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BRAINWARE UNIVERSITY

Term End Examination 2025-2026

Programme – B.Pharm-2020/B.Pharm-2021/B.Pharm-2023/B.Pharm-2024

Course Name – Pharmacology I

Course Code - BP404T

(Semester IV)

Full Marks : 75

Time : 3:0 Hours

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group-A

(Multiple Choice Type Question)

1 x 20=20

1. Choose the correct alternative from the following :

(i) Select the correct option: In zero order kinetics $t_{1/2}$

- | | |
|------------------------------|---------------------------------|
| a) Remain constant | b) Increase with dose |
| c) Decrease as dose increase | d) First decrease then increase |

(ii) Select the statement which is not correct about the pharmacokinetic of drug in pregnancy.

- | | |
|--|---|
| a) Decline in total plasma protein | b) Increase in total amount of body fluid |
| c) The volume of distribution of drug remain unchanged | d) The binding affinity of basic drug increased |

(iii) Choose the correct option: _____ is a cardioselective beta blocker.

- | | |
|--------------|----------------|
| a) atenolol | b) Sotalol |
| c) Labetelol | d) Propranolol |

(iv) Choose the correct therapeutic use of amphetamine.

- | | |
|-----------------------|-------------------|
| a) Uterine relaxant | b) CNS stimulant |
| c) Nasal decongestant | d) Bronchodilator |

(v) Identify the true statement about the blood-brain barrier.

- | | |
|--|---|
| a) Endothelial cells of the blood-brain barrier have slit junctions. | b) Ionized or polar drugs can cross the blood-brain barrier easily. |
| c) Drugs cannot cross the blood-brain barrier through specific transporters. | d) Lipid-soluble drugs readily cross the blood-brain barrier. |

(vi) Identify the number of types of GABA receptor.

- | | |
|------------|------------|
| a) 3 types | b) 5 types |
| c) 2 types | d) 4 types |

- (vii) Choose the drug without muscle relaxant activity.
- | | |
|------------------|----------------|
| a) Diazepam | b) Amisulpride |
| c) Methocarbamol | d) Mephenesin |
- (viii) Choose the drug acting as an atypical antidepressant.
- | | |
|----------------|----------------|
| a) Imipramine | b) Maclobemide |
| c) Fluvoxamine | d) Mianserin |
- (ix) Select the correct option: Advantages of parenteral route of administration does not include.
- | | |
|--------------------------|---|
| a) Rapid onset of action | b) Low risk of overdosing |
| c) 100% bioavailability | d) Absence of influence on gastrointestinal tract |
- (x) Which one of the following statements match correctly for i.v. administration route?
- | | |
|---|--|
| a) Sterilization of drugs product is not essential | b) Oily drug can be administered by this route |
| c) Hypertonic solution can be infused by this route | d) None of these |
- (xi) Identify the drug that bind to membrane directly regulating the function by signal transduction.
- | | |
|------------------|---------------------|
| a) Acetylcholine | b) Benzodiazepine |
| c) Barbiturate | d) All of the these |
- (xii) Select an example of ion channel receptor.
- | | |
|-----------------|---------------|
| a) Serotonin | b) Nicotinic |
| c) Dopaminergic | d) Muscarinic |
- (xiii) Identify the ion that is membrane-permeable at resting state.
- | | |
|--------------|--------------|
| a) Potassium | b) Sodium |
| c) Calcium | d) Magnesium |
- (xiv) Select the second messenger of G-protein-coupled (metabotropic) receptor.
- | | |
|---------------------|----------------|
| a) Adenylyl cyclase | b) Sodium ions |
| c) Phospholipase C | d) cAMP |
- (xv) Select the property of a hydrophilic medicinal agent.
- | | |
|--|--|
| a) Low ability to penetrate through the cell membrane lipids | b) Penetrate through membranes by means of endocytosis |
| c) Easy permeation through the blood-brain barrier | d) High reabsorption in renal tubules |
- (xvi) State bioavailability:
- | | |
|---|--|
| a) Plasma protein binding degree of substance | b) Permeability through the brain-blood barrier |
| c) Fraction of an uncharged drug reaching the systemic circulation following any route administration | d) Amount of a substance in urine relative to the initial dose |
- (xvii) Select the correct option: Protein binding of a drug helps in ____.
- | | |
|------------------------|-------------------------|
| a) Distribution | b) Prolonging half life |
| c) Limiting metabolism | d) All of these |
- (xviii) Choose the anti-craving agent used in the management of alcohol dependence syndrome.
- | | |
|-----------------------------|----------------|
| a) Disulfiram | b) Lorazepam |
| c) Citrated Calcium Carbide | d) Acamprosate |
- (xix) Indicate the use of anxiolytic agents.
- | | |
|---|--|
| a) Relieve pain | b) Reduce anxiety and exert a calming effect |
| c) Improve mood and behavior in patient with psychotic symptoms | d) Produce drowsiness, encourage the onset and maintenance of a state of sleep |
- (xx) Select the correct option: if an agonist can produce maximal effects and has high efficacy it's called ____.
- | | |
|--------------------|---------------|
| a) Partial agonist | b) Antagonist |
|--------------------|---------------|

c) Agonist-antagonist

d) Full agonist

Group-B

(Short Answer Type Questions)

5 x 7=35

2. State the factors modifying drug action. (5)
3. Explain the JAK-STAT binding receptor transduction mechanism. (5)
4. Enumerate the factors affecting drug absorption. (5)
5. Illustrate ion channel receptor. (5)
6. Briefly describe about pre-anesthetic medication. (5)
7. Differentiate between adverse drug reaction and adverse drug event. (5)

OR

- Illustrate the symptoms and treatment of morphine poisoning. (5)
8. Illustrate the types of epilepsy and mention the adverse effect of phenobarbitone. (5)

OR

- Classify antidepressants with examples and state what will happen to a patient taking MAO inhibitors and eats cheese? (5)

Group-C

(Long Answer Type Questions)

10 x 2=20

9. Describe in detail about different routes of drug administration. (10)
10. Illustrate the treatment strategy for status epilepticus. (10)

OR

- Classify the drugs with example used for the treatment of parkinsonism focusing on the benefit obtained when carbidopa is used along with levodopa. (10)