BEST PRACTICE 1

Title: Software enabled Question Paper generation from the structured question bank

Objective:

- To create question bank
- To generate question paper from the inhouse question bank on the day of examination toimprove transparency in the examination system.

Context:

Assessment is the important component in education spiral and it drives learning. Knowledge assessment in the summative examination play major role in student promotion to next phase. Any factor that affects objectivity, reliability and relevance in the generation of question paper severely affects the education system. Majority of the higher education institutes request the external subject expert to prepare the question paper using question paper blue print. Question papers prepared were sent to controller of examination by electronic media or by sealed cover. One of the papers is randomly chosen for the summative examination.

Over the years it is observed that **many questions are not representative of syllabus, they test only recall level of cognitive domain, disproportionate weightage to some topics, unstructured, ambiguous questions, Questions not covering the entire syllabus, repetition ofcontent in long essays, short essays and short answer questions**. MCQ are not used in many institutions in summative examination. In addition, universities need to follow very strict protocolfor the maintenance of confidentiality of question paper. To overcome these issues, SDUAHER decided to create question bank and adopted **Software enabled Question Paper generation fromthe structured question bank.**

Practice:

Board of Management in its 48thMeeting held on the 20th June 2018 has given its approval for Software enabled Question Paper generation. Medical Education unit trained faculty in framing questions. Faculties from each department who have underwent medical education training on question paper setting have prepared Question Bank according to prescribed curriculum. Departments are also required to ensure coding of Questions by preparation of Legend files (Chapters covered), Input files (questions) and Blueprint of Question Paper (Marksdistribution according to chapters).

The Head of Departments and senior faculties validated the Question Bank by scrutinizing all thequestions and ensured that the questions are structured and difficulty levels are properly mentionedagainst each one of them. Staffs were encouraged to prepare clinically oriented question and structure the question with appropriate scoring.

Question Banks so prepared are **validated in the Board of studies meetings** of respective departments by looking into the relevance, structure and difficulty levels of the questions. The Head of Departments are asked to periodically update the question bank at the examination sectionof the Academy (validation and addition of new questions). For CBME batch i.e. from 2019-20 batch onwards 20 marks of MCQ is introduced in summative examination.

Question papers are generated using software adhering to the question paper blue print. **Blue printhad instructions on type of questions, weightage to topics and difficulty level**.

In order to check the reliability of the process, three samples Question Paper were generated at theexaminations Section of the Academy and validated by the concerned Head of departments. This process is completed at least one week before the commencement of university examinations. In order to improve the reliability of question paper conditions/ rules were followed in the software.

On the day of University Theory examinations, Question Papers is generated maintaining strict confidentiality by the Controller of Examinations, half an hour before the commencement of Examination using the same software at the office of the Chief Superintendentof Examinations located close to the Examination halls. Question papers are transferred directly to the chief superintendent of Examinations at the place of examination before the commencementof the exam in a confidential manner.

Feedbacks from students are taken to gather inputs towards further improvement in the quality of question papers. Controller of examination also collects feedback from external examiner during the University examination. Question bank is updated annually incorporating updates in curriculum.

