. Hyperemesis gravidarum, placenta praevia, Abruptio placentae.
4. Post-partum hemorrhage.
5. Traumatic and related problems.
6. Ovarian torsion.
7. Vaginal bleeding.
8. Cardiac arrest in pregnancy- resuscitation, peri-mortem caesarian section.

VIII. Haematology and Oncology Emergencies in Adults and Children

1. Anemias.
2. Complications of lymphomas and leukaemias.

3. Congenital disorders- Haemophilias and Von Willebrand's disease, hereditary hemolytic, anemias, sickle cell disease.
4. Inflammatory and Infectious disorders.
5. Neutropenic fever, infections in immuno-compromised patients.
6. Vascular disorders: Ischemia and Bleeding.
7. Acquired bleeding disorders (coagulation factor deficiency, disseminated intravascular oagulation), drug induced bleeding (anticoagulants, antiplatelet agents, fibrinolytic), idiopathic thrombocytopenic purpura, thrombotic thrombocytopenic purpura.
8. Transfusion reactions, Massive transfusion.

IX. Immunological Emergencies in Adults and Children

1. Allergies and anaphylactic reactions.
2. Inflammatory and Infectious disorders.
3. Acute complications of vacuities.

X. Infectious Diseases and Sepsis in Adults and Children

1. Common viral and bacterial infections.
2. Food and water-born infectious diseases.
3. HIV infection and AIDS.
4. Common tropical diseases.
5. Parasitic infestations.
6. Rabies.
7. Sepsis and septic shock.
8. Streptococcal toxic shock syndrome
9. Tetanus

XI. Musculo-Skeletal Emergencies

1. Dislocated hip, osteogenesis imperfecta
2. Inflammatory and Infectious disorders
3. Cellulitis, complications of systemic rheumatic diseases, necrotizing fasciitis, osteomyelitis, soft tissue infections
4. Complications of osteoporosis and other systemic diseases
5. Traumatic and degenerative disorders
6. Common fractures and dislocations, compartment syndromes,rush syndrome, osteoarthrosis, rhabdomyolysis, soft tissue trauma

XII. Neurological Emergencies in Adults and Children

1. Inflammatory and Infectious disorders - brain abscess, meningitis, encephalitis, febrile seizures in children, Guillain-Barrè syndrome, meningitis, peripheral facial palsy (Bell's palsy), temporal arteritis
2. Traumatic and related problems - Complications of CNS devices, spinal cord

syndromes, peripheral nerve trauma and entrapment, traumatic brain injury

3. Tumors - common presentations and acute complications of neurological a metastatic Tumors.
4. Vascular disorders: Ischemia and Bleeding Carotid artery dissection, stroke, subarachnoid hemorrhage, subdural and extramural hematoma, transient ischemic attack, venous sinus thrombosis
5. Other problems - Acute complications of chronic neurological conditions (e.g. myasthenic crisis, multiple sclerosis), acute peripheral neuropathies, seizures and Status epileptic's

XIII. Ophthalmic Emergencies in Adults and Children

1. Inflammatory and Infectious disorders: conjunctivitis,dacrocystitis, endophthalmitis, iritis, keratitis, orbital and Periorbital cellulitis, uveitis
2. Traumatic and related problems: Foreign body in the eye, ocular injuries,
3. Vascular disorders: Ischemia and Bleeding -retinal artery and vein occlusion, vitreous hemorrhage
4. Acute glaucoma, retinal detachment

XIV. Pulmonary Emergencies in Adults and Children

1. Congenital -cystic fibrosis.
2. Inflammatory and Infectious disorder -asthma, bronchitis, bronchiolitis, pneumonia, empyema, COPD exacerbation, lung abscess, pleurisy and pleural effusion, pulmonaribrosis, tuberculosis.
3. Traumatic and related problem foreign body inhalation, haemothorax, tension pneumothorax, Pneumomediastinum.
4. Tumors - common complications and acute complications of pulmonary and metastatic tumors.
5. Vascular disorders pulmonary embolism.
6. Acute lung injury, atelectasis, ARDS, spontaneous pneumothorax, Hemoptysis.

XV. Psychiatric and Behaviour Disorders

1. Behavior disorders.
2. Affective disorders, confusion and consciousness disturbances, intelligence disturbances, memory disorders, perception disorders, psycho-motor disturbances, thinking disturbances.
3. Acute psychosis, anorexia and bulimia complications, anxiety and panic attacks, conversion disorders, deliberate self-harm and suicide attempt.
4. Depressive illness, personality disorders, substance, drug and alcohol abuse.

XVI. Renal and Urological Emergencies in Adults and Children

1. Metabolic disorders- Acute kidney Injury, uremia, hemolytic, uremic syndrome.

2. Traumatic and related problems.
3. Urinary retention, testicular torsion.
4. Vascular disorders: Ischemia and Bleeding.
5. Comorbidities in dialysis and renal transplanted patients.
6. Complications of urological procedures and devices.

XVII. Trauma in Adults and Children

1. Origin of trauma: Thermal Injury, Chemical injury, Ionizing radiation Injury blunt trauma, penetrating trauma.
2. Anatomical location of trauma: Head and neck, maxillo-facial, thorax, abdomen, Pelvis, spine, extremities Polytrauma patient.
3. Trauma in specific populations: children, elderly, pregnant women.

