

**MBBS PHASE – II (NON-CBME)
DEGREE EXAMINATION – AUGUST 2025**

Time 3 Hours

Max. Marks 100

**PHARMACOLOGY
PAPER – I**

Q.P. Code 1006

Answers should be specific to the Questions asked.

Draw neat, labeled diagrams wherever necessary.

All questions are compulsory.

Question Number	Marks
1. M.C.Q.	25 X 1 = 25
LONG ESSAY QUESTIONS	2 X 10 = 20
2. Enumerate various routes of drugs administration with suitable examples. Add a note on redistribution phenomenon.	(8+2)
3. Classify antihypertensive drugs. Describe role of drugs blocking renin angiotensin aldosterone axis in the treatment of hypertension.	(4+6)
SHORT ESSAY QUESTIONS	8 X 5 = 40
4. Enumerate the class of drugs used in open angle glaucoma. Discuss their mechanism of action in glaucoma.	(2+3)
5. Compare and contrast Heparin and Warfarin.	
6. Discuss different types of receptor antagonism.	
7. Define preanesthetic medication. Discuss its aims and various classes of drugs used with rationale.	(1+4)
8. Discuss the uses and adverse effects of opioid analgesics	
9. Discuss uses and adverse effects of Digoxin.	
10. Discuss the Pharmacovigilance Programme in India	
11. Discuss the clinical features and management of organophosphorus poisoning.	
SHORT ANSWER QUESTIONS	5 X 3 = 15
12. Write three indications for use of Diazepam.	
13. Mention the rationale for combining Adrenaline with Lignocaine.	
14. Enumerate three peripherally acting skeletal muscle relaxants with their uses.	
15. Name two drugs which can be administered by rectal route and mention any one advantage and disadvantage of rectal route.	
16. Name three parenteral Iron preparations with their indications.	

MULTIPLE CHOICE QUESTIONS

Course: MBBS Phase-II, (Non-CBME) August 2025	Max. Marks: 25 Marks
Subject: Pharmacology Paper-I, QP Code 1006	Time: 30 Minutes

Instructions

- Each question is followed by four options.
- Pick up the single best option and darken the appropriate circle in the OMR Sheet provided.
- Each question carries one mark. No negative marking.

1. The therapeutic index of a drug is a measure of its
(A) Safety (B) Potency
(C) Efficacy (D) Dose variability
2. Majority of drugs cross biological membranes primarily by
(A) Facilitated diffusion (B) Passive diffusion
(C) Active transport (D) Pinocytosis
3. Drugs which undergo high degree of first-pass metabolism in liver
(A) Are contraindicated in liver disease (B) Are excreted primarily in bile
(C) Have low oral bioavailability (D) Exhibit zero order kinetics of elimination
4. Drug used in provocative test for Myasthenia Gravis is
(A) Physostigmine (B) Edrophonium
(C) Tacrine (D) d-tobocurarine
5. Atropine is useful in organophosphate poisoning because it
(A) Reactivates acetylcholinesterase (B) Competes with acetylcholine release
(C) Binds with both nicotinic and muscarinic acetylcholine receptors (D) Is a competitive antagonist of acetylcholine
6. An example of anticholinergic antiparkinsonian drug is
(A) Dicyclomine (B) Benhexol
(C) Clidinium (D) Oxybutynin
7. Short acting mydriatic used in funduscopy is
(A) Atropine (B) Homatropine
(C) Cyclopentolate (D) Tropicamide
8. Adrenaline injected with a local anaesthetic
(A) Reduces local toxicity of the local anaesthetic (B) Reduces systemic toxicity of the local anaesthetic
(C) Increases the blood loss (D) Makes the injection less painful
9. Which is **NOT** a cardioselective beta 1 blocker?
(A) Metoprolol (B) Atenolol
(C) Acebutolol (D) Sotalol
10. α -1 selective adrenergic blocker is
(A) Phentolamine (B) Phenoxybenzamine
(C) Prazosin (D) Yohimbine
11. Disulfiram inhibits
(A) Alcohol dehydrogenase (B) Aldehyde dehydrogenase
(C) G 6 phosphate dehydrogenase (D) Acetate dehydrogenase
12. Which of the following drugs is **NOT** an antiepileptic?
(A) Phenytoin (B) Flunarizine
(C) Topiramate (D) Phenobarbitone