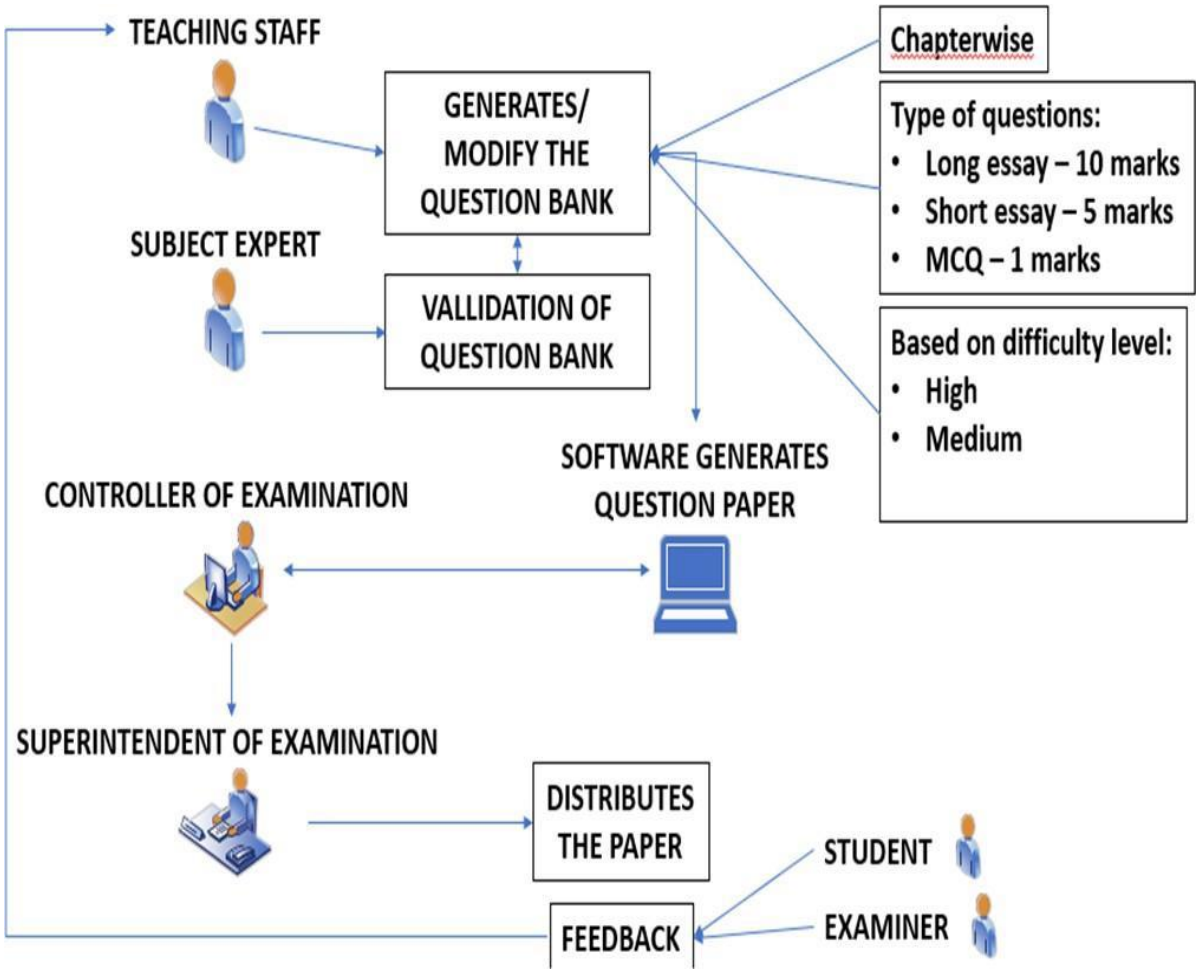
Evidence of success:

- Question bank with periodic update is created in all subjects
- Question papers are generated using software from Validated Structured question bankfollowing predefined question paper blue print
- Real time question paper generation in the examination hall enhanced the transparency inthe question paper generation
- Feedback from student and examiner – student appreciated the transparency in the generation of question paper. Student and examiner are satisfied with relevance and objectivity of questions.

Problem encountered and resource required:

Periodic update of question bank and training of new staff. Medical Education Unit is conducting workshop / orientation program for the new staff.Controller of Examination is periodically updating the question bank from all department.

Flow chart for generating question paper from question bank



PHYSIOLOGY PAPER-I SUMMATIVE EXAM

NON MCQ

Question Count		18
Total Marks		80
Question Type	MCQ	0
Question Type	LAQ	0
Question Type	LEQ	20
Question Type	SEQ	60
Q Mark Range	Min Marks Per Question	5
Q Mark Range	Max Marks Per Question	10
Difficulty Level	Difficult	16
Difficulty Level	Medium	64
Content Area	General Physiology	4
Content Area	Haematology	16
Content Area	Cardiovascular Physiology	20
Content Area	Respiratory Physiology	16
Content Area	Gastrointestinal Physiology	12
Content Area	Renal Physiology	12

PHYSIOLOGY PAPER-I SUMMATIVE EXAM

MCQ

Question Count		20
Total Marks		20
Question Type	MCQ	20
Question Type	LAQ	0
Question Type	LEQ	0
Question Type	SAQ	0
Question Type	SEQ	0
Q Mark Range	Min Marks Per Question	1
Q Mark Range	Max Marks Per Question	1
Difficulty Level	Difficult	4
Difficulty Level	Medium	16
Content Area	General Physiology	1
Content Area	Haematology	4
Content Area	Cardiovascular Physiology	5
Content Area	Respiratory Physiology	4
Content Area	Gastrointestinal Physiology	3
Content Area	Renal Physiology	3

PHYSIOLOGY PAPER-II SUMMATIVE EXAM

NON MCQ

Question Count		18
Total Marks		80
Question Type	MCQ	0
Question Type	LAQ	0
Question Type	LEQ	20
Question Type	SEQ	60
Q Mark Range	Min Marks Per Question	5
Q Mark Range	Max Marks Per Question	10
Difficulty Level	Difficult	16
Difficulty Level	Medium	64
Content Area	NEUROPHYSIOLOGY CNS	24
Content Area	NEUROPHYSIOLOGY SPECIAL SENSES	12
Content Area	REPRODUCTIVE PHYSIOLOGY	8
Content Area	INTEGRATED PHYSIOLOGY	4
Content Area	NERVE AND MUSCLE PHYSIOLOGY	8
Content Area	ENDOCRINE PHYSIOLOGY	24