B. COMMON PRESENTING SYMPTOMS

I. Acute Abdominal Pain

1. Gastrointestinal causes-appendicitis, cholecystitis, cholangitis, acute pancreatitis, complications of hernias, diverticulitis, hepatitis, hiatus hernia, inflammatory bowel disease, intestinal obstruction, ischemic colitis, mesenteric ischemia, peptic ulcer, peritonitis, hollow viscus perforation.
2. Cardiac/vascular causes - acute myocardial infarction, aortic dissection, aortic aneurysm rupture.
3. Dermatological causes - herpes zoster, other local inflammatory & infective causes.
4. Endocrine and metabolic causes- Addison's disease, diabetic ketoacidosis, other metabolic acidosis, porphyria.
5. Gynecological and Obstetric causes-complications of pregnancy, ectopic pregnancy, pelvic inflammatory disease, rupture of ovarian cyst, ovarian torsion.
6. Hematological causes- acute porphyria crisis, Familial Mediterranean fever, sickle cell crisis.
7. Musculo-skeletal causes referred pain from thoraco-lumbar spine.
8. Renal and Genitourinary causes- pyelonephritis, renal stones.
9. Respiratory causes- pneumonia, pleurisy.
10. Toxicology – poisoning.
11. Trauma- Abdominal.

II. Altered Behaviour and Agitation

1. Neurological causes- cerebral space-occupying lesions, dementia, hydrocephalus, intracranial hypertension, CNS infections.
2. Toxicology- alcohol and drug abuse, poisoning.
3. Endocrine and metabolic causes- hypoglycemia, hyperglycemia, electrolyte imbalance, hyperthermia, hypoxemia.
4. Cardiac/Vascular causes- hypertension, vasculitis.

5. Psychiatric causes- acute psychosis, depression.

III. Altered Level of Consciousness in Adults and Children

1. Neurological causes -cerebral tumor, epilepsy and status epilepticus, meningitis, encephalitis, stroke, subarachnoid hemorrhage, subdural and extradural hematoma, traumatic brain injury.
2. Cardiovascular causes- hypoperfusion states, shock.
3. Endocrine and metabolic causes-electrolyte imbalances, hepatic coma, hypercapnia, hypothermia, hypoxia, hypoglycemia/ hyperglycemia, uremia.
4. Gynecological and Obstetric causes –eclampsia.
5. Infectious causes - septic shock.
6. Psychiatric causes - Conversion syndrome.
7. Respiratory causes - Respiratory failure.
8. Toxicology - Alcohol intoxication, carbon-monoxide poisoning, narcotic and sedative poisoning, other substances.

IV. Back Pain

1. Musculo-Skeletal causes - Fractures, intervertebral disc strain and degeneration, strain of muscles, ligaments and tendons, spinal stenosis, arthritides, arthrosis.
2. Cardiovascular causes- aortic aneurysm, aortic dissection.
3. Infectious causes- osteomyelitis, discitis, pyelonephritis, prostatitis.
4. Endocrine and metabolic causes- Paget's disease.
5. Gastrointestinal causes- pancreatitis, cholecystitis.
6. Dermatological causes- herpes zoster.
7. Gynecological causes- endometriosis, pelvic inflammatory disease.
8. Hematological and Oncological causes- abdominal or vertebral tumors.
9. Neurological cause- subarachnoid hemorrhage.
10. Renal and Genitourinary causes- renal abscess, renal calculi.
11. Trauma.

V. Bleeding (Non Traumatic)

1. Ear, Nose, Throat causes Ear bleeding (otitis, trauma, tumors), epistaxis.
2. Gastrointestinal causes Hematemesis and melena (acute gastritis, gastro-duodenal ulcer, Mallory Weiss syndrome, esophageal varices) rectal bleeding (acute diverticulitis, hemorrhoids, inflammatory bowel disease, tumors).
3. Gynecological and Obstetric causes Menorrhagia/metrorrhagia (abortion, abruptio placentae, tumors).
4. Renal and Genitourinary causes Hematuria (pyelitis, tumors, urolithiasis)
5. Respiratory causes Hemoptysis (bronchiectasis, pneumonia, tumors, tuberculosis).

VI. Cardiac Arrest

1. Cardiac arrest treatable with defibrillation Ventricular fibrillation, pulseless

ventricular achycardia.

2. Pulseless electric activity Acidosis, hypoxia, hypothermia, hypo/hyperkalemia, hypocalcaemia, hypo/hyperglycemia, hypovolemia, tension pneumothorax, cardiac tamponade, myocardial infarction, pulmonary embolism, poisoning Asystole.

VII. Chest Pain

1. Cardiac/vascular causes Acute coronary syndrome, aortic dissection, arrhythmias, pericarditis, pulmonary embolism.
2. Respiratory causes Pneumonia, pneumomediastinum, pneumothorax (especially tension pneumothorax), pleurisy.
3. Gastrointestinal causes -Gastro-esophageal reflux, esophageal rupture, esophageal spasm.
4. Musculo-Skeletal causes costosternal injury, costochondritis, intercostal muscle pain, pain referred from thoracic spine.
5. Psychiatric causes - anxiety, panic attack.
6. Dermatological causes - herpes zoster.

VIII. Crying Baby

1. Infections: herpes stomatitis, meningitis, osteomyelitis, urinary tract infection testicular torsion, trauma, teeth problems.
2. Cardiac: arrhythmias, congestive heart failure.
3. Reaction to milk, reaction to medications, reflux.
4. Immunization and allergic reactions, insect bites.
5. Eye corneal abrasions, glaucoma, ocular foreign bodies.
6. Some gastrointestinal causes: hernia, intussusception, volvulus.

IX. **Diarrhoea**

1. Infectious causes: AIDS, bacterial enteritis, viral, parasites, food-borne, toxins
2. Toxicological causes: drug related, poisoning (including heavy metals, mushrooms, organophosphates, rat poison, and seafood).
3. Endocrine and metabolic causes: carcinoids, diabetic neuropathy.
4. Gastrointestinal causes: diverticulitis, dumping syndrome, ischemic colitis, inflammatory bowel disease, enteritis due to radiation or chemotherapy.
5. Hematological and Oncological causes: toxicity due to cytostatic therapies.
6. Immunology: food allergy.
7. Psychiatric disorders: diarrhea “factitia”.

X. Dyspnoea

1. Respiratory Causes: airway obstruction, broncho-alveolar obstruction, parenchymal diseases, pulmonary shunt, pleural effusion, atelectasis, pneumothorax.
2. Cardiac/vascular causes: cardiac decompensation, cardiac tamponade,

pulmonary embolism.

