Paper / Subject Code: 87612 / Pharmacology- III

T. Y. B. Pharm
21|04|25
Sem - VI

Time: 3 hrs

Total Marks: (75)

Q I. Choose the **ONE** best answer and write it down

20 Marks

1. Cromolyn sodium:
a) Is a β_2 agonist
b) Is used to treat acute asthma attacks
c) Stabilizes mast cells
d) Inhibits phosphodiesterase

2. Loperamide acts by:
a) Inhibiting chloride secretion in the intestine
b) Blocking serotonin receptors
c) Stimulating peristalsis
d) Activating μ-opioid receptors in the gut

3. Which of the following is a mucolytic agent?
a) Acetylcysteine
b) Guaifenesin
c) Codeine
d) Diphenhydramine

4. Which of the following laxatives acts by stimulating intestinal motility?
a) Psyllium
b) Lactulose
c) Bisacodyl
d) Docusate sodium

5. Which of the following is nephrotoxic and ototoxic?
a) Penicillin
b) Tetracycline
c) Erythromycin
d) Gentamicin

6. What is the role of mutations in microbial resistance?
a) They always destroy bacterial DNA
b) They enhance drug efficacy
c) They may alter target enzymes or proteins
d) They remove the bacterial capsule

7. Which of the following penicillins is resistant to penicillinase?
a) Methicillin
b) Ampicillin
c) Penicillin G
d) Benzylpenicillin

8. Macrolides inhibit bacterial protein synthesis by acting on:
a) 30S subunit
b) 50S subunit
c) DNA replication enzymes
d) RNA polymerase

9. Fluconazole acts by:
a) Inhibiting β-glucan synthase
b) Inhibiting fungal DNA polymerase
c) Inhibiting 14-α demethylase involved in ergosterol synthesis
d) Chelating iron in fungal enzymes

10. Dapsone acts by:
a) Inhibiting DNA gyrase
b) Inhibiting folic acid synthesis
c) Inhibiting protein synthesis
d) Disrupting cell wall synthesis

11. Zidovudine belongs to which class of drugs?
a) NRTIs
b) NNRTIs
c) Protease inhibitors
d) Entry inhibitors

12. Artemisinin derivatives act by:
a) Inhibiting folate synthesis
b) Inhibiting heme polymerization
c) Blocking mitochondrial electron transport of parasites
d) Generating free radicals that damage parasite proteins

13. Which drug acts by inhibiting topoisomerase II and is used in complicated UTIs and prostatitis?
a) Amoxicillin
b) Nitrofurantoin
c) Ciprofloxacin
d) Doxycycline

14. Which of the following antineoplastic drugs is cell cycle–specific?
a) Vinblastine
b) Cyclophosphamide
c) Cisplatin
d) Procarbazine

15. Azathioprine is converted into which active metabolite?
a) Mycophenolic acid
b) 6-Mercaptopurine
c) Methotrexate
d) Cyclosporine

16. Unlike generics, biosimilars require which of the following for approval?
a) Only chemical equivalence
b) Bioequivalence studies only
c) Cost-effectiveness data only
d) Extensive clinical trials and immunogenicity studies

17. Subacute toxicity studies usually last for:
a) 24 hours
b) 7 days
c) 14–28 days
d) More than 6 months

18. Which of the following best explains the need for nighttime dosing of corticosteroids in rheumatoid arthritis?
a) They are less effective in the morning
b) Inflammatory cytokines peak early morning
c) They cause insomnia if taken in the day
d) Joint mobility improves at night

19. Gastric lavage is most effective if performed within:
a) 10 minutes
b) 1 hour of ingestion
c) 4 hours
d) 8 hours

20. Why is omeprazole often recommended to be taken 30–60 minutes before breakfast?
a) It blocks proton pumps most effectively when they are activated by food
b) It enhances appetite
c) It is rapidly degraded by food
d) It causes nausea when taken at bedtime

Q. II. Answer any TWO of the following: **20 Marks**

1. Discuss the pharmacotherapy of Chronic Obstructive Pulmonary Disease (COPD). Highlight the role of anticholinergics and phosphodiesterase-4 inhibitors.

2. Define chemotherapy. Elaborate on the general principles guiding effective chemotherapy with emphasis on the concepts of selective toxicity, development of drug resistance, and rationale behind combination therapy.

3. Classify anthelmintic agents. Explain the mechanism of action, spectrum, and adverse effects of drugs inhibiting microtubule formation and neuromuscular blocking agents.

Q. III. Answer any SEVEN of the following questions: **35 marks**

1. Write in detail about the pharmacological management of constipation.

2. List different types of antiemetics and their site of action.

3. Explain the mechanism of action of antimicrobial agents based on their site of action.

4 Discuss the classification and pharmacological actions of antiamoebic drugs.

5. Classify antimalarial drugs based on the site of action.

6. Classify immunosuppressant drugs with examples. Write a note on mTOR inhibitors.

7. Describe the mechanism of action, resistance, and toxicities of alkylating agents.

8. Discuss the general principles and steps in the management of poisoning, including decontamination, supportive care, and antidote therapy.

9. Define chronotherapy. Briefly explain its relevance in the management of diabetes mellitus with examples.

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