13. The general anaesthetic used by inhalation is
 (A) Propofol (B) Midazolam
 (C) Halothane (D) Thiopentone
14. Select the antiparkinsonian drug which directly activates dopaminergic D2 receptors in the striatum
 (A) Pramipexole (B) Entacapone
 (C) Benserazide (D) Selegiline
15. Foetus of a pregnant woman on lithium should be monitored for
 (A) Neural tube defects (B) Cardiac defects
 (C) Urogenital defects (D) Facial defects
16. The antidote of choice for Morphine poisoning is
 (A) Nalorphine (B) Naltrexone
 (C) Nalbuphine (D) Naloxone
17. Which of the following drug is eliminated through Hoffmann's elimination?
 (A) Atracurium (B) Mivacurium
 (C) Pancuronium (D) Vecuronium
18. Which of the following drug is a potassium channel opener?
 (A) Nicorandil (B) Hydralazine
 (C) Glibenclamide (D) Amiloride
19. Antihypertensive drug of choice in a diabetic patient is
 (A) Methyldopa (B) Beta blocker
 (C) ACE inhibitor (D) Thiazides
20. Nitrates are used for all of the following conditions **EXCEPT**
 (A) Congestive heart failure (B) Cyanide poisoning
 (C) Esophageal spasm (D) Atrial fibrillation
21. Marked redistribution is a feature of
 (A) Highly lipid soluble drugs (B) Poorly lipid soluble drugs
 (C) Depot preparations (D) Highly plasma protein bound drugs
22. Furosemide acts by inhibiting the following in the renal tubular cell
 (A) Na⁺ -K⁺ - 2Cl⁻ co-transporter (B) Na⁺ - Cl⁻ symporter
 (C) Na⁺ - H⁺ antiporter (D) Na⁺ K⁺ ATPase
23. Which of the following can be used to antagonise the action of Heparin in case of overdose?
 (A) Heparan sulfate (B) Dextran sulfate
 (C) Protamine sulphate (D) Ancrod
24. The **most** important complication of Streptokinase therapy is
 (A) Hypotension (B) Bleeding
 (C) Fever (D) Anaphylaxis
25. Indications for the use of antiplatelet drugs include the following **EXCEPT**
 (A) Secondary prophylaxis of myocardial infarction (B) Unstable angina pectoris
 (C) Disseminated intravascular coagulation (D) Stroke prevention in patients with transient ischaemic attacks



KLE ACADEMY OF HIGHER EDUCATION AND RESEARCH

MBBS Phase - II Degree Examination August 2025
QP CODE : A007

Pharmacology Paper 1 [PHARM1]

Marks: 100

Duration: 180 mins.

MCQ: 20 X 1 = 20

Answer all the questions.