3. Ear, Nose, Throat causes: epiglottitis, croup and pseudocroup.
4. Fluid & Electrolyte disorders: hypovolemia, shock, anemia.
5. Gastrointestinal causes: hiatus hernia.
6. Immunological causes: vasculitis.
7. Metabolic causes: metabolic acidosis, uremia.
8. Neurological causes: myasthenia gravis, GuillainBarrè syndrome, amyotrophic lateral sclerosis.
9. Psychiatric disorders: conversion syndrome.
10. Toxicology: CO intoxication, cyanide intoxication.
11. Trauma: flail chest, lung contusion, traumatic pneumothorax, haemothorax.

XI. Fever and Endogenous increase in Body Temperature

1. Systemic infectious causes: sepsis and septic shock, parasitosis, flu-like syndrome.
2. Organ-specific infectious causes: endocarditis, myocarditis, pharyngitis, tonsillitis, abscesses, otitis, cholecystitis and cholangitis, meningitis, encephalitis.
3. Non-infectious causes: Lyell syndrome, Stephen-Johnson syndrome, thyroid storm, pancreatitis, inflammatory bowel disease, pelvic inflammatory disease, toxic shock.
4. Hematological and Oncological causes: leukemia and lymphomas, solid tumors.
5. Immunological causes: arteritis, arthritis, lupus, sarcoidosis.
6. Musculo-Skeletal causes: osteomyelitis, fasciitis and cellulitis.
7. Neurological causes: cerebral hemorrhage.
8. Psychiatric causes: factitious fever.
9. Renal and Genitourinary causes: pyelonephritis, prostatitis
10. Toxicology.

XII. Headache in Adults and Children

1. Vascular causes: migraine, cluster headache, tension headache, cerebral hemorrhage, hypertensive encephalopathy, ischemic stroke.
2. Hematological and Oncological causes: brain tumors.
3. Immunological causes: temporal arteritis, vasculitis.
4. Infectious causes: abscesses, dental infections, encephalitis, mastoiditis, meningitis, sinusitis.
5. Musculo-Skeletal causes: cervical spine diseases, temporomandibular joint syndrome.
6. Neurological causes: trigeminal neuralgia.
7. Ophthalmological causes: optic neuritis, acute glaucoma.
8. Toxicology: alcohol, analgesic abuse, calcium channel blockers, glutamate, nitrates, opioids and caffeine withdrawal.
9. Trauma: head trauma.

XIII. Jaundice

1. Gastrointestinal causes: cholangitis, hepatic failure, pancreatic head tumor, pancreatitis, obstructive cholestasis.
2. Cardiac/Vascular causes: chronic cardiac decompensation.
3. Hematological and Oncological causes: hemolytic anemias, thrombotic thrombocytopenic purpura, hemolytic uremic syndrome, disseminated intravascular coagulation.
4. Infectious causes: malaria, leptospirosis, infective endocarditis.
5. Gynecological causes: HELLP syndrome.
6. Toxicology: drug induced, hemolytic anemias, snake venom.

XIV. Pain in Arms

1. Cardiac/Vascular causes: aortic dissection, deep venous thromboembolism, ischemic heart disease.
2. Musculo-skeletal causes: periarthritis, cervical spine arthrosis.
3. Trauma.

XV. Pain in Legs

1. Cardiac/Vascular causes: acute ischemia, arteritis, deep venous thrombosis, superficial thrombophlebitis.
2. Immunological causes: polymyositis.
3. Infectious causes: arthritis, cellulites, necrotizing fasciitis, osteomyelitis.
4. Musculo-Skeletal causes: sciatalgia.
5. Neurological causes: sciatica.
6. Nervous system causes: peripheral nerve compression.
7. Trauma.

XVI. Palpitations

1. Cardiac/Vascular causes: brady - arrhythmias (including sinus bradycardia and AV blocks), extrasystoles, tachyarrhythmia's (including atrial fibrillation, sinus tachycardia, supraventricular tachycardia, ventricular tachycardia).
2. Endocrine and metabolic causes: Thyrotoxicosis, phaeochromocytoma.
3. Toxicology – Drugs.

XVII. Seizures in Adults and Children

1. Neurological causes.
2. Generalized epilepsy, partial complex or focal epilepsy, status epilepticus. Cardiac/Vascular causes: hypertensive encephalopathy, syncope, dysrhythmias, migraines.
3. Endocrine and metabolic causes: metabolic seizures.
4. Gynecological causes: eclampsia.
5. Infective causes: febrile seizures in children.
6. Psychiatric causes: narcolepsy, pseudo-seizures.

7. Respiratory causes: respiratory arrest.
8. Toxicology: drugs/toxins.

XVIII. Shock in Adults and Children

1. Anaphylactic.
2. Cardiogenic.
3. Hypovolemic.
4. Obstructive.
5. Cardiac/Vascular causes - cardiogenic shock, arrhythmias.
6. Endocrine and metabolic causes - Addison's crisis.
7. Fluid and Electrolyte disorders - hypovolemic shock.
8. Gastrointestinal causes - vomiting, diarrhea.
9. Gynecological causes - toxic shock.
10. Immunological causes - anaphylactic shock.
11. Infectious causes - septic shock.
12. Neurological causes - neurogenic shock.
13. Trauma - hypovolemic shock, neurogenic shock.

XIX. Skin Manifestations in Adults and Children

1. Dermatological causes - eczema, psoriasis, skin tumors.
2. Immunological causes -vasculitides, urticaria, Stevens-Johnson syndrome, Lyell syndrome (TENS).
3. Infectious causes - viral exanthemata, meningococcemia, herpes zoster/ simplex, abscesses of the skin.
4. Psychiatric causes -Self-inflicted skin lesions or from abuse.
5. Toxicology.
6. Hematological and Oncological causes- idiopathic thrombocytopenic purpura, thrombotic thrombocytopenic purpura.

