



## Sri Guru Ram Das University of Health Sciences, Sri Amritsar

### Department of Pharmacology

Theory Paper A		Theory Paper B	
Topics	Marks Distribution	Topics	Marks Distribution
General Pharmacology	20	Chemotherapy	30
Autonomic Nervous System	25	Hormones and related drugs	20
Autacoids	15	Cardiovascular drugs and kidneys	25
Central Nervous System	25	Drugs affecting blood	10
Gastrointestinal drugs & Chelating agents, Vaccines, Antisera, Immunoglobulins	10	Immunosuppressant drugs, Vitamins, Drugs acting on skin and mucous membranes, Antiseptics, Disinfectants and Ectoparasiticides	10
AETCOM 2.2 & 2.3	5	AETCOM 2.5	5
<b>Total</b>	<b>100</b>	<b>Total</b>	<b>100</b>



		Preferably use verbs (as per List attached) in framing questions and structure them as far as possible	<b>Paper B (5 Questions)</b> From Core Competencies as per competency based undergraduate curriculum for the Indian Medical Graduate, VOLUME 1, Marks for each part should be indicated separately	5 X 3 = 15
4.	Short notes on	Questions on applied aspect	<b>Paper A (4 Questions)</b> From Core Competencies as per competency based undergraduate curriculum for the Indian Medical Graduate, VOLUME 1 <b>Paper B (4 Questions)</b> From Core Competencies as per competency based undergraduate curriculum for the Indian Medical Graduate, VOLUME 1	4 X 5 = 20  4 X 5 = 20
5.	Explain Briefly	These provide opportunity to sample a wider content, albeit in a short time. The questions should be task oriented rather than 'Write a short note on xxx'. Preferably use verbs (as per List attached) in framing questions and structure them as far as possible	<b>Paper A (3 Questions)</b> From Core Competencies as per competency based undergraduate curriculum for the Indian Medical Graduate, VOLUME 1 Marks for each part should be indicated separately  <b>Paper B (3 Questions)</b> From Core Competencies as per competency based undergraduate curriculum for the Indian Medical Graduate, VOLUME 1 Marks for each part should be indicated separately	3 X 5 = 15   3 X 5 = 15
6.	Short notes on	Patients discussion on management of the problems Plus AETCOM on one part of question	<b>Paper A (4 Questions: 3+ 1 AECTOM)</b> From Core Competencies as per competency based undergraduate curriculum for the Indian Medical Graduate, VOLUME 1 <b>Paper B (4 Questions: 3+ 1 AECTOM)</b> From Core Competencies as per competency based undergraduate curriculum for the Indian Medical Graduate, VOLUME 1	4 X 5 = 20  4 X 5 = 20

**Total Marks 200 (Paper A- 100 marks, Paper B-100 marks)**

### Blueprinting in Knowledge Domain

Level	Topic A	Topic B	Topic C	Topic D	Total
Knowledge	1	2	1	1	5(20%)
Comprehension	1	1	1	2	5(20%)
Application	2	1	1	1	5(20%)
Analysis	1	1	2	2	6(24%)
Synthesis		1		1	2(8%)
Evaluation	1		1		2(8%)
Total	6(24%)	6(24%)	6(24%)	7(28%)	25(100%)

### Verbs in various levels in Knowledge domain (Bloom's taxonomy)

<b>Knowledge</b>	Define, Describe, Draw, Find, Enumerate, Cite, Name, Identify, List, label, Match, Sequence, Write, State, Choose, Indicate, isolate, Order, Recognize, Underline
<b>Comprehension</b>	Discuss, Conclude, Articulate, Associate, Estimate, Rearrange, Demonstrate understanding, Explain, Generalise, Identify, Illustrate, Interpret, Review, Summarise, Extrapolate, Update
<b>Application</b>	Apply, Choose, Compute, Modify, Solve, Prepare, Produce, Select, Show, Transfer, Use
<b>Analysis</b>	Analyse, Characterise, Classify, Compare, Contrast, Debate, Diagram, Differentiate, Distinguish, Relate, Categorise
<b>Synthesis</b>	Compose, Construct, Create, Verify, Determine, Design, Develop, Integrate, Organise, Plan, Produce, Propose, rewrite
<b>Evaluation</b>	Appraise, Assess, Conclude, Critic, Decide, Evaluate, judge, Justify, Predict, Prioritise, Prove, Rank

**The question part of the MCQ (item) is called STEM; correct answer is called the KEY and the rest of the options are called DISTRACTORS.**

**Steps in writing:**

1. Select the specific learning objectives, which you want to test.
2. Write the stem, it should be self-explanatory and complete, avoid using terms like (NOT, EXPECT, NEVER, ALWAYS, SOMETIMES) in the stem, if the terms are being used they should be in UPPERCASE and **bold** letter.
3. Write unambiguous and unarguably the correct answer to the stem.
4. Select the most plausible alternatives and arrange them in the form of options.
5. Avoid window dressing of the stem. This means adding superfluous and unnecessary words which confuses the student.
6. Abbreviations should be avoided.
7. Options should be grammatically parallel to the key, and should be parallel and have the same relation to the stem.
8. When writing options, avoid duplications or making options all inclusive, e 1-6, 6-10 etc.
9. The options should be arranged in rank order, eg. 256, 266, 280, 290 and not 290, 266, 280, 256.
10. "All the above" and "None of the above" should be avoided as an option.

### Distribution of Marks: - Pharmacology

Papers		Marks	Total Marks	Minimum Passing Marks	
Theory (Summative Assessment) (100 +100=200 Marks)	Theory Paper I( Sample paper Attached )	100	200	Mandatory to get 40% marks separately in theory and in practical and with minimum 50% in aggregate for theory plus practical.	
	Theory paper II( Sample paper Attached )	100			
Practical *(Summative Assessment) (60 + 40= 100 Marks) 1. Practical/clinical examinations will be conducted in the laboratories and /or hospital wards. The objective will be to assess proficiency and skills to conduct experiments, interpret data and form logical conclusion.)  2. Viva/oral examination should assess approach to patient management, emergencies, attitudinal, ethical and professional values. Candidate's skill in interpretation of common investigative data, identification of specimens, etc. is to be also assessed.	Problem based Prescription writing, comment, correct & rewrite = 15 Problem based learning/ case writing = 15 Drug interaction = 10 Practical Graph Evaluation = 10 Spotting of the instruments = 10 Poisons and Antidotes = 10 Dose Calculation / Pharmacokinetic Calculations= 10	80	100		
	Viva (oral examination should focus on the application and interpretation) 1. (oral examination should focus on the application and interpretation) Charts, Graphs, Photograph & Instrument etc	20			
Internal Assessment ( Not added to the marks of the university examinations and should be shown separately in the grade card)	Theory	100	200		50% Combined in theory and practical ( not less than 40% in each for eligibility for appearing for university examination
	Practical	100			

**\*During practical examinations you are requested to use different methods of assessment tools to improve authenticity. Please refer to competency based assessment module for UG medical education for more examples of assessment tools.**

**Formative & Internal Assessment:** - Internal assessment shall be based on day-to-day assessment. Efforts should be made to use multiple tools even for a given competency to improve validity and reliability of assessment

It shall relate to different ways in which learners participate in learning process which is day to day recorded in record book and log book in the form of :-

- a) Assignments,
- b) Preparation for seminar,
- c) Clinical case presentation,
- d) Preparation of clinical case for discussion,
- e) Clinical case study/problem solving exercise participation in project for health care in the community,
- f) Proficiency in carrying out a practical or a skill in small research project etc.

Regular periodic examination shall be conducted throughout the course as per following schedule:-

SRI GURU RAM DAS INSTITUTE OF MEDICAL SCIENCES & RESEARCH												
DEPARTMENT OF PATHOLOGY / PHARMACOLOGY/ MICROBIOLOGY												
MBBS	Year/phase 2 <sup>nd</sup> Prof.						Session --					Cumulative percent of Theory & Practical
			Formative Assessment				Continuous Internal Assessment (Theory)					
S.No.	Roll No.	Name of Student	1 <sup>st</sup> Theory	Mid-Term Theory	Second Theory	Send up	Assignments	Seminars/ Class Test	Attendance (Theory)	Total	Percentage Theory (Minimum cut off 40%)	Theory + Practical=100+100=200 (Minimum cut off 50%)
			10	15	10	30	15	15	05	100		
1.												
2.												
3.												
4.												
5.												
6.												
7.												
8.												