Section Duration: 30 mins

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|----|----|------------------------------|----|--|-----|------------------------------|----|--|-----|
| 1 | | | | The most important factor governing absorption of a drug from intact skin is | | | | | |
| | 1) | Molecular weight of the drug | 2) | Site of application | 3) | Lipid solubility of the drug | 4) | Nature of the base used in the formulation | (1) |
| 2 | | | | The effect of thiopentone on the CNS is quickly terminated because of | | | | | |
| | 1) | Rapid metabolism in the CNS | 2) | Quick first-pass elimination | 3) | Redistribution | 4) | Rapid metabolism in systemic circulation | (1) |
| 3 | | | | A 60-year-old male with a history of chronic heart failure and reduced ejection fraction (HFrEF) presents with worsening shortness of breath and peripheral edema. Despite optimal medical therapy, he is still symptomatic. The doctor decides to initiate an adrenergic drug to increase the heart's contractility. Which of the following adrenergic drugs is commonly used to improve cardiac output in heart failure patients with reduced ejection fraction? | (1) | | | | |
| | 1) | Adrenaline | 2) | Dobutamine | 3) | Norepinephrine | 4) | Albuterol | |
| 4 | | | | In patient of head injuries with rapidly increasing intracranial tension without haematoma, the drug of choice for initial management would be | (1) | | | | |
| | 1) | Steroids | 2) | Furosemide | 3) | Glycine | 4) | 20% Mannitol | |
| 5 | | | | A woman in the 28th week of pregnancy has developed pregnancy induced hypertension with a blood pressure reading of 150/100 mm Hg. Select the most appropriate antihypertensive drug for her | (1) | | | | |
| | 1) | Furosemide | 2) | Methyldopa | 3) | Propranolol | 4) | Captopril | |
| 6 | | | | Down regulation of receptors can occur as a consequence of | (1) | | | | |
| | 1) | Continuous use of agonists | 2) | Continuous use of antagonists | 3) | Short term use of drugs | 4) | Denervation | |
| 7 | | | | Nocturnal enuresis in children can be treated by | (1) | | | | |
| | 1) | Fluoxetine | 2) | Imipramine | 3) | Haloperidol | 4) | Venlafaxine | |
| 8 | | | | Drug of choice for the treatment of negative symptoms of schizophrenia is | (1) | | | | |
| | 1) | Chlorpromazine | 2) | Haloperidol | 3) | Clozapine | 4) | Doxepin | |
| 9 | | | | A 45 year old patient has an episode of hematemesis following streptokinase infused for the treatment of deep vein thrombosis. Which of the following drugs would be most effective in controlling the bleeding episode? | (1) | | | | |
| | 1) | Vitamin K | 2) | Noradrenaline | 3) | Epsilon aminocaproic acid | 4) | Rutin | |
| 10 | | | | The non selective β adrenergic blocker having intrinsic sympathomimetic activity is | (1) | | | | |

1) Propranolol 2) Pindolol 3) Labetalol 4) Sotalol

11

Following are the adverse effects associated with the use of nitroglycerine **EXCEPT**

(1)

1) Headache 2) Flushing 3) Bradycardia 4) Methemoglobinemia

12

Loading dose of a drug primarily depends upon

(1)

1) Volume of distribution 2) Rate of clearance 3) Half life 4) Solubility coefficient

13

A patient is suffering from atherosclerosis. Which of the following is the **most** beneficial drug for prevention of stroke in this patient?

(1)

1) Aspirin 2) Warfarin 3) Low dose subcutaneous heparin 4) Digoxin

14

Pharmacogenetics is a study of

(1)

1) Gene therapy 2) Recombinant DNA technology 3) Genetic basis for variability in drug response 4) Carcinogenic effect of drug

15

The mydriatic anticholinergic preferred for cycloplegic refraction is

(1)

1) Atropine 2) Cyclopentolate 3) Homatropine 4) Tropicamide

16

A group of students plan a mountain climbing trip. Which of the drug would be appropriate for them to take to prevent mountain sickness?

(1)

1) Toresamide 2) Hydrochlorothiazide 3) Acetazolamide 4) Spironolactone

17

A 28-year-old male undergoes general anesthesia for a routine surgery. During the procedure, his temperature spikes, and he develops muscle rigidity and tachycardia. The anesthesiologist suspects malignant hyperthermia (MH) and begins immediate treatment.

Which of the following drugs is most **commonly** used to treat malignant hyperthermia, a potentially fatal condition induced by certain anesthetics?

(1)

1) Baclofen 2) Dantrolene 3) Tizanidine 4) Cyclobenzaprine

18

The drug used in absence seizures and having a narrow spectrum of antiepileptic activity is

(1)

1) Lamotrigine 2) Ethosuximide 3) Sodium valproate 4) Primidone

19

A 24-year-old farm worker is rushed to a nearby emergency department after an accidental exposure to parathion. Which of the following drugs can be given to increase the activity of his acetyl cholinesterase:

(1)

1) Atropine 2) Dimercaprol 3) Physostigmine 4) Pralidoxime

20

A 50-year-old woman presents with complaints of frequent and urgent urination, often accompanied by incontinence. After a thorough evaluation, she is diagnosed with overactive bladder. Which of the following anticholinergic medications is **commonly** used in the management of overactive bladder?

(1)

1) Atropine 2) Oxybutynin 3) Benztropine 4) Tiotropium

LONG ESSAY QUESTIONS: 2 X 10 = 20

Answer all the questions.

21

A 15 year old male was brought to emergency room with history of severe vomiting and diarrhoea, diagnosed as case of vibrio cholera with sever dehydration. He needs immediate replacement of fluids and electrolytes

- a) In this case, what is the most appropriate route of administration of fluids and electrolytes and why? (2 marks)
- b) Discuss the advantages and disadvantages of preferred route (4 marks)
- c) Classify the routes of drug administration with suitable examples (4 marks)

22			Classify the general anaesthetic drugs with relevant examples in each class. Mention the various classes of drugs used as preanaesthetic medication with the rationale for the use of each class of drugs. Mention the properties of an ideal anaesthetic agent. (3+4+3)	(10)
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SHORT ESSAY QUESTIONS: 9 X 5 = 45

Answer all the questions.

23			A 55-year-old female, presents to the outpatient clinic with symptoms suggestive of hypertension and chronic stable angina. She has a history of asthma that is well controlled with bronchodilators. The treating physician decides to prescribe beta blockers for her cardiac problems. a. Which class of beta blockers should be selected in the above condition? b. Discuss the advantages of the selected class of beta blockers c. Mention the adverse effects of the selected beta blockers (1+2+2)	(5)
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24			Discuss the term teratogenicity and its effect on various trimester of pregnancy with suitable examples. (2+3)	(5)
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25			A 34-year-old male is scheduled for an elective laparoscopic cholecystectomy under general anaesthesia. On administration of succinylcholine as a part of the anaesthesia induction process, the anaesthetist noticed that the patient was not breathing adequately and his spontaneous respiration was absent inspite of positive pressure ventilation. a. What is the probable diagnosis? b. What is the mechanism of action of succinylcholine? c. How is the condition treated? (1+2+2)	(5)
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26			Discuss the mechanism of action of Serotonin reuptake inhibitors (SSRIs). Mention their advantages over Tricyclic antidepressants (TCA's).	(5)
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27			A 65-year-old woman has been admitted to the coronary care unit with an anterior wall myocardial infarction. If this patient develops acute left ventricular failure. a) Which is the life saving drug indicated in this patient and explain its rationale. b) Enumerate other group of drugs used for treatment of heart failure with suitable examples. (2+3)	(5)
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28			Discuss the management of Acute alcohol intoxication.	(5)
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29			Discuss mechanism of action, uses and adverse effects of oral anticoagulants.(1+2+2)	(5)
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30			A 53-year-old man was brought to the emergency department after suffering crushing substernal pain for the past hour. Vital signs on admission were; blood pressure 88/50, pulse 115 bpm, respirations 30/min. Further examinations led to the diagnosis of cardiogenic shock. Enumerate the drugs used in the management of cardiogenic shock. Discuss the role of fluid therapy in the management of cardiogenic shock. (2+3)	(5)
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31			Enumerate plasma expanders. Discuss their indications. (2+3)	(5)
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SHORT ANSWER QUESTIONS: 5 X 3 =15

Answer all the questions.

32			Enumerate vasopressin antagonists. Mention any three uses.	(3)
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33			Justify the use of Nitrates in the treatment of Cyanide poisoning.	(3)
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34			A 82-year-old female patient presented with a cerebrovascular accident manifesting as difficulty in walking and dizziness with neurological worsening associated with acute respiratory failure and required emergency endo -tracheal intubation. Mention the skeletal muscle relaxant preferred for endotracheal intubation with rationale for the same.	(3)
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35		
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List the Pharmacokinetic characteristics of drugs to formulate fixed dose combinations.

(3)

36		
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What are the key principles that make the communication successful? Describe a situation in which effective communication has improved patient care.

(3)

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