XX. Syncope

1. Cardiac/vascular causes: aortic dissection, cardiac arrhythmias (including brady-tachy syndrome, Brugada syndrome, drug overdose, long QT syndrome, sick sinus syndrome, torsades de pointes, ventricular tachycardia), other causes of hypoperfusion (including ischemia, valvular, hemorrhage, obstruction: e.g. aortic stenosis, pulmonary embolism, tamponade)orthostatic hypotension.
2. Endocrine and metabolic causes: Addison's disease.
3. Fluid and Electrolyte disorders: hypovolemia.
4. Gastrointestinal causes - vomiting, diarrhea.
5. Neurological causes - autonomic nervous system disorder, epilepsy, vasovagal reflex.
6. Toxicology - alcoholic or drug consumption.

XXI. Urinary Symptoms (Dysuria, Oligo/Anuria, Polyuria)

1. Renal and Genitourinary causes: acute renal failure, acute urinary retention, cystitis and pyelonephritis, prostatitis.
2. Cardiac/Vascular causes: cardiac decompensation.
3. Endocrine and metabolic causes - diabetes mellitus, diabetes insipidus
4. Fluid and Electrolyte disorders: Hypovolemia.

XXII. Vertigo and Dizziness

1. Ear and Labyrinth causes: benign postural vertigo, Meniere's disease, otitis, vestibular neuritis, viral labyrinthitis.
2. Cardiac/Vascular causes: arrhythmias, hypotension.
3. Endocrine and metabolic causes: hypoglycemia.
4. Hematological and Oncological causes: anemias.
5. Nervous system causes: acoustic neuroma, bulbar or cerebellar lesions, and multiple Sclerosis, temporal lobe epilepsy.
6. Psychiatric causes: anxiety.
7. Respiratory causes: hypoxia.
8. Toxicology: alcohol abuse, drugs and substances.

XXIII. Vomiting

1. Gastrointestinal causes: appendicitis, cholecystitis, gastroparesis, gastric obstruction and retention, gastroenteritis, hepatitis, pancreatitis, pyloric stenosis, small bowel obstructions.
2. Cardiac/Vascular causes - myocardial ischemia.
3. Ear, Nose, Throat causes, vestibular disorders.
4. Endocrine and metabolic causes -diabetic ketoacidosis, hypercalcemia
5. Fluid and Electrolyte disorders – hypovolemia.
6. Gynecological and Obstetric causes – pregnancy.
7. Infectious causes -sepsis, meningitis.
8. Neurological causes - cerebral edema or hemorrhage, hydrocephalus, intracranial space occupying lesions.
9. Ophthalmological causes - acute glaucoma.
10. Psychiatric causes - eating disorders.
11. Renal and Genitourinary causes - renal calculi, uremia.
12. Toxicology.

C. SPECIFIC ASPECTS OF EMERGENCY MEDICINE

I. Abuse and Assault in Adults and Children

1. Abuse in the elderly and impaired.
2. Child abuse and neglect.
3. Intimate partner violence and abuse.

4. Sexual assault.
5. Patient safety in Emergency Medicine.
6. Violence management and prevention in the Emergency Department.

II. Analgesia and Sedation in Adults and Children

1. Pain transmission (anatomy, physiology, pharmacology).
2. Pain assessment.
3. Pharmacology of sedative and pain relieving drugs.
4. Psychological and social aspects of pain in pediatric, adult and elderly patients.

III. Disaster Medicine

1. Disaster preparedness.
2. Major incident planning/procedures/practice.
3. Disaster response.
4. Mass gatherings.
5. Specific medical topics (triage, bioterrorism, blast and crush injuries, chemical agents, radiation injuries).
6. Debriefing and mitigation.

IV. Environmental Accidents in Adults and Children

1. Electricity (electrical and lightening injuries).
2. Flora and Fauna (injuries from exposure, bites and stings).
3. High-altitude (medical problems).
4. NBCR (nuclear, biological, chemical and radiological:, decontamination, specific aspects).
5. Temperature (heat and cold related emergencies).
6. Travel medicine.
7. Water (near-drowning, dysbarism and complications of diving, marine fauna).

V. Problems in the Elderly

1. Atypical presentations (e.g. abdominal pain, infections, myocardial infarction).
2. Delirium.
3. Dementia.
4. Falls (causes & investigations).
5. Immobility.
6. Multiple pathology and multiple therapies.
7. Self-dependency.
8. Trauma & co-morbidity.

VI. Toxicology in Adults and Children

1. General principles of toxicology and management of poisoned patients.

2. Principles of drug interactions.
3. Specific aspects of poisoning
   - Drugs (including paracetamol, amphetamine, anticholinergics, anticonvulsants, antidepressants, antihypertensive, benzodiazepines, digitalis, monoamine oxidase inhibitors, neuroleptics).
   - Industrial, chemicals.
   - Plants & mushrooms.
   - Alcohol abuse and alcohols poisoning.
   - Drugs of abuse.
4. Organization and information (e.g. poison centers, databases).

VII. Pre-Hospital Care

1. Emergency Medical Services organization (administration, structure, staffing, resources).
2. Medical transport (including neonates and children, air transport).
3. Paramedic training and function.
4. Safety at the scene.
5. Collaboration with other emergency services (e.g. police, fire department).

VIII. Psycho-Social Problems

1. Social wellbeing of specific populations
2. Patients with social issues
3. Frequent visitors
4. Social care following discharge

D. CORE CLINICAL PROCEDURES AND SKILLS

I. CPR Skills

1. Cardio-pulmonary resuscitation procedures in a timely and effective manner according to the current AHA-ECC guidelines for adults and children.
2. BLS, ACLS Certification Mandatory.
3. PALS and NALS certification mandatory.