PHYSIOLOGY PAPER-II SUMMATIVE EXAM

MCQ

Question Count		20
Total Marks		20
Question Type	MCQ	20
Question Type	LAQ	0
Question Type	LEQ	0
Question Type	SAQ	0
Question Type	SEQ	0
Q Mark Range	Min Marks Per Question	1
Q Mark Range	Max Marks Per Question	1
Difficulty Level	Difficult	4
Difficulty Level	Medium	16
Content Area	NEUROPHYSIOLOGY CNS	6
Content Area	NEUROPHYSIOLOGY SPECIAL SENSES	3
Content Area	REPRODUCTIVE PHYSIOLOGY	2
Content Area	INTEGRATED PHYSIOLOGY	1
Content Area	NERVE AND MUSCLE PHYSIOLOGY	2
Content Area	ENDOCRINE PHYSIOLOGY	6

SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION AND RESEARCH

M B B S Phase I Supplementary Examinations, Jan 2024

Time: 180 Minutes **Max Marks: 80 Marks**

Physiology Paper I
QP CODE: C1021
Your answer should be specific to the question asked
Draw neat labeled diagrams wherever necessary

Long Essay 10 × 2 = 20 Marks

1. A 52-year-old female arrives to OPD with complaints of itching in her hands along with headaches. A routine complete blood count (CBC) shows red blood cells (RBCs) of 8.2million/µl, white blood cells (WBCs) 37,000/µl, and platelets 640,000/µl. Her erythropoietin levels are lower than normal. 1. Describe the steps involved in erythropoiesis with neat labelled diagrams (6) 2. Describe the regulation of erythropoiesis (4)

2. Define blood pressure & Mention normal range of systolic & diastolic blood pressure.Describe the hormonal regulation of Blood Pressure.(2+8)

Short Essay 5 × 12 = 60 Marks

3. Diagramatically represent intrinsic pathway of coagulation

4. Describe carrier mediated transport with examples

5. With a neat labeled diagram Describe ionic basis of Pacemaker potential

6. Describe the composition, formation & functions of lymph.

7. Describe the mechanism of HCl secretion in the stomach.

8. Describe the role of Autonomic nervous system on regulation of GI functions

9. Mr Somu was told to get a health checkup for the fitness test who was 40 yrs and working in the quarry factory as he underwent the pulmonary function test there was decrease in the rate of maximal expiratory air flow and his vital capacity 800 ml FVC 1. Define Vital capacity and give its normal value (2) 2. List one probable cause for decrease in forced vital capacity in the above patient (1) 3. Describe two factors influencing vital capacity (2)

10. Describe the reason for increased occurrence of respiratory distress syndrome in preterm infants.

11. Define & classify hypoxia.

12. Describe the etiology, clinical features and management of Caisson's disease.

13. GFR rises with increase in renal blood flow.Justify.

14. Give the normal pH of blood. Describe the body's major buffer system.

SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION AND RESEARCH

M B B S Phase II Examinations, March 2024

Time: 180 Minutes **Max Marks: 80 Marks**

Pathology PI
QP CODE: C2041
Your answer should be specific to the question asked
Draw neat labeled diagrams wherever necessary

Long Essay 10 × 2 = 20 Marks

1. Classify chemical carcinogens. Describe the mechanism of chemical carcinogenesis (3+7)

2. 65 year old male patient with painless generalized lymphadenopathy of a few years duration otherwise asymptomatic was found to have a total leucocyte count of 50,000 cells/cumm with predominance of lymphocytes. His platelet count was normal. What is the probable diagnosis? Discuss the blood and bone marrow findings in this case.(2+8)

Short Essay 5 × 12 = 60 Marks

3. Discuss the role of Phagocytosis in health and disease

4. Discuss Vitamin A defeciency

5. Mention Membrane defects in RBCs.Add a note on Hereditary spherocytosis

6. What are Telomeres and what is their function in ageing and cancer? (1+2+2)

7. List out the blood components prepared in Blood Bank. Mention the indications of any one of them (2+3)

8. Describe the etiopathogenesis and morphology of amyloidosis (2+3)

9. Describe role of macrophage in chronic inflammation

10. What is the mechanism behind the nut meg appearance of liver in chronic venous congestion

11. What are Paraneoplastic syndromes? Discuss their pathogenesis.

12. Define patient autonomy and contrast atonomy with paternalism

13. Discribe the etiopathogenesis and clinical features of klinifelter's syndrome (2+3)

14. Enumerate the causes of thrombocytopenia. Describe the clinical features, invsetigations and prognosis of idiopathic thrombocytopenic purpura.

SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION AND RESEARCH

M B B S Phase II Examination, March 2024

Time: 180 Minutes **Max Marks: 80 Marks**

Pharmacology II
QP CODE: C2062
Your answer should be specific to the question asked
Draw neat labeled diagrams wherever necessary

Long Essay 10 × 2 = 20 Marks

1. A 30 year old female had come to the Surgery outpatient department with the complaints of swelling in the neck. She had complained of restlessness, excessive sweating, intolerance to hot weather and irregular menstrual cycles with excessive bleeding. She gave history of weight loss inspite of good appetite. On examination, pulse was 98 beats/min, blood pressure was 140/90mmHg, respiratory rate was 35 cycles /min, temperature was 101° F and pallor was present. On examination of swelling, it was firm, non-tender, pulsatile and mobile. Laboratory investigations revealed haemoglobin was 9gm% and serum TSH levels were 0.05μU/ml. (1+3+6)
   a. What is your probable diagnosis?
   b. Enumerate the drugs used to treat this condition.
   c. Explain mechanism of action and adverse effects of any 2 groups of drugs.

2. List drugs used in viral infections. Explain the mechanism of action and uses of acyclovir and nevirapine (4+3+3)

Short Essay 5 × 12 = 60 Marks

3. List aromatase inhibitors. Explain their uses and adverse effects (1+2+2)

4. Mention drugs used in diabetic ketoacidosis with their rationale (2.5+2.5)

5. Mention three clinical conditions where penicillin G is used as a prophylactic agent. Explain mechanism of action of penicillin (3+2)

6. Explain the mechanism of action, uses and adverse effects of gentamicin (2+2+1)

7. Explain the mechanism of action, uses and adverse effects of azithromycin (2+2+1)

8. Explain the mechanism of action, uses and adverse effects of dapsone (2+2+1)

9. Mention two drugs used in cerebral malaria and explain their mechanism of action and adverse effects (2.5+2.5)

10. Explain the mechanism of action, uses and adverse effects of rabeprazole (2+2+1)

11. Explain the mechanism of action of any three group of drugs used in bronchial asthma. Write the instructions for the use of metered dose inhaler (3+2)

12. Explain mechanism of action of any five disease modifying antirheumatoid drugs (DMARDs) (5)

13. Explain the mechanism of action, uses and adverse effects of tacrolimus (2+2+1)

14. Explain the mechanism of action, uses and adverse effects of amphotericin B (2+2+1)

SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION AND RESEARCH

M B B S Phase II Examination, March 2024

Time: 180 Minutes **Max Marks: 80 Marks**

Pharmacology II
QP CODE: C2062
Your answer should be specific to the question asked
Draw neat labeled diagrams wherever necessary

Long Essay 10 × 2 = 20 Marks

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14. Explain the mechanism of action, uses and adverse effects of amphotericin B (2+2+1)

SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION AND RESEARCH

M B B S Phase III Part II Supplementary Examination, May 2024

Time: 180 Minutes **Max Marks: 80 Marks**

Pediatrics
QP CODE: C4111
Your answer should be specific to the question asked
Draw neat labeled diagrams wherever necessary

Long Essay 10 × 2 = 20 Marks

1. Describe the etiology, grading, clinical features and management of hypertension in children . Marks- 2+1+3+4

2. A -10- year old child presented with paroxysmal cough and post tussive vomiting of 15 days duration. On examination, subconjunctival hemorrhages were present. Systemic examination was normal. What is the most probable diagnosis? Describe the complications and management of this condition. (2+4+4)

Short Essay 5 × 12 = 60 Marks

3. Describe the advantages and limitations of development screening. Enumerate any three developmental screening tests.

4. Describe the common mental health problems during adolescence.

5. Describe the clinical features and management of hypervitaminosis D. (2+3)

6. A 4 - year- old girl presents with gum bleeding and gum hypertrophy. There is h/o loss of appetite and irritability. On examination, there are angular swellings at the costochondral junction. Diagnose the above condition by corelating its clinical features and performing relevant investigations. Write the plan of management for the same. (1.5+1.5+2)

7. Critically analyze the impact of NHM and other national health programs on maternal and child health.

8. Describe causes and management of small for date baby

9. Describe clinical features and prevention of congenital rubella syndrome (3+2)

10. Enumerate the investigations in a child with Asthma. Describe various drug delivery devices for asthma. (2+3)

11. Describe the management (investigations & treatment) of iron deficiency anemia in children. (2+3)

12. Describe the hematological findings(including peripheral blood smear) of Acute Lymphoblastic Leukemia in children .

13. Describe the treatment modalities for Poliomyelitis / Acute Flaccid Paralysis (AFP) including medical management, occupational therapy and physiotherapy.

14. Mention five (5) essential elements in Patient- Physician communication. Describe ANY TWO elements in detail. (2+1.5+1.5)