T.Y. B. Pharm
Sem - VI
30/10/2025
ATKT

Duration: 3-hour **Max. Marks: 75**

Questions	Marks
Q.1 Choose the ONE best option and write it dowm	**20**

1. Tiotropium is a:
A. β2 agonist
B. Leukotriene antagonist
C. Antihistamine
D. Long-acting muscarinic antagonist

2. Which class of laxatives is correctly matched with its mechanism of action?
A. Bulk-forming – Inhibits peristalsis
B. Osmotic – Retains water in bowel by osmotic action
C. Stimulant – Lubricates the stool
D. Emollient – Causes water and electrolyte retention

3. Cotrimoxazole exhibits synergism because:
A. Both drugs are bactericidal
B. Both inhibit cell wall synthesis
C. The drugs block sequential steps in folic acid synthesis
D. Trimethoprim enhances sulfonamide absorption

4. Methotrexate inhibits:
A. DNA polymerase
B. Thymidylate synthase
C. Dihydrofolate reductase
D. Topoisomerase I

5. Which of the following is the most common mechanism of resistance to β-lactam antibiotics in Gram-negative bacteria?
A. Mutation in 30S ribosome
B. Production of β-lactamases
C. Alteration in DNA gyrase
D. Increased porin expression

6. Chronotherapy in asthma often involves nighttime dosing due to:
A. Peak allergen exposure in the morning
B. Increased physical activity during daytime
C. Worsening airway inflammation and bronchoconstriction during early morning hours
D. Better absorption of bronchodilators during sleep

7. Biosimilars are:
A. Generic version of small molecule drugs
B. Synthetic immunosuppressants
C. Exact replicas of biological drugs
D. Biologic products similar to an approved reference product

8. Which of following is the mechanism of action of amphotericin B? A. Binding to ergosterol and disrupting fungal membrane
B. Inhibition of ergosterol synthesis
C. Inhibition of fungal DNA synthesis
D. Blocking β-glucan synthesis

9. Which of the following is the First line drug for the treatment of uncomplicated malaria caused by Plasmodium falciparum?
A. Quinine
B. Primaquine
C. Artemisinin-based combination therapy (ACT)
D. Chloroquine

10. Which of the following is a centrally acting non-opioid antitussive?
A. Guaifenesin
B. Dextromethorphan
C. Codeine
D. Diphenhydramine

11. Which of the following anthelmintic drugs acts by paralyzing the worm's neuromuscular system?
A. Pyrantel Pamoate
B. Albendazole
C. Praziquantel
D. Mebendazole

12. The mechanism of action of fluoroquinolones involves:
A. Inhibition of DNA-dependent RNA polymerase
B. Disruption of RNA-dependent gyrase
C. Inhibition of DNA gyrase and topoisomerase IV
D. Inhibition of protein synthesis at the 30S subunit

13. Which of the following antibiotics inhibits translocation by binding to the 50S ribosomal subunit?
A. Erythromycin
B. Gentamicin
C. Doxycycline
D. Streptomycin

14. Drug of choice for syphilis (caused by *Treponema pallidum*) is:
A. Ceftriaxone
B. Azithromycin
C. Tetracycline
D. Benzathine penicillin G

15. Which of the following best describes a chronic toxicity study?
A. Single high-dose exposure and evaluation within 24 hours
B. Repeated exposure for 28 days
C. Repeated exposure over a large portion of the test animal's life
D. Exposure for less than a week

16. Sirolimus differs from tacrolimus in that it:
A. Inhibits mTOR instead of calcineurin
B. Binds to cyclophilin instead of calcineurin
C. Binds to only immunophyllin
D. Is used in rheumatoid arthritis

17. Which combination of antacids helps to balance bowel side effects (constipation/diarrhea)?
A. Sodium bicarbonate + calcium carbonate
B. Aluminum hydroxide + magnesium hydroxide
C. Calcium carbonate + magnesium hydroxide
D. Sucralfate + simethicone

18. Which of the following drugs acts by inhibiting HIV protease enzyme?
A. Zalcitabine
B. Efavirenz
C. Stavudine
D. Nelfinavir

19. Which of the following poisoning cases is best treated with chelation therapy?
A. Organophosphorus poisoning
B. Alcohol poisoning
C. Lead or mercury poisoning
D. Opioid Overdose

20. Which of the following best exemplifies the principle of chronotherapy in clinical pharmacology?
A. Tailoring drug selection based on patient-specific genomic variations
B. Synchronizing drug administration with biological rhythms to enhance therapeutic outcomes
C. Identifying adverse drug interactions to prevent toxicity
D. Evaluating pharmacokinetic parameters to optimize renal clearance

Q.2 Long Answers (Answer 2 out of 3) **20**

1. Discuss the classification, mechanism of action, resistance, and side effects of fluoroquinolones.
2. Explain in detail the pharmacological classification, mechanism of action and therapeutic uses of anti-asthmatic drugs.
3. Classify antitubercular drugs, explaining their pharmacology, including first-line and second-line drugs used in tuberculosis treatment.

Q.3 Short Answers (Answer 2 out of 3) **35**

1. Compare and contrast expectorants and antitussives in terms of their mechanism of action, indications, and contraindications.
2. Discuss the role of antiemetics in the management of nausea and vomiting, focusing on serotonin receptor antagonists and dopamine antagonists.
3. Classify anticancer drugs with examples.
4. Explain the mechanisms by which microorganisms develop resistance to antibiotics.
5. Write a short note on Acute Toxicity studies with their applications.
6. Explain the role of Calcineurin inhibitors as immunosuppressants. Discuss their mechanism of action and clinical applications.
7. Describe the different classes of antimalarial drugs with examples. Briefly describe 8-aminoquinolines with their mechanism of action.
8. Explain the clinical symptoms and management of poisoning caused by morphine and lead.
9. Discuss the classification of antifungal agents. Add a note on triazoles.

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