II. Airway Management Skills

1. Open and maintain the airway in the emergency setting (insertion of oropharyngeal or nasopharyngeal airway).
2. Endotracheal intubation.
3. Alternative airway techniques in the emergency setting (e.g. laryngeal mask insertion, surgical airway).
4. Difficult airway management algorithm.
5. Use of rapid sequence intubation in the emergency setting.

III. Analgesia and Sedation Skills

1. Assessment of the level of pain and sedation.
2. Monitor vital signs and potential side effects during pain management.
3. Provide procedural sedation and analgesia including conscious sedation (including testing of life support equipment).
4. Use of appropriate local, topical and regional Anaesthesia techniques.

IV. Breathing and Ventilation Management Skills

1. Assessment of breathing and ventilation.
2. Oxygen therapy.
3. Interpretation of blood gas analysis, pulse oximetry and capnography.
4. Bag-mask-valve ventilation.
5. Thoracentesis.
6. Chest tube insertion, connection to under-water drainage and assessment of functioning.
7. Non-invasive ventilation techniques.
8. Invasive ventilation techniques.

V. Circulatory Support and Cardiac Skills and Procedures

1. Administration of fluids including blood and substitutes.
2. Monitoring of ECG and the circulation.
3. Defibrillation and pacing (e.g. cardioversion, transcutaneous pacing).
4. Emergency pericardiocentesis .
5. ED thoracotomy.
6. Vascular access (peripheral venous, arterial, and central venous catheterization, intraosseous access).

VI. Diagnostic Procedures and Skills

1. Interpretation of ECG.
2. Appropriate request and interpretation of laboratory investigations (blood chemistry, blood gases, respiratory function testing and biological markers).
3. Appropriate request and interpretation of imaging (e.g. x-rays, ultrasound, CT/MRI).
4. Performance of focused sonographic assessment.

VII. ENT Skills and Procedures

1. Anterior rhinos copy.
2. Insertion of nasal pack.
3. Inspection of oropharynx and larynx.
4. Otoscopy.
5. Removal of foreign body if airway is compromised.
6. Insertion and replacement of tracheostomy tube.

VIII. Gastrointestinal Procedures

1. Insertion of nasogastric tube.
2. Gastric lavage.
3. Peritoneal lavage.
4. Abdominal paracentesis.
5. Measurement of abdominal pressure.
6. Proctoscopy.

IX. Genitourinary Procedures

1. Insertion of indwelling urethral catheter.
2. Suprapubic cystostomy.
3. Testicular torsion reduction.
4. Evaluation of patency of urethral catheter.
5. Management of paraphimosis.
6. Dorsal slit operation.

X. Hygiene Skills and Procedures

1. Decontamination of patient and the environment.
2. Patient isolation and staff protection.
3. Hand hygiene and surgical hand scrub.
4. Aseptic technique of performing procedures.

XI. Musculoskeletal Techniques

1. Aseptic joint aspiration.
2. Fracture immobilization.
3. Reduction of joint dislocation.
4. Log roll and spine immobilization.
5. Splinting (plasters, braces, slings, tapes and other bandages).
6. Management of compartment syndrome.
7. Fasciotomy, escharotomy.

XII. Neurological Skills and Procedures

1. Evaluation of consciousness.
2. Evaluation of Stroke.
3. Fundoscopy.
4. Lumbar puncture.
5. Interpretation of neuro-imaging.

XIII. Obstetric and Gynecological Skills and Procedures

1. Emergency delivery.
2. Vaginal examination using speculum.
3. Assessment of the sexual assault victim.
4. Peri-mortem caesarian section.

XIV. Ophthalmic Skills and Procedures

1. Removal of foreign body from the eye.
2. Fundus examination.
3. Slit lamp use.
4. Lateral canthotomy.

XV. Temperature Control Procedures

1. Measuring and monitoring of body temperature.
2. Cooling techniques (evaporative cooling, ice water or slush immersion).
3. Internal cooling methods.
4. Warming techniques.
5. Monitoring heat stroke patients.
6. Treatment and prevention of hyper- and hypothermia.

XVI. Transportation of the Critically Ill Patient

1. Telecommunication and telemedicine procedures
2. Preparation of the EMS vehicle
3. Specific aspects of monitoring and treatment during transportation

XVII. General Surgical Skills

1. Abscess incision and drainage.
2. Aseptic techniques.
3. Treatment of lacerations and soft tissue injuries.
4. Wound irrigation and wound closure.
5. Wound debridement.
6. Minor amputations.
7. Minor surgical procedures.
8. Abdominal hernia reduction.
9. Resuscitation and Management of burns patient including dressing burns patient.
10. ATLS Certification is mandatory.

Scheme of Examination:

THEORY - 400 marks

There shall be four question papers, each of three hours duration. Each paper shall consist of 10 questions, each carrying 10 marks. Total marks for each paper will be 100. Questions on recent advances may be asked in any or all the papers.

Details of distribution of topics for each paper will be as follows:

Paper I – Physiology, Biochemistry, Pathology, and Pharmacology as applied to emergency medicine. General Emergency Medicine concepts – CPR, Resuscitation, Pre-hospital systems, Disaster medicine, Blood transfusion, Shock, Multi-organ failure

Paper II - Cardiovascular, Respiratory, Gastrointestinal, Neurological, Nephrology, Endocrine and metabolic emergencies, and other medical emergencies including emergenciesdue to infectious diseases.

Paper III – Obstetric and gynecological emergencies, surgical emergencies including Trauma, Acute pain management including procedural sedation.

