

Pharmacology Exam 1 – MCQs

1. Which of the following is the primary neurotransmitter in the parasympathetic nervous system?

- A. Dopamine
- B. Norepinephrine
- C. Acetylcholine**
- D. Serotonin

2. Beta-blockers primarily act on which type of receptor?

- A. Alpha-1
- B. Beta-adrenergic**
- C. Muscarinic
- D. Dopaminergic

3. Which of the following drugs is classified as an ACE inhibitor?

- A. Losartan
- B. Enalapril**
- C. Propranolol
- D. Nifedipine

4. The half-life of a drug is defined as:

- A. Time to reach maximum concentration
- B. Time to onset of action
- C. Time for the plasma concentration to reduce by 50%**
- D. Time for the drug to be completely eliminated

5. Which route of drug administration has the fastest absorption?

- A. Oral
- B. Intravenous**
- C. Subcutaneous
- D. Topical

6. Which of the following is an example of a loop diuretic?

- A. Hydrochlorothiazide
- B. Spironolactone
- C. Furosemide**
- D. Mannitol

7. The term “bioavailability” refers to:

- A. Volume of distribution
- B. Half-life
- C. Fraction of drug reaching systemic circulation**
- D. Clearance rate

8. Which of these drugs is an opioid agonist?

- A. Ibuprofen
- B. Morphine**
- C. Diazepam
- D. Atenolol

9. What is the antidote for acetaminophen overdose?

- A. Naloxone
- B. N-acetylcysteine (NAC)**
- C. Atropine
- D. Protamine sulfate

10. Which of the following drugs is used to treat anaphylaxis?

- A. Ephedrine
- B. Dopamine
- C. Epinephrine**
- D. Albuterol

11. Which of the following is a typical side effect of aminoglycosides?

- A. Hepatotoxicity
- B. Ototoxicity**
- C. Hypoglycemia
- D. Hyperkalemia

12. Warfarin acts by inhibiting:

- A. Platelet aggregation
- B. Vitamin K-dependent clotting factors**
- C. Thrombin directly
- D. Fibrinolysis

13. Which receptor does albuterol primarily act on?

- A. Alpha-1
- B. Alpha-2
- C. Beta-2**
- D. Muscarinic

14. Which class of drugs is first-line for Type 2 Diabetes Mellitus?

- A. Sulfonylureas
- B. Thiazolidinediones
- C. **Metformin**
- D. Insulin

15. The therapeutic index of a drug is:

- A. Rate of absorption
- B. Drug half-life
- C. **Ratio of toxic dose to therapeutic dose**
- D. Clearance rate

16. Which of the following drugs is a proton pump inhibitor?

- A. Ranitidine
- B. Famotidine
- C. **Omeprazole**
- D. Aluminum hydroxide

17. The main mechanism of action of benzodiazepines is:

- A. Dopamine receptor blockade
- B. **Enhancement of GABA activity**
- C. Serotonin reuptake inhibition
- D. NMDA receptor antagonism

18. Which of the following antibiotics is a macrolide?

- A. **Erythromycin**
- B. Ciprofloxacin
- C. Gentamicin
- D. Ceftriaxone

19. Which drug is used to reverse opioid overdose?

- A. Flumazenil
- B. **Naloxone**
- C. Protamine
- D. Atropine

20. Which of the following is a non-selective NSAID?

- A. Celecoxib
- B. Acetaminