

2019 Scheme

Q.P. Code: 212001

Reg. no.:

Second Professional MBBS Degree Supplementary (SAY) Examinations

March 2025

Pharmacology - Paper II

(GIT, Hormones, Antibiotics, Chemotherapy and Miscellaneous)

Time: 3 Hours

Total Marks: 100

- Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers
- Indicate the question number correctly for the answer in the margin space
- Answer all parts of a single question together • Leave sufficient space between answers
- Draw table/diagrams/flow charts wherever necessary

1. Multiple Choice Questions

(1x20=20)

The MCQ questions (Q.No. i to Q.No. xx) shall be written in the space provided for answering MCQ questions at page No. 51 of the answer book (the inner portion of the back cover page (PART III)).

Responses for MCQs marked in any other part/page of the answer book will not be valued

Question Numbers i – v are Single Response Type

- Which anti-diarrhoeal drug acts by inhibiting intestinal motility via opioid receptors
a) Loperamide b) Bismuth subsalicylate c) Dicyclomine d) Mesalamine
- The anticancer drug which acts by inhibiting Topoisomerase II, thereby causing DNA strand breaks is:
a) Methotrexate b) Doxorubicin c) Vinblastine d) 5-Fluorouracil
- The potent inhibitor of bacterial cell wall synthesis used for Neisseria gonorrhoeae infections is:
a) Ceftriaxone c) Erythromycin
b) Clindamycin d) Trimethoprim-sulfamethoxazole
- Which of the following is the most common adverse effect of long-term use of oral contraceptives
a) Cataract b) Thromboembolism c) Hypothyroidism d) Hyperkalemia
- The mechanism of action of the drug terbinafine is:
a) Inhibition of fungal cell wall synthesis
b) Disruption of fungal cell membrane integrity
c) Inhibition of squalene epoxidase in the ergosterol synthesis pathway
d) Inhibition of fungal DNA synthesis

Question Numbers vi – x are Multiple Response Type. Read the statements and mark the answers appropriately.

- The anticancer agents causing renal toxicity as adverse effect are:
1) Cisplatin 2) Methotrexate 3) Cyclophosphamide 4) Trastuzumab
a) 2 & 4 are correct b) 1 & 2 are correct c) 1 & 3 are correct d) 1 & 4 are correct
- The drugs widely preferred to treat irritable bowel syndrome (IBS)
1) Sulfasalazine 2) Dicyclomine 3) Metronidazole 4) Ondansetron
a) 1 & 4 are correct b) 1 & 2 are correct c) 1 & 3 are correct d) 2 & 4 are correct
- The drug safe in pregnancy
1) Amoxicillin 2) Ciprofloxacin 3) Cefixime 4) Tetracycline
a) 1 & 2 are correct b) 1 & 3 are correct c) 1 & 4 are correct d) 2 & 4 are correct
- The antibiotics known to target bacterial protein synthesis are:
1) Erythromycin 2) Ciprofloxacin 3) Tetracycline 4) Vancomycin
a) 1 & 4 are correct b) 1 & 2 are correct c) 1 & 3 are correct d) 2 & 4 are correct
- Which drugs are used as part of post-exposure prophylaxis (PEP) in HIV exposure
1) Emtricitabine 2) Tenofovir 3) Enfuvirtide 4) Zidovudine
a) 1 & 4 are correct b) 1 & 2 are correct c) 1 & 3 are correct d) 2 & 4 are correct

Question Numbers xi – xv are based on case scenarios. Read the statements and mark the answers accordingly.

Patient: Mr. John Taylor, a 45-year-old man presents with the chief complaint: Severe heartburn and regurgitation of food after meals, especially at night. Medical History: Overweight (BMI: 29), Occasional alcohol use. No known drug allergies. Presenting Symptoms: Heartburn and acid regurgitation after meals for the past 3 months. Symptoms are worse when lying down, particularly at night. Difficulty swallowing at times. Has been self-medicating with over-the-counter antacids but reports no significant relief. Physical Examination: Normal vital signs, No signs of systemic illness, abdominal tenderness or masses and not anaemic. Diagnosis: Gastroesophageal reflux disease (GERD)

- Which of the following classes of drugs is most commonly used as the first-line pharmacologic treatment for GERD
a) Proton pump inhibitors (PPIs) c) Antacids
b) H₂-receptor antagonists d) Prokinetic agents

(PTO)