Paper IV - Pediatric, Toxicological, Ophthalmic, Oto-rhino-laryngological, Psychiatric, and Dermatological emergencies and recent advances in emergency medicine

PRACTICALS: **Total 300 marks**

Template for Practical Examination of Final Year MD Emergency Medicine candidates

Clinical cases	**200**	**marks**
Case Discussion		
Viva and pedagogy	**100**	**marks**
1. Skill stations and Spotters	**80**	**marks**

a) USG skills
b) Airway station /Mega code (ACLS)
c) Breaking bad news
d) ATLS
e) Radiology, ECG, and ABG
f) Images from ENT, Ophthalmology, Dermatology
g) Candidates critical appraisal on research work

2. Pedagogy	**20**	**marks**

Recommended books and JournalsText books:

1. Tintinallis Emergency Medicine- Comprehensive study guide, Judith E .Tintinallis,9th edition , MC Graw Hill
2. Rosen's Emergency Medicine: Concepts and Clinical Practice ,9th edition, by Ron M. Walls, Robert S. Hockberger, Marianne Gausche-Hill, Katherine Bakes, Jill Marjorie Baren, Timothy B. Erickson, Andy S. Jagoda, Amy H. Kaji, Michael VanRooyen, and Richard D. Zane., Elsevier
3. Robert and Hedge clinical Procedures in Emergency Medicine, Robert S Custalow Thomsen, 6th edition , Elsevier
4. Goldfrank's Toxicologic Emergencies, 11th ed Lewis S. Nelson, Mary Ann Howland,Neal A. Lewin, Silas W. Smith, Lewis R. Goldfrank, Robert S. Hoffman.
5. Atlas of Emergency Medicine, keith stone , 8th ed ,Mc Graw Hill
6. Ma and Matters Emergency Ultrasound, 3rd ed , O. John Ma , James R .Mateer,Robert F, Reardon, Scott A . Joing
7. Clinical Application of Mechanical Ventilation 4th ed, David W. Chang
8. Pilbeam's Mechanical Ventilation Physiological and Clinical Applications , 6th Ed,Cairo, J. M.
9. An introduction to electrocardiography 8th ed, by Leo Schamroth
10. Reichman's Emergency Medicine Procedures, 3rd ed , Eric F. Reichman
11. Simon's Emergency Orthopedics, 8th ed Scott C. Sherman
12. Hagberg and Benumof's airway management 4th ed, Carin A Hagberg; Carlos AArtime; Michael F Aziz.
13. Irwin and Rippe's Intensive Care Medicine, 7th ed. Richard S. Irwin, M.D., F.C.C.P.,and James M. Rippe, M.D. Philadelphia, Lippincott Williams & Wilkins,
14. Marino's The ICU Book, 4th ed Paul L. Marino Published By: Lippincott Williams &Wilkins
15. Rapid Interpretation Of ECG , Dale Dubin, 6th ed
16. Practical Guidelines On Fluid Therapy, Dr sanjay Pandya 2nd ed
17. Current Emergency Diagnosis and Treatment, Keith Stone , Mc Graw Hill 8th ed
18. Textbook of Pediatric Emergency Medicine ,Peter Cameroon, Elsevier 3rd ed
19. Interpretation Of Emergency Head CT, Erskine J Holmes, 2nd ed , Cambridge University Press
20. Washington Manual of Emergency Medicine, Washington, Lippincott Williams andWilkins 1st ed
21. Ciottone's Disaster Medicine, 2nd Edition
22. Strauss and mayer's emergency department management

Journals

1. The BMJ -Academic edition.
2. American Journal of Emergency Medicine.
3. Journal of Emergencies, Trauma and shock.
4. Annals of Emergency Medicine.
5. The New England Journal of Medicine.
6. The Lancet.
7. Indian Journal of Critical care Medicine.
8. Indian Journal of Nephrology.
9. Indian Heart Journal
10. Indian Journal Of Clinical practice

Section-III

Format of Model Check Lists

Check List-I.

MODEL CHECK-LIST FOR EVALUATION OF JOURNAL REVIEW PRESENTATIONS

Name of the Student: _____

Name of the Faculty/Observer: _____ Date _____

Sl No	Items for observation during presentation	Poor 0	Below Average 1	Average 2	Good 3	Very Good 4
1.	Article chosen was					
2.	Extent of understanding of scope & objectives of the paper by the Candidate					
3.	Whether cross references have been consulted					
4.	Whether other relevant publications consulted					
5.	Ability to respond to questions on the paper/subject					
6.	Audio-Visual aids used					
7.	Ability to defend the paper					
8.	Clarity of presentation					
9.	Any other observation					
	Total Score					

Check list-II

MODEL CHECK-LIST FOR EVALUATION OF SEMINAR PRESENTATIONS

Name of the Student: _____

Name of the Faculty/Observer: _____ Date: _____

Sl. No.	Items for observation during presentation	Poor 0	Below Average 1	Average 2	Good 3	Very Good 4
1.	Whether other relevant publications consulted					
2.	Whether cross references have been consulted					
3.	Completeness of Preparation					
4.	Clarity of Presentation					
5.	Understanding of subject					
6.	Ability to answer questions					
7.	Time scheduling					
8.	Appropriate use of Audio-Visual aids					
9.	Overall performance					
10.	Any other observation					
	Total Score					

Check List-III

MODEL CHECK LIST FOR EVALUATION OF CLINICAL WORK IN WARD /OPD

(To be completed once a month by respective Unit Heads including posting in other departments)

Name of the Student _____

Name of the Unit Head _____ Date: _____

Sl. No.	Points to be considered	Poor 0	Below Average 1	Average 2	Good 3	Very Good 4
1.	Regularity of attendance					
2.	Punctuality					
3.	Interaction with colleagues and supportive staff					
4.	Maintenance of case records					
5.	Presentation of cases during rounds					
6.	Investigations work up					
7.	Bedside manners					
8.	Rapport with patients					
9.	Counseling patient's relatives for blood donation or Postmortem and Case follow up or appropriate treatment					
10.	Overall quality of Ward work					
	Total Score					

