2019 Scheme

Q.P. Code: 211001 **Reg. no.: .....**

Second Professional MBBS Degree Supplementary (SAY) Examinations
March 2025
Pharmacology - Paper I
(General Pharmacology, ANS, CNS, CVS, Blood, Diuretics, Autacoids, Respiratory System)

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

i. The anticoagulant of choice in pregnancy is:
a) Heparin b) Warfarin c) Dicumarol d) Phenindione

ii. The diuretic employed in refractory edema resistant to thiazide/loop diuretics is:
a) Amiloride b) Acetazolamide c) Mannitol d) Spironolactone

iii. The medication preferred in the treatment of drug-induced parkinsonism is
a) Ropinirole b) Carbidopa c) Selegiline d) Trihexyphenidyl

iv. The antihistaminic drug banned due to the deaths caused by Torsades de pointes is
a) Terfenadine b) Rupatadine c) Mizolastine d) Cetirizine

v. The Vasicoselective anticholinergic used in urinary frequency, urgency, and dysuria is
a) Tacrine b) Donepezil c) Flavoxate d) Galantamine

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

vi. Which of the following drugs can cause QT prolongation
1) Amiodarone 2) Doxorubicin 3) Ibuprofen 4) Erythromycin
a) 1 & 4 are correct b) 3 & 4 are correct c) 1 & 3 are correct d) 2 & 4 are correct

vii. The adrenergic antagonists used to treat benign prostatic hyperplasia (BPH) are:
1) Tamsulosin 2) Doxazosin 3) Clonidine 4) Metoprolol
a) 3 & 4 are correct b) 1 & 2 are correct c) 2 & 4 are correct d) 1 & 3 are correct

viii. The Dopamine agonists used to treat Parkinson's disease are:
1) Levodopa 2) Donepezil 3) Pramipexole 4) Selegiline
a)1 & 2 are correct b) 3 & 4 are correct c) 2 & 4 are correct d) 1 & 3 are correct

ix. Which of the following diuretics are used to treat hyperaldosteronism
1) Chlorthalidone 2) Eplerenone 3) Furosemide 4) Spironolactone
a) 1 & 2 are correct b) 3 & 4 are correct c) 2 & 4 are correct d) 1 & 3 are correct

x. The direct oral anticoagulants (DOACs) that inhibit factor Xa are
1) Rivaroxaban 2) Apixaban 3) Warfarin 4) Dabigatran
a) 1 & 2 are correct b) 3 & 4 are correct c) 2 & 4 are correct d) 1 & 3 are correct

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

Patient: Mrs. Rose, a 68-year-old woman, Chief Complaint: Gradual loss of vision in both eyes, particularly in the peripheral vision. Medical History: Hypertension, Type 2 Diabetes, and Hyperlipidaemia. No known drug allergies. Family History: Her father had glaucoma. Presenting Symptoms: Mrs. Rose reports difficulty seeing objects in her peripheral vision for the past 6 months. She has had a gradual decrease in her night vision as well. Ophthalmologic Exam: Intraocular pressure (IOP): 28 mmHg in both eyes Visual field: Decreased peripheral vision, with a loss in the superior field. Optic disc: Cupping noted in both eyes. Diagnosis: Open-angle glaucoma.

xi. The preferred first-line pharmacologic treatment for open-angle glaucoma is:
a) Pilocarpine b) Latanoprost c) Brimonidine d) Acetazolamide

xii. Mrs. Rose's intraocular pressure (IOP) is 28 mmHg. Which class of drugs is most likely to lower IOP by decreasing aqueous humour production
a) Beta-blockers c) Carbonic anhydrase inhibitors
b) Prostaglandin analogues d) Alpha-2 adrenergic agonists

(PTO)

xiii. Which of the following is a potential side effect of the use of prostaglandin analogues like latanoprost
a) Blurring of vision b) Hypokalemia c) Mydriasis (dilated pupils) d) Tachycardia

xiv. The drug that should be used cautiously in Mrs. Rose, who has a history of bronchial asthma
a) Latanoprost b) Brimonidine c) Timolol d) Acetazolamide

xv. Which is the diuretic of choice in treatment of acute congestive glaucoma
a) Furosemide b) Hydrochlorothiazide c) Mannitol d) Spironolactone

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): Aspirin is used for its antiplatelet effects to prevent blood clots.
Reason (R): Aspirin inhibits the enzyme cyclooxygenase (COX), which decreases thromboxane A2 production, a molecule that promotes platelet aggregation.
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): Quinidine can cause QT prolongation.
Reason (R): Class IA drugs have maximum sodium channel blocking effect.
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): Allopurinol can precipitate acute gout.
Reason (R): Inhibition of uric acid synthesis mobilizes tissue store of uric acid in to plasma.
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): Pralidoxime is most specific drug for organophosphate poisoning.
Reason (R): Organophosphates block AChE enzyme
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): Beta-2 agonists, such as salbutamol, are used to treat asthma.
Reason (R): Beta-2 agonists work by stimulating beta-2 adrenergic receptors on bronchial smooth muscles, causing bronchodilation.
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. Define Pharmacodynamics. Explain the various factors modifying drug action with examples. (2+8)
3. A 55-year-old male patient was recently diagnosed as suffering from hepatocellular carcinoma with metastases to bone. He complains of severe, excruciating pain in the abdomen and spine. He has complained of sleeplessness and mood swings for the past one month. The oncologist prescribes him an opioid analgesic drug to relieve his pain and also induce sleep and reduce apprehension of pain.
   a) Classify opioid analgesics.
   b) Explain the Mechanism of action of Morphine and its pharmacological actions.
   c) Enumerate any THREE clinical uses and adverse effects of Morphine. (3+4+3)

Short Essays: **(6x6=36)**

4. Discuss in detail about FOUR pharmacokinetic drug interactions with suitable examples.
5. Enumerate the iron preparations and add a note on the indications of parenteral iron therapy. (3+3)
6. Classify general anaesthetics - four groups with two examples. Add a brief note on pre anaesthetic medication (4+2)
7. After injecting succinylcholine I.V. to have muscle relaxation during a surgical procedure, a patient developed prolonged apnoea. What could be the probable cause. What is the management for the above condition. (2+4)
8. Classify the drugs used in Gout. Explain the mechanism of action and adverse effects of Allopurinol. (2+4)
9. Classify drugs used in hypertension with TWO examples each. Briefly describe any one group with its mechanism of action, uses and adverse effects (4+2)

Short Answers: **(6x4=24)**

10. Explain the rationale of Levodopa and Carbidopa fixed drug combination in Parkinson's disease
11. Enumerate the Merits and Demerits of selective Cox-2 Inhibitors
12. Briefly describe the mechanism of action, uses and adverse effects of sodium valproate.
13. Briefly describe kinetics of elimination.
14. Explain the adverse effects and role of inhaled steroids in Bronchial asthma.
15. Discuss the types of communication and its importance in Health care settings.

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