- xii. Mr. Taylor's symptoms are poorly controlled with over-the-counter antacids. Which of the following is the most appropriate next step in his treatment
 a) Increase the dose of antacids c) Prescribe a prokinetic agent
 b) Start a Proton Pump Inhibitor (PPI) d) Recommend a high-fiber diet
- xiii. The known side effect of long-term use of proton pump inhibitors (PPIs) is
 a) Hyperglycemia b) Hypercalcemia c) Vitamin B₁₂ deficiency d) Relapse of GERD
- xiv. The primary mechanism of action of H₂-receptor antagonists in the treatment of GERD is
 a) Increase gastric acid secretion c) Improve gastric motility
 b) Decrease gastric acid secretion d) Neutralize gastric acid
- xv. The drug preferred as an adjunctive therapy in GERD by accelerating gastric emptying is
 a) Metoclopramide b) Lansoprazole c) Ranitidine d) Sucralfate

Question numbers xvi – xx consists of statements – Assertion (A) and Reason (R). Answer these questions by selecting the appropriate options given below.

- xvi. Assertion (A): Sulphonamide's can cause kernicterus in newborns.
 Reason (R): Drugs with low plasma protein binding can cause hemolysis.
 a) Both A and R are true and R is the correct explanation of A c) A is true but R is false
 b) Both A and R are true and R is not the correct explanation of A d) A is false but R is true
- xvii. Assertion (A): Bedaquiline is used along with clofazimine in XDR TB.
 Reason (R): Two drugs acting on same target can antagonize each other.
 a) Both A and R are true and R is the correct explanation of A c) A is true but R is false
 b) Both A and R are true and R is not the correct explanation of A d) A is false but R is true
- xviii. Assertion (A): Azathioprine dose is decreased with Allopurinol.
 Reason (R): Azathioprine and allopurinol cause bone marrow suppression.
 a) Both A and R are true and R is the correct explanation of A c) A is true but R is false
 b) Both A and R are true and R is not the correct explanation of A d) A is false but R is true
- xix. Assertion (A): Propranolol is often used to manage symptoms of hyperthyroidism.
 Reason (R): Propranolol is a non-selective beta-blocker that reduces the symptoms of hyperthyroidism by blocking the effects of excessive thyroid hormones on the heart.
 a) Both A and R are true and R is the correct explanation of A c) A is true but R is false
 b) Both A and R are true and R is not the correct explanation of A d) A is false but R is true
- xx. Assertion (A): Vancomycin is used primarily to treat infections caused by Methicillin-resistant Staphylococcus aureus (MRSA).
 Reason (R): Vancomycin inhibits the formation of bacterial cell walls by binding to D-alanyl-D-alanine, a component of the peptidoglycan precursor.
 a) Both A and R are true and R is the correct explanation of A c) A is true but R is false
 b) Both A and R are true and R is not the correct explanation of A d) A is false but R is true

Long Essays:

(2x10=20)

2. Classify antifungal drugs. Explain the mechanism of action, uses, and adverse effects of Amphotericin B. Add a note on the various liposomal formulations of Amphotericin B (2+6+2)
3. A 30 year old female with systemic lupus erythematosus was given prednisolone 40 mg/day
 a) What are the precautions to be taken in this patient. Why.
 b) Enumerate four clinical uses of corticosteroids, with its rationale for use
 c) Enumerate four serious adverse effects of prolonged steroid use (4+4+2)

Short Essays:

(6x6=36)

4. Classify uterine stimulants and relaxants with suitable examples. Explain the rationale for the use of oxytocin in prevention of postpartum haemorrhage (PPH). (4+2)
5. Write in detail on the mechanism of action, uses, and adverse effects of aminoglycoside antibiotics.
6. Enumerate Antiemetics. Add a brief note on mechanism of action, uses and adverse effects of the most effective group. (3+3)
7. Describe the mechanism of action, adverse effects and uses of Rifampicin.
8. Mechanism of action, therapeutic uses and adverse effects of vinca alkaloids.
9. A 60-year-old lady presents with back pain and in the legs. She also complains of a recent fracture in the right wrist joint. After investigation, the physician made a diagnosis of Osteoporosis. She was prescribed Alendronate. Explain the mechanism of action and adverse effects of Alendronate. (4+2)

Short Answers:

(6x4=24)

10. Enumerate SERMs. Write in detail about any one member. (2+4)
11. What is the pharmacological basis for the use of pyridoxine along with isoniazid.
12. Mechanism of action, uses and adverse effects of Radio active iodine.
13. Contra indications and drug interactions of oral contraceptive pills.
14. Enumerate insulin analogues and tabulate their pharmacokinetic characteristics.
15. Discuss the role of empathy in patient care.