Check List-IV

EVALUATION FORM FOR CLINICAL PRESENTATION

Name of the Student _____

Name of the Faculty _____ Date: _____

Sl No.	Points to be considered	Poor 0	Below Average 1	Average 2	Above Average 3	Very Good 4
1.	Completeness of history					
2.	Whether all relevant points elicited					
3.	Clarity of Presentation					
4.	Logical order					
5.	Mentioned all positive and negative points of importance					
6.	Accuracy of general physical examination					
7.	Whether all physical signs elicited correctly					
8.	Whether any major signs missed or misinterpreted					
9.	Diagnosis: Whether it follows logically from history and findings					
10.	Investigations required * Complete					
	*Relevant order					
	*Interpretation of investigations					
11.	Ability to react of questioning Whether it follows logically from history and findings					
12.	Ability to defend diagnosis					
13.	Ability to justify differential diagnosis					
14.	Others					
	Grand Total					

Signature of Teacher

Check List-V

MODEL CHECK LIST FOR EVALUATION OF TEACHING SKILL PRACTICE

Sl. No.		Strong Point	Weak Point
1.	Communication of the purpose of the talk		
2.	Evokes audience interest in the subject		
3.	The introduction		
4.	The sequence of ideas		
5.	The use of practical examples and/or illustrations		
6.	Speaking style (enjoyable,monotonous,etc.,specify)		
7.	Attempts audience participation		
8.	Summary of the main points at the end		
9.	Asks questions		
10.	Answers questions asked by the audience		
11.	Rapport of speaker with his audience		
12.	Effectiveness of the talk		
13.	Uses A.V. aids appropriately		

MODEL CHECK LIST FOR DISSERTATION PRESENTATION

Name of the Student: _____

Name of the Faculty: _____ Date: _____

Sl. No.	Points to be Considered Divine	Poor 0	Below Average 1	Average 2	Good 3	Very Good 4
1.	Interest shown in selecting a topic					
2.	Appropriate review of literature					
3.	Discussion with guide & other faculty					
4.	Quality of Protocol					
5.	Preparation of proforma					
	Total Score					

CONTINUOUS EVALUATION OF DISSERTATION WORK BY GUIDE/CO-GUIDE

Name of the Student: _____

Name of the Faculty: _____ Date: _____

Sl. No.	Items for observation during presentations	Poor	Below Average	Average	Good	Very Good
1.	Periodic consultation with guide/co-guide					
2.	Regular collection of case material					
3.	Depth of analysis/discussion					
4.	Departmental presentation of findings					
5.	Quality of final output					
6.	Others					
	Total Score					

Check List-VIII

Model Checklists for Assessment of Scientific Papers for Publication

Sl. No.	Criteria	Distribution of Marks	Marks awarded
1.	Originality	10	
2.	Clarity & Quality of presentation	10	
3.	Relevance	10	
4.	Review of Literature	10	
5.	Quantum of works involved	15	
6.	Methodology, Sensitivity, Sample size, controlled, not Controlled study etc.,	25	
7.	Advancement of knowledge	20	
	Total	100	

Signature of the Evaluator _ _____ _ _ _ _ _ _ _ _ _ _

Name _____ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _

Designation _ _ _ _____ _ _ _ _ _ _ _ _ _ _

MODEL CHECK LIST FOR ASSESSMENT OF PARTICIPATION IN GROUP DISCUSSION

ANNEXURE X

Sl. No.	Criteria	Distribution of Marks	Marks awarded
1.	Originality of content	10	
2.	Clarity & Quality of presentation	10	
3.	Relevance and skills of application	20	
4.	Listens to others	10	
5.	Summarizes appropriately	15	
6.	Proactive Leadership qualities present	25	
7.	Advancement of knowledge	10	
	Total	100	

Signature of the Evaluator _ _____ _ _ _ _ _ _ _ _ _ _ _ _

Name _____ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _

Designation _ _ _ _____ _ _ _ _ _ _ _ _ _

SDUAHER (Deemed to be University)
SRI DEVARAJ URS MEDICAL COLLEGE
TAMAKA, KOLAR-563103 (KARNATAKA)

POSTGRADUATE LOG BOOK
FIRST YEAR

DEPARTMENT
OF
Emergency Medicine

SDUAHER (Deemed to be University)
SRI DEVARAJ URS MEDICAL COLLEGE
TAMAKA, KOLAR-563103 (KARNATAKA)

Name of the Student :

Postgraduate Degree :

Academic Year :

Name and Designation of Guide :

Signature of the Student :

CERTIFICATE

Certified that the content of this Log-book is the bonafide work ofDr._____, a Postgraduate student of Department of Emergency Medicine in Sri Devaraj Urs Medical College, Tamaka, Kolar for the academic year _____.

Signature, Name and seal of Guide	Signature, Name and seal of Professor & HOD.	Signature, Name and seal of Principal
Date: Place:	Date: Place:	Date: Place:

LOG BOOK

Table – 1: Academic presentations made by the student.

Name:

Admission year:

Date	Topic	Type of Presentation – Seminar, Journal Club, Case presentation, UG teaching, etc.	Signature of the Moderator

Table – 2: Academic activities attended by the student.

Name:
Admission year:

Date	Type of Presentation	Moderator Name		Signature of the Moderator
		Student		

Table – 3:

Diagnostic and operative procedures/interventional procedures performed.

Name:
Admission year:

Date	Pts. Name	I.P. No.	Procedure	Category O, A, PA, PI*

***KEY**

O - Washed up and observed.
A - Assisted a more senior.
PA - Performed procedure under the direct supervision of a senior surgeon/specialist.
PI - Performed independently

Table – 4:

Daily activities done by the student.

Name:
Admission year:

Date	Activities	Signature of the Moderator

Model Overall Assessment Sheet

Name of the student:Year of admission;
Academic Year:

Sl. No.	Guide, Unit Faculty, senior PG, Support Staff, HOD,	Name of Student and Mean Score					
		A	B	C	D	E	F
1.							
2.							
3.							
4.							
5.							
Total Score							

SDUAHER (Deemed to be University)
SRI DEVARAJ URS MEDICAL COLLEGE
TAMAKA, KOLAR-563103 (KARNATAKA)

POSTGRADUATE LOG BOOK SECOND YEAR

DEPARTMENT OF EMERGENCY MEDICINE

SDUAHER (Deemed to be University)
SRI DEVARAJ URS MEDICAL COLLEGE
TAMAKA, KOLAR-563103 (KARNATAKA)

Name of the Student :

Postgraduate Degree :

Academic Year :

Name and Designation of Guide :

Signature of the Student :

CERTIFICATE

Certified that the content of this Log-book is the bonafide work of Dr._____, a Postgraduate student of Department of Emergency Medicine in Sri Devaraj Urs Medical College, Tamaka, Kolar for the academic year_____.