**SRI GURU RAM DAS INSTITUTE OF MEDICAL SCIENCES & RESEARCH**

**DEPARTMENT OF PATHOLOGY / PHARMACOLOGY/ MICROBIOLOGY**

MBBS		Year/phase 2 <sup>nd</sup> Prof.					Session --				
			Formative Assessment			Continuous Internal Assessment (Practical)					
S.No.	Roll No.	Name of Student	1 <sup>st</sup> Practical	Mid-term Practical	Send up	Log Book	AETCOM	Case Base Discussion / Viva/ Museum	Attendance (Practical)	Total	Percentage Practical (Minimum cut off 40%)
			10	10	15	30	15	15	05	100	
1.											
2.											
3.											
4.											
5.											
6.											
7.											
8.											



**MBBS 1<sup>st</sup> Professional Examination**

**(Session 2026)**

Maximum Marks: 100

**Subject- Pharmacology (New Scheme)**

Time: 3 Hours

**Paper-A**

- Note:**
1. Attempt all questions. Illustrate your answer with suitable diagrams where applicable.
  2. Question No. I (Multiple Choice Questions (1-10)) is to be attempted on OMR Sheet in first 30 minutes of the start of exam.
  3. Question No. II-VI are to be attempted on the main answer book. No supplementary sheet shall be provided.
  4. Students must write QP code in the space provided on OMR sheet as well as on the title page of the main answer book.

**QP Code: MBN203A**

**Multiple Choice Questions (MCQs):**

[10X2=20]

- 1. A hospitalized patient with systemic candidiasis is receiving intravenous antifungal medications. He also has hepatic and renal insufficiency. Which of the following drug administration schemes would allow for the steadiest state amount of drug in the body over a 2-week hospitalization period where medication administration will be necessary?**
  - a. Continuous IV infusion
  - b. Once weekly IV injection
  - c. Single daily IV injection
  - d. Twice daily IV injection
- 2. A medical student is involved in a supper research project involving a mouse endothelial surface to determine which mediators are involved in platelet aggregation. The results of such studies will indicate an important role for which of the following substances?**
  - a. Cyclic AMP
  - b. Cyclic ATP
  - c. Cyclic GMP
  - d. Cyclic GTP
- 3. 38-year-old farmer is brought to the ER by his wife with symptoms of sudden difficulty breathing, sweatiness, and anxiety. He was spraying insecticide when this happened. It has been 25 minutes since the symptoms started. The patient is emergently intubated and given atropine and another medication that acts to reactivate acetylcholinesterase. What medication is it?**
  - a. Physostigmine
  - b. Propranolol
  - c. Pralidoxime
  - d. Phenylephrine
- 4. Prolonged apnea may occur following the administration of succinylcholine to a patient with a hereditary deficiency of which of the following enzymes?**
  - a. Glucose-6-phosphate dehydrogenase
  - b. Plasma cholinesterase
  - c. Monoamine oxidase
  - d. Cytochrome P4503A
- 5. Following a prolonged first labor, an alert nurse notices persistent bleeding in the postpartum patient with no vaginal or cervical laceration, and her uterine fundus feels very soft. The patient's heart rate is mildly elevated, and her blood pressure is 105/55 mmHg. Which of the following would be the best choice in this circumstance?**
  - a. Acetaminophen
  - b. Buspirone
  - c. Methylergonovine
  - d. Methysergide
- 6. You have been treating a 42-year-old woman with mild rheumatoid arthritis for 4 years with ibuprofen. She has returned to your office and complains that the pain in her wrists is worse and 800 mg/day of ibuprofen does not give relief. You elect to try etanercept for her RA and send her off for a chest X-Ray. You caution your patient that a serious adverse effect of the drug is:**
  - a. GI bleeding
  - b. Hallucinations
  - c. Infections
  - d. Anemia

7. A 36-year-old man has been smoking two packs of cigarettes a day for the last 20 years. He is concerned that his health has deteriorated, and he has a persistent hacking cough. He also states that he doesn't want to "get lung cancer and die, like my father did." He has tried nicotine patches with no success and wants to know if there is any "pill" he could try. What medication could the physician recommend?
  - a. Mirtazapine
  - b. Citalopram
  - c. Buspirone
  - d. Bupropion
  
8. A 16-year-old patient visits his dentist for a routine check-up. He finds that his wisdom teeth are severely impacted and need to be removed. The oral surgeon to whom he is referred plans on using an agent that has good analgesic and sedative properties but does not cause skeletal muscle relaxation. Which agent has these ideal properties?
  - a. Enflurane
  - b. Nitrous oxide
  - c. Thiopental
  - d. Halothane
  
