

# Question Paper

Exam Date & Time: 23-May-2023 (10:00 AM - 01:00 PM)



## MANIPAL ACADEMY OF HIGHER EDUCATION

Pharmacology - I [PHA-BP404T-S1]

Marks: 75

Duration: 180 mins.

### I Multiple Choice Questions (MCQs)

Answer all the questions.

Section Duration: 30 mins

- 1) Transport of ethanol across biological membranes - (1)
- [Depends on the pH of the environment.](#)
- [Occurs through filtration](#)
- [Occurs via pinocytosis](#)
- [Occurs via diffusion](#)
- 2) Which among the following is not correct about absorption from topical sites - (1)
- [The primary factor that decides absorption is the lipid solubility.](#)
- [Neostigmine is absorbed from cornea.](#)
- [Timolol eye drops can cause bradycardia.](#)
- [Estradiol can penetrate intact skin.](#)
- 3) All the given drugs have high protein binding capacity. Identify the one that has least tissue distribution (1)
- [Phenobarbitone](#)
- [Diazepam](#)
- [Warfarin](#)
- [Tetracycline](#)
- 4) Which of the given steps involve methylation- (1)
- [Dopa to dopamine](#)
- [Nor-adrenaline to adrenaline](#)
- [Dopamine to nor-adrenaline](#)
- [Tyrosine to dopa](#)
- 5) The adrenergic receptor that plays a predominant role in mydriasis is- (1)
- [Alpha-1](#)
- [Alpha-2](#)
- [Beta-1](#)
- [Beta-2](#)
- 6) Which among the following is the inhibitory neurotransmitter in the CNS? (1)
- [γ-aminobutyric acid](#)
- [L-Glutamate](#)
- [Aspartate](#)

- [Serotonin](#)
- 7) Glycopyrrolate is used as a pre-anaesthetic medication to (1)
- [Reduce post-operative vomiting.](#)
  - [Relieve post operative pain.](#)
  - [Calm the patient before surgery.](#)
  - [Reduce bronchial secretions.](#)
- 8) The atypical antipsychotic among the following is - (1)
- [Trifluoperidol](#)
  - [Flupenthixol](#)
  - [Aripiprazole](#)
  - [Haloperidol](#)
- 9) Which of the following drugs is a selective serotonin reuptake inhibitor? (1)
- [Amitriptyline](#)
  - [Paroxetine](#)
  - [Mianserin](#)
  - [Bupropion](#)
- 10) Which of the given antianxiety drugs produce least sedation? (1)
- [Buspirone](#)
  - [Chlordiazepoxide](#)
  - [Alprazolam](#)
  - [Hydroxyzine](#)
- 11) A 59-year-old man, with heart failure is to be treated with a diuretic drug. Drug A and B have same mechanism of action. Drug A in dose of 50 mg produces the same magnitude of diuresis as 500 mg of drug B. This suggests that (1)
- [Drug B is less efficacious than drug A](#)
  - [Drug A is more potent than drug B](#)
  - [Drug A is a safer drug than drug B](#)
  - [Drug A will have shorter duration of action than drug](#)
- 12) Action of alpha subunit of G-protein is (1)
- [Binding of agonist](#)
  - [Conversion of GDP to GTP](#)
  - [Breakdown of GTP to GDP](#)
  - [Internalization of receptors](#)
- 13) All of these hormones use cAMP as second messenger EXCEPT (1)
- [Glucagon](#)
  - [Vasopressin](#)
  - [Dopamine](#)
  - [Corticotrophin](#)
- 14) Side effects if a drug arises due to interactions of the drug to molecules other than the target. The effects of the drug can be minimized by its high (1)
- [Specificity](#)
  - [Solubility](#)
  - [Affinity](#)
  - [Hydrophobicity](#)

- 15) Which of the following is ester type of Local anaesthetics: (1)
- [Benzocaine](#)  
[Cocaine](#)  
[Lignocaine](#)  
[Tetracaine](#)
- 16) All the following are used for myoclonic seizures EXCEPT (1)
- [Sodium valproate](#)  
[Lamotrigine](#)  
[Carbamazepine](#)  
[Topiramate](#)
- 17) Which of the following is benzodiazepine receptor antagonist? (1)
- [Butorphanol](#)  
[Naltrexone](#)  
[Pralidoxime](#)  
[Flumazenil](#)
- 18) Which of the following is not an opioid peptide? (1)
- [Endorphine](#)  
[Epinephrine](#)  
[Leu5-enkephalin](#)  
[Met5-enkephalin](#)
- 19) A drug 'X' belongs to the anticholinergic drug group. It is primarily used in pre anaesthetic medication and also during surgery. Which of the following can be 'X'? (1)
- [Glycopyrrolate](#)  
[Isoproopamide](#)  
[Dicyclomine](#)  
[Pipenzolate methyl bromide](#)
- 20) Botulinum toxin blocks neuromuscular transmission by which of the following mechanism (1)
- [Closure of Ca<sup>++</sup> channels at presynaptic membrane](#)  
[Closure of Na<sup>+</sup> channels at the postsynaptic membrane](#)  
[Opening of K<sup>+</sup> channels at the presynaptic membrane](#)  
[Opening of Cl<sup>-</sup> channels at the postsynaptic membrane](#)

### II Long Answers

Answer all the questions.

- 1) Classify receptor super families with examples. Briefly explain the mechanisms of operation of these receptors (10)
- 2) Explain in detail the mechanisms of drug transport across cell membranes. (10)

### III Short Answers

Answer all the questions.

- 1) Enlist various routes of drug administration with example. Mention the advantages and disadvantages of parenteral route. (5)
- 2) Discuss the patient related factors modifying drug action (5)

- 3) Classify local anaesthetics with examples. Explain the mechanism of action with a neat diagram  
List their adverse effects (5)
- 4) Describe the mechanism of action of drugs acting on GABA-A receptor (5)
- 5) Giving examples list the uses of adrenergic agonists (5)
- 6) Explain the different stages of ether anaesthesia. (5)
- 7) Explain the mechanism of mood stabilizing action of lithium (5)

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