Signature, Name and seal of Guide.	Signature, Name and seal of Professor & HOD.	Signature, Name and seal of Principal
Date:	Date:	Date:
Place:	Place:	Place:

Table –

Academic presentations made by the student.

Name:
Admission year:

Date	Topic	Type of Presentation – Seminar, Journal Club, Case presentation, UG teaching, etc.	Signature of the Moderator

Table –

Academic activities attended by the student.

Name:

Admission year:

Date	Type of Presentation	Moderator Name		Signature of the Moderator
		Student		

Table –

Diagnostic and operative procedures/interventional procedures performed.

Name:
Admission year:

Date	Pts. Name	I.P. No.	Procedure	Category O, A, PA, PI*

***KEY**

O - Washed up and observed.
A - Assisted a more senior.
PA - Performed procedure under the direct supervision of a senior surgeon.
PI - Performed independently

Table – 4:

Daily activities done by the student

Name:
Admission year:

Date	Activities	Sign

Model Overall Assessment Sheet

Name:
Academic Year:

Sl. No.	Faculty Member & Others	Name of Student and Mean Score					
		A	B	C	D	E	F
1.							
2.							
3.							
4.							
5.							
Total Score							

SDUAHER (Deemed to be University)
SRI DEVARAJ URS MEDICAL COLLEGE
TAMAKA, KOLAR-563103 (KARNATAKA)

POSTGRADUATE LOG BOOK THIRD YEAR

DEPARTMENT
OF
EMERGENCY MEDICINE

SDUAHER (Deemed to be University)
SRI DEVARAJ URS MEDICAL COLLEGE
TAMAKA, KOLAR-563103 (KARNATAKA)

Name of the Student :

Postgraduate Degree :

Academic Year :

Name and Designation of Guide :

Signature of the Student :

CERTIFICATE

Certified that the content of this Log-book is the bonafide work of Dr._____, a Postgraduate student of Department of Emergency Medicine in Sri Devaraj Urs Medical College, Tamaka, Kolar for the academic year _____.

Signature, Name and seal of Guide.	Signature, Name and seal of Professor & HOD.	Signature, Name and seal of Principal
Date: Place:	Date: Place:	Date: Place:

Table –

Academic presentations made by the student.

Name:

Admission year:

Date	Topic	Type of Presentation – Seminar, Journal Club, Case presentation, UG teaching, etc.	Signature of the Moderator

Table –

Academic activities attended by the student.

Name:

Admission year:

Date	Type of Presentation	Moderator Name		Signature of the Moderator
		Student		

Table –

Diagnostic and operative procedures/interventional procedures performed.

Name:
Admission year:

Date	Pts. Name	I.P. No.	Procedure	Category O, A, PA, PI*

***KEY**

O - Washed up and observed.
A - Assisted a more senior.
PA - Performed procedure under the direct supervision of a senior surgeon.
PI - Performed independently

Table – 4:

Daily activities done by the student

Name:

Admission year:

Date	Activities	Sign

Model Overall Assessment Sheet

Name:
Academic Year:

Sl. No.	Faculty Member & Others	Name of Student and Mean Score					
		A	B	C	D	E	F
1.							
2.							
3.							
4.							
5.							
	Total Score						

Procedure to be done in first year of PG course			
Procedure	**Observed (O)**	**Performed with assistance(PA)**	**Performed independently(PI)**
• Ryles tube insertion			
• Stomach wash			
• Oral airway			
• Nasopharyngeal airway			
• Fundoscopy			
• Foreign body removal Foreign body removal from nose Foreign body removal from ear			
• Endotracheal intubation			
• peripheral line insertion			
• External jugular line insertio			
• Central line insersertion			
• POCUS FAST assessment EFAST assessment Screening 2D Echo			
• Lumbar puncture			
• Ascitic tapping			
• Pleural Tapping			
• Non invasive ventilation ○ BiPAP ○ CPAP			
• Procedural sedation			
• Casting			
• Splinting			
• Supra pubic catheterization			
• ABG			
• Helmet removal technique			
• c-collar application			
• pelvic binder application			
• Defibrillation and shock delivery			
• AED			
• Interpretation of ABG			
• Interpretation of ECG			

• Incision and drainage of abscess			
• Minor suturing			
• Suture removal			
• Staple for CLW			
• Staple removal			
• Foley's catherization			
• Correction of electrolyte abnormality			
• Basic modes of ventilation			
• Nasal packing			
• Reduction of joint dislocation			

Procedure to be done in second year of PG course			
Procedure	**Observed (O)**	**Performed with assistance(PA)**	**Performed independently(P I)**
1. Supraglottic airway			
2. Niddle cricothyrodotomy			
3. Emergency cricothyroidotom			
4. Changing tracheostomy tube			
5. Icd insertion and removal			
6. Weaning and extubation			
7. Managing difficult airway			
8. Insertion of dialysis catheter			
9. Pericardiocentasis			
10. Venous cutdown			
11. Intra osseous neddle			
12. Body warming technique			
13. Fasciotomy			
14. Arterial line and BP monitoring			
15. Ventilation in specific disease-			
16. Nerve block			
17. Temporary pace maker insertion			

Procedure to be done in third year of PG course			
Procedure	**Observed (O)**	**Performed with assistance(PA)**	**Performed independently(PI)**
18. Emergency Burr hole			
19. Emergency bronchoscopy			