9. A 31-year-old lawyer is transferred to the emergency room after collapsing at a party. He complained of chest pain, and an electrocardiogram demonstrated ventricular fibrillation, for which he received cardioversion. A primary survey of the patient showed little trauma, with the exception of a perforated nasal septum. A close friend accompanied the patient and confides in you that the patient was "doing" an illicit substance at the party. Which of the following is the most likely?
  - a. Phencyclidine (PCP)
  - b.  $\gamma$ -Hydroxybutyric acid (GHB)
  - c. Lysergic acid diethylamide (LSD)
  - d. Cocaine
  
10. An 18-year-old man is brought to the emergency room by his friends because he "passed out." His friends tell the physician that they were at a party and the patient drank a couple of beers and took several Valium (diazepam). On examination the patient was unresponsive, with decreased respirations (8 per minute). What would be an appropriate treatment?
  - a. Flumazenil
  - b. Ethyl alcohol
  - c. Dextrose
  - d. Strychnine

II. Classify antipsychotic agents, Discuss the mode of action of newer antipsychotics, Therapeutic uses, Long term ADRs with the management of ADRs. [10]

III. Reasoning Questions (Why): [5X3=15]

- a. Desferrioxamine is useful in thalassemia.
- b. Combination of L-Dopa and Carbidopa is used in parkinsonism.
- c. Salbutamol is a rescue drug in acute attack of bronchial asthma.
- d. Neostigmine is used in skeletal muscle relaxant overdose.
- e. Why informed consent is important in prescribing the treatment to patients?

IV. Write short notes (Applied questions) on: [4X5=20]

- a. Combination of Misoprostol and mifepristone is given for mid-trimester abortion.
- b. Atropine substitutes and describe their therapeutic use?
- c. Transdermal therapeutic system.
- d. Ondansetron is useful in chemotherapy-induced nausea.

V. Explain briefly: [3X5=15]

- a. Enlist and compare the various vaccine against COVID-19 available in India.
- b. H Pylori induced peptic ulcer management in patients
- c. Interferons

VI. Write short notes on: [4X5=20]

- a. Centrally acting muscle relaxants and their therapeutic use.
- b. Pharmacovigilance programme of India. Its impact on the physician prescription writing.
- c. Role of Tamsulosin in managing symptoms of BPH.
- d. Steps of effective patient-physician communication? What is the role of effective listening in patient treatment?



**MBBS 1<sup>st</sup> Professional Examination  
(Session 2026)**

Maximum Marks: 100

**Subject- Pharmacology (New Scheme)  
Paper-B**

Time: 3 Hours

- Note:**
1. Attempt all questions. Illustrate your answer with suitable diagrams where applicable.
  2. Question No. I (Multiple Choice Questions (1-10)) is to be attempted on OMR Sheet in first 30 minutes of the start of exam.
  3. Question No. II-VI are to be attempted on the main answer book. No supplementary sheet shall be provided.
  4. Students must write QP code in the space provided on OMR sheet as well as on the title page of the main answer book.

**QP Code: MBN204A**

**Multiple Choice Questions (MCQs):**

[10X2=20]

- 1. A 19-year-old military recruit living in the army barracks develops a severe headache, photophobia, and a stiff neck, prompting a visit to the emergency room. A lumbar puncture reveals a diagnosis of bacterial meningitis. Which of the following cephalosporins is likely to be given to this patient?**
  - a. Cefazolin
  - b. Cefuroxime axetil
  - c. Ceftriaxone
  - d. Cefepime
- 2. A 43-year-old HIV-positive woman with a CD41 count of 150 presents with shortness of breath. An arterial blood gas determination indicates hypoxia, and a chest x-ray shows bilateral interstitial infiltrates. A suspected diagnosis of Pneumocystis jirovesi pneumonia is confirmed with bronchoscopy and silver staining of bronchial washings. Which of the following therapies should be started?**
  - a. Isoniazid
  - b. Clindamycin
  - c. Azithromycin
  - d. Trimethoprim/sulfamethoxazole
- 3. A 35-year-old patient presents to his family physician because his mother has been found to have tuberculosis (TB). The family physician places a purified protein derivative (PPD), which has negative results, but recommends prophylaxis against TB. Which of the following is indicated for TB prophylaxis in exposed adult patients?**
  - a. Rifampin
  - b. Ethambutol
  - c. Isoniazid
  - d. Streptomycin
- 4. A 49-year-old woman complains of sweating profusely nearly every night. She had a transvaginal hysterectomy 5 years ago but has intact ovaries. Upon physical examination, you note that she has a BMI of 22, but all her vital signs are normal. Which of the following would best treat her condition?**
  - a. Conjugated estrogens
  - b. Levonorgestrel
  - c. Raloxifene
  - d. Calcitriol
- 5. A 45-year-old female patient has fasting glucose levels of 147 mg/dL, and with a glucose tolerance test, you have confirmed the diagnosis of type II diabetes. You begin therapy with metformin, but her fasting glucose levels remain above 100 mg/dL. You elect to change her therapy to glyburide. This drug acts to**
  - a. Increase insulin secretion
  - b. Decrease glucocorticoid levels
  - c. Decrease tissue sensitivity to insulin
  - d. Decrease insulin half-life
- 6. A 54-year-old woman is diagnosed with congestive heart failure (CHF). You prescribe captopril, a medication proven to reduce her mortality. This agent delivers several benefits to patients with CHF. Which of the following effects is caused by this drug?**
  - a. It has a high affinity for angiotensin II receptors
  - b. It promotes increased peripheral vascular resistance
  - c. It decreases cardiac output and increases afterload
  - d. It causes venodilation and induces natriuresis

7. A female patient with a history of bronchospasm complains she felt some shortness of breath that was accompanied with feeling of nausea when playing in a softball game. During her history, she admits that she has felt like that before when walking up a few flights of stairs. You schedule a stress test and the results confirm stable angina. Which of the following drugs would be the best choice for long-term management of this patient?
  - a. Nitroprusside
  - b. Sildenafil
  - c. Metolazone
  - d. Amilodipine
  
8. A 56-year old woman has a temporary loss of peripheral vision and dizziness that lasts for approximately 10 minutes. Her family history reveals that her mother had thromboembolic disease, but her father was normal. Which of the following would be the best outpatient prophylactic regimen for this patient 2 days after these symptoms appeared?
  - a. Anistreplase
  - b. Clopidogrel
  - c. Heparin
  - d. Abciximab
  
9. A 40-year-old morbidly obese woman undergoes gastric bypass surgery to help her lose weight. Her surgeon reminds her that now she will have to get a monthly injection of vitamin B12, since the part of her stomach responsible for production of intrinsic factor has been removed. Which of the following is true about vitamin B12?
  - a. Loss of vitamin B12 from the body is a rapid process
  - b. The molecule of vitamin B12 contains copper
  - c. Vitamin B12 is not required for fatty acid metabolism
  - d. A deficiency results in impaired DNA replication
  
10. A 53-year-old woman with breast cancer undergoes a breast-conserving lumpectomy and lymph node biopsy. The pathology report returns with mention of cancer cells in two of eight lymph nodes removed. Following radiation therapy, chemotherapy is started that includes the use of paclitaxel. Which side effect is the patient likely to complain of?
  - a. Blood in the urine
  - b. Easy bruising
  - c. Hot flashes
  - d. Shortness of breath

II. Classify antianginal drugs, Discuss the mode of action of nitrates, therapeutic uses and adverse effects of nitrates. [10]

III. Reasoning Questions (Why): [5X3=15]

- a. Methotrexate is used as anticancer agent
- b. Clavulanic acid is combine with Amoxicillin for treating Staph aureus infection
- c. Patient Autonomy is important in prescription writing?
- d. Lopinavir is combined with ritonavir in HIV treatment.
- e. MESNA is given along with Cyclophosphamide therapy.

IV. Write short notes (Applied questions) on: [4X5=20]

- a. Pharmacotherapy of Status asthmatics
- b. Role of topical corticosteroids in Ulcerative colitis
- c. Role of combination of sacubitril and valsartan in CHF
- d. Role of Low dose aspirin in Ischemic heart disease.

V. Explain briefly: [3X5=15]

- a. Eplerenone
- b. Statins
- c. Fluroquinolones

VI. Write short notes on: [4X5=20]

- a. Direct Thrombin Inhibitors
- b. Mechanism of action, therapeutic use and adverse effects of Metformin
- c. Selective Estrogen Receptor Modulators (SERMs)
- d. Four principles of bioethics and their importance in treating a patient