

Exam Date &amp; Time: 26-Jul-2022 (10:00 AM - 01:00 PM)



# MANIPAL ACADEMY OF HIGHER EDUCATION

## Pharmacology-I [PIIA-BP404T]

Marks: 75

Duration: 180 mins.

### I Multiple Choice Questions (MCQs)

Answer all the questions.

Section Duration: 30 mins

- 1) Choose the drug that has very low volume of distribution? (1)
- |            |                |             |                |
|------------|----------------|-------------|----------------|
| 1) Digoxin | 2) Thiopentone | 3) Warfarin | 4) Chloroquine |
|------------|----------------|-------------|----------------|
- 2) Which among the following requires energy for the transport process? (1)
- |  |  |  |   |
|--|--|--|---|
| 1) Drug diffusion across plasma membrane | 2) Passage of drugs through aqueous pores. | 3) Transport of drugs through P-glycoprotein | 4) Absorption of glucose through GLUT-4 transporter |
|--|--|--|---|
- 3) Which among the following is an irreversible antagonist? (1)
- |             |                     |                |              |
|-------------|---------------------|----------------|--------------|
| 1) Prazosin | 2) Phenoxybenzamine | 3) Propranolol | 4) Yohimbine |
|-------------|---------------------|----------------|--------------|
- 4) Which of the autonomic drugs can dilate the pupil? (1)
- |                  |             |                |                  |
|------------------|-------------|----------------|------------------|
| 1) Acetylcholine | 2) Atropine | 3) Propranolol | 4) Physostigmine |
|------------------|-------------|----------------|------------------|
- 5) When administered orally at equivalent doses, which of the following drugs will attain lowest concentration in the brain? (1)
- |             |             |            |              |
|-------------|-------------|------------|--------------|
| 1) Dopamine | 2) Diazepam | 3) Codeine | 4) Ephedrine |
|-------------|-------------|------------|--------------|
- 6) All the following antipsychotics show parkinsonism except - (1)
- |                |                   |              |                 |
|----------------|-------------------|--------------|-----------------|
| 1) Haloperidol | 2) Trifluoperidol | 3) Clozapine | 4) Fluphenazine |
|----------------|-------------------|--------------|-----------------|
- 7) The flow of chloride ions across GABA<sub>A</sub> receptor-channel complex is blocked by - (1)
- |                 |                |               |             |
|-----------------|----------------|---------------|-------------|
| 1) Barbiturates | 2) Bicuculline | 3) Flumazenil | 4) Diazepam |
|-----------------|----------------|---------------|-------------|
- 8) Which among the following is a selective serotonin reuptake inhibitor? (1)
- |               |               |                |               |
|---------------|---------------|----------------|---------------|
| 1) Clorgyline | 2) Imipramine | 3) Desipramine | 4) Fluoxetine |
|---------------|---------------|----------------|---------------|
- 9) Homovanillic acid indicates high turnover of which of the following- (1)
- |             |               |              |              |
|-------------|---------------|--------------|--------------|
| 1) Dopamine | 2) Adrenaline | 3) Serotonin | 4) Histamine |
|-------------|---------------|--------------|--------------|
- 10) Which among the following is an inhibitor of drug metabolizing enzymes? (1)
- |                  |                   |                 |             |
|------------------|-------------------|-----------------|-------------|
| 1) Carbamazepine | 2) Phenobarbitone | 3) Erythromycin | 4) Rifampin |
|------------------|-------------------|-----------------|-------------|
- 11) Drug efficacy refers to - (1)
- |                                    |                          |                         |                            |
|------------------------------------|--------------------------|-------------------------|----------------------------|
| 1) Effectiveness of drugs in life- | 2) The maximal intensity | 3) The dose of the drug | 4) The minimum dose of the |
|------------------------------------|--------------------------|-------------------------|----------------------------|

	threatening condition		of response that can be produced by the drug		needed to produce a half-maximal effect		drug needed to produce a toxic effect	
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12) A partial agonist has -

1)	High affinity but low intrinsic activity	2)	High affinity but no intrinsic activity	3)	Low affinity but high intrinsic activity	4)	Low affinity and low intrinsic activity	(1)
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13) Which of the following statements best describes an 'Orphan drug'?

1)	It is a drug which acts on orphan receptors	2)	It is a very cheap drug	3)	It is a drug which has no therapeutic use	4)	It is a drug required for the treatment or prevention of a rare disease	(1)
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14) Accepted therapeutic indications for the use of antimuscarinic drugs include all of the following EXCEPT

1)	Hypertension	2)	Motion sickness	3)	Parkinson's disease	4)	To produce mydriasis and cycloplegia	(1)
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15) Organophosphates inhibit

1)	Anionic site of AChEs	2)	Estertic site of AChEs	3)	Ach	4)	None	(1)
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16) The main mechanism of hyperpyrexia induced by atropine include

1)	Vasodialation	2)	Inhibition of sweating	3)	Through central actions	4)	Increase in basal metabolic rate	(1)
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17) The side effects of Phenytoin is -

1)	Gum hypertrophy	2)	Alopecia	3)	Acne rosacea	4)	Subungal exostosis	(1)
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18) Drug of choice for epilepsy in pregnancy is-

1)	Carbamazepine	2)	Sodium Valproate	3)	Phenobarbitone	4)	Phenytoin	(1)
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19) An agent added to local anaesthetics to speed the onset of action is

1)	Methylparapben	2)	Bicarbonate	3)	Fentanyl	4)	Adrenaline	(1)
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20) The  $\mu$  opioid receptor is responsible for the following effects-

1)	Bradycardia	2)	Miosis	3)	Hypothermia	4)	Bronchodilation	(1)
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**II Long Answers**

**Answer all the questions.**

- 1) Explain Phase-II biotransformation reactions with examples. (10)
- 2) Outline the various steps involved in cholinergic transmission. Classify cholinergic drugs. Describe the pharmacological actions of acetylcholine on CVS and smooth muscle. (10)

**III Short Answers****Answer all the questions.**

- 1) List the factors that modify drug actions. Explain with examples any three factors that modify the drug action. (5)
- 2) Explain how alpha blockers are useful in the management of benign prostate hypertrophy and pheochromocytoma (5)
- 3) Giving examples, explain the mechanism of action of any two classes of drugs used in the management of parkinsonism (5)
- 4) Explain the autonomic and endocrine effects of chlorpromazine. (5)
- 5) With a neat diagram discuss the signal transduction mechanism of nuclear receptors. (5)
- 6) Classify Sedatives and Hypnotics. Explain the mechanism of action of Diazepam (5)
- 7) Classify anti-epileptic agents with examples. Describe the mechanism of action of any two classes of antiepileptic agents (5)

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