

Madhya Pradesh Medical Science University, Jabalpur**MBBS Second Professional Examination June-2023****Paper Code-** 23BM0000100531**Subject- Pharmacology (Old Scheme)****Paper I**

Time : 3:00 Hours

Maximum Marks :40

Instructions:

Instructions:

- a) All questions are compulsory
- b) Draw diagrams wherever necessary
- c) Answers of Questions and Sub questions must be written strictly according to the serial order of question paper.
- d) MCQ has to be answered in theory answer book.
- e) Please write MCQ answer neatly and in serial order with black or blue pen in brackets for example:- 1. (a) 2. (b)
- f) MCQ has to be answered only once, any kind for repetition or cutting or erasing or whitener will be consider as malpractice. Such answers will not be counted in the marks and action will be taken according to CFM rules of University

Q.1 Total MCQs : 16**[16 X ½ = 8]**

1. Which of the following is a PHARMACODYNAMIC process?
 - a. Biochemical alteration of the drug by liver enzymes
 - b. Drug metabolites are removed in the urine
 - c. Movement of drug from the gut into general circulation

- d. The drug causes receptor stimulation and response
2. Which out of the following is the mechanism by which this adrenoceptor agonist produced bronchodilation?
- a. Increased cyclic AMP
 - b. Decreased cyclic GMP
 - c. Decreased IP3
 - d. Calcium influx
3. Topical administration to the eye of which of the following agents is mostly to induce mydriasis and cycloplegia?
- a. Beta blocker
 - b. Alpha blocker
 - c. Alpha agonist
 - d. Muscarinic blocker
4. A patient on neostigmine therapy for Myasthenia gravis complains of progressive fatigability and diplopia who was otherwise well controlled previously. Infusion of low dose edrophonium elicits a significant improvement in her muscle strength. Which of the following is the best next step in the management of this patient?
- a. Increase neostigmine dosage
 - b. Administer pyridostigmine
 - c. Stop neostigmine temporarily
 - d. Add low dose propranolol
5. Which of the following is the drug of choice for a man suffering from essential hypertension with benign prostatic hyperplasia (BPH)?

- a. Propranolol
 - b. Prazosin
 - c. Neostigmine
 - d. Dopamine
6. Which of the following is most likely to occur with use of this beta blocker?
- a. Bronchodilation, hyperglycemia, hypothyroidism, and hypotension
 - b. Hypoglycaemia hyperlipidemia and bronchoconstriction
 - b. Urination, Diarrhea and mydriasis
 - c. Migraine headaches, Hypertension, Tocolysis(uterine relaxation)
7. Which of the following antihistamines would be the MOST appropriate treatment for a 32-year-old airline pilot who has a long history of seasonal allergic rhinitis and complains of postnasal drainage, coughing, and throat irritation?
- a. Diphenhydramine
 - b. Fexofenadine
 - c. Promethazine
 - d. Chlorpheniramine
8. A diuretic which acts in the thick ascending loop of nephron would cause
- a. Hyporeninemia, hypermagnesemia, and Metabolic acidosis
 - b. Hypercalcemia, hyperkalemia, and hypermagnesemia
 - c. Hyperglycemia, hyperlipidemia, hypokalemia and hyperuricemia
 - d. Hypokalemia, hypomagnesemia & preferential vasodilation in renal vasculature

9. A 49-year-old female with post surgical deep-vein thrombosis (DVT) is given a bolus of heparin, and a heparin drip is also started. Twenty five minutes later, she starts bleeding profusely from the intravenous site. The heparin is stopped, but the bleeding continues. The attending physician decides to give a drug to counteract the adverse effect of heparin. What drug was given?

- a. Factor XII
- b. Aspirin
- c. Protamine sulfate
- d. Vitamin K

10. A class of anti-anginal medications with multiple mechanisms of action that include: decreased preload, decreased oxygen demand, decreased afterload (at high doses), and increased myocardial oxygen delivery by dilating large epicardial arteries.

- a. Beta blocker
- b. Calcium channel blocker
- c. Nitrate
- d. Anti platelet drug

11. In a 32-year-old woman with a long history of bronchial asthma, use of mometasone aerosol for treatment is likely to produce which of the following?

- a. Diabetes mellitus
- b. Essential hypertension
- c. Truncal obesity
- d. Voice hoarseness

12. A patient undergoing cancer chemotherapy is administered an antiemetic agent that is an antagonist at the 5HT₃ receptor. Which drug was used in this case?

- a. Buspirone
- b. Cyproheptadine
- c. Ondansetron
- d. Sumatriptan

13. A 54-year-old man is being treated for peptic ulcer disease and subsequently develops gynaecomastia. Which of the following drugs is he most likely taking?

- a. Cimetidine
- b. Misoprostol
- c. Omeprazole
- d. Rantidine

14. A new drug has been developed with the following characteristics: when 100 mg of the drug is injected, 95 mg remains after 2 hours, 90 mg remains after 4 hours, and 85 mg remains after 6 hours. This drug shows elimination properties similar to which of the following drugs in high doses?

- a. Aspirin
- b. Clonidine
- c. Morphine
- d. Propranolol

15. Neostigmine will effectively antagonize skeletal muscle relaxation produced by

- a. Pancuronium
- b. Succinylcholine
- c. Diazepam

d. Baclofen

16. A 42-year-old male with an acute MI is treated with Streptokinase. What is the mechanism of action of Streptokinase?

- a. Inhibition of platelet thromboxane production
- b. Antagonism of ADP receptor
- c. Glycoprotein IIb/IIIa antagonist
- d. Activation of plasminogen from plasmin

Q. 2. Long Answer Question

2 X 5 = 10

a. Enumerate 4 commonly prescribed Angiotensin Converting Enzyme Inhibitors (ACEIs).

Write 4 uses of ACEIs and explain underlying pharmacological mechanism of therapeutic benefits for each of those uses.

Enumerate 4 adverse effects of ACEIs. (1-3+1)

b. Classify drugs used in Peptic Ulcer Disease.

Write mechanism of action, uses & adverse effects of Proton Pump Inhibitors (PPIs).

Mention {(one) drug regimen for the treatment of Helicobacter Pylori infection. (2+2+1)

Q3 Short Answer Question

4 X 3 = 12

a. Enumerate Low Molecular Weight Heparins (LMWHs). Write advantages of LMWHs in comparison to Unfractionated Heparin.

b. Compare & contrast between Zero order & First Order kinetics of drug elimination.

c. Write mechanism of action, uses, adverse effects & contraindications of Osmotic diuretics.

d. Enumerate uses of adrenaline and discuss management of anaphylactic shock

Q4 Very Short Answer Question

10X 1 =10

- a. Mention 4 factors that can alter apparent volume of distribution of a drug?
- b. Explain pharmacological basis of combination of adrenaline and lignocaine in most of the local anesthetic combinations available in the market.
- c. Explain pharmacological basis of combination of Hydrochlorthiazide and Triamterene.
- d. Enumerate 2 drugs each for acute & long term treatment of Migraine.
- e. Enumerate 2 drugs belonging to two different groups used in the treatment of hypertensive emergency.
- f. Explain pharmacological basis of combination of Calcium and Magnesium salts in most of antacid preparations.
- g. Write 2 examples of competitive antagonists
- h. Enumerate 2 drugs used in the treatment of productive cough.
- i. Name one important drug interaction of sildenafil citrate
- j. Name a drugs for Paroxysmal supra-ventricular tachycardia