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## BRAINWARE UNIVERSITY

Term End Examination 2025-2026

Programme – B.Physiotherapy-2021/B.Physiotherapy-2022/B.Physiotherapy-2023/B.Physiotherapy-2024

Course Name – Medical Pharmacology

Course Code - BPTC303

( Semester III )

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Brainware University  
398, Ramkrishnapur Road, Barasat  
Kolkata, West Bengal-700125

Full Marks : 60

Time : 2:30 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 15=15

1. Choose the correct alternative from the following :

- (i) Select the mechanism of action of Sulfonamides:
- |  |   |
|--|---|
| a) Inhibition of Tetrahydro folic acid   | b) Inhibition of Dihydropteroate synthase |
| c) Inhibition of Dihydrofolate reductase | d) Inhibition of monohydropteroate        |
- (ii) Define which class of drugs is commonly used to treat bacterial infections by inhibiting cell wall synthesis?
- |                           |                |
|---------------------------|----------------|
| a) Corticosteroids        | b) Penicillins |
| c) Proton pump inhibitors | d) Antivirals  |
- (iii) The narrow spectrum penicillin is \_\_\_\_\_?
- |                 |                 |
|-----------------|-----------------|
| a) Azithromycin | b) Piperacillin |
| c) Methicillin  | d) Sulfobactam  |
- (iv) Identify the target site for Fluoroquinolones.
- |                                    |                                    |
|------------------------------------|------------------------------------|
| a) DNA Gyrase & Topoisomerase IV   | b) DNA Gyrase & Topoisomerase II   |
| c) DNA Synthase & Topoisomerase IV | d) DNA Synthase & Topoisomerase II |
- (v) The Benzodiazepine antagonist is \_\_\_\_\_?
- |               |               |
|---------------|---------------|
| a) Naloxone   | b) Zolpidem   |
| c) Nalorphine | d) Flumazenil |
- (vi) Choose the correct one, "In parkinsonism, Carbidopa acts as \_\_\_\_\_".
- |                                       |                              |
|---------------------------------------|------------------------------|
| a) Dopamine agonist                   | b) Dopamine precursor        |
| c) Peripheral decarboxylase inhibitor | d) Dopamine reuptake blocker |
- (vii) Which one of the following clinical features of parkinsonism is resolved first by levodopa?
- |                |                     |
|----------------|---------------------|
| a) Hypokinesia | b) Rigidity         |
| c) Tremors     | d) Festinating gait |
- (viii) Define the Mechanism of action of Selegiline.

- a) MAO-A inhibitor  
c) COMT inhibitor
- b) MAO-B inhibitor  
d) NMDA inhibitor
- (ix) Choose which one of the following antiepileptic drugs can cause permanent vision loss.
- a) Lacosamide  
c) Topiramate
- b) Vigabatrin  
d) Levetiracetam
- (x) NSAIDs exert anti-inflammatory effect mainly by inhibition of which cytokine?
- a) Prostaeyclins  
c) Interleukins
- b) Prostaglandins  
d) Interferons
- (xi) Identify the correct one: "Non-selective beta blockers are all except \_\_\_\_\_".
- a) Propranolol  
c) Sotalol
- b) Timolol  
d) Atenolol
- (xii) Identify which of the following drug administration routes bypasses the digestive system and delivers medication directly into the bloodstream.
- a) Oral  
c) Subcutaneous
- b) Intravenous  
d) Topical
- (xiii) Which organ is primarily responsible for metabolizing drugs in the body.
- a) Heart  
c) Kidneys
- b) Lungs  
d) Liver
- (xiv) Which scenario best demonstrates the use of a loading dose?
- a) When immediate therapeutic effect is not needed.  
c) To avoid protein binding.
- b) To rapidly achieve steady-state drug concentration.  
d) To bypass renal excretion.
- (xv) A patient receives a drug that undergoes enterohepatic circulation. What is the likely clinical effect?
- a) Shorter half-life.  
c) Faster excretion.
- b) Prolonged drug action.  
d) Immediate toxicity.

### Group-B

(Short Answer Type Questions)

3 x 5=15

2. Illustrate how glucocorticoids exert their anti-inflammatory effects at the molecular level? (3)
3. Raman, 42 y/o, M, came to you with a diagnosed UTI. Name a drug that can be used to treat it. (3)  
Also, write the Mechanism of Action of the drug.
4. Explain the role of phase 1 reactions. (3)
5. Explain the mechanism of action of Pyridostigmine. Which part of the autonomic nervous system will it trigger? (3)
6. Illustrate how sulfonylureas and meglitinides lower blood glucose levels, and potential risks associated with their use in diabetes management. (3)

OR

- Explain how thiazolidinediones (TZDs) affect blood sugar levels in diabetes patients? (3)

### Group-C

(Long Answer Type Questions)

5 x 6=30

7. Discuss the role of ganglionic blockers in the ANS pharmacology, including their mechanisms and clinical indications. (5)
8. Explain the goals of pharmacological treatment in COPD, and how is treatment tailored to the severity of the disease? (5)
9. List down the treatment regimen of H.pylori gastric infection. (5)
10. Compare the difference between short-acting and long-acting glucocorticoids in pharmacology. (5)

11. Evaluate the mechanism of action of proton pump inhibitors (PPIs) in peptic ulcer treatment? (5)
12. Write down the definition of Myasthenia Gravis. Mention two symptoms seen in Myasthenia gravis patients. Devise the treatment plan for Myasthenia gravis mentioning the names of the drug classes used, with mentioning atleast one example for each drug class. (5)

**OR**

Write down the definition of SLE. Mention two symptoms seen in SLE. Mention the drugs used (5) in the treatment of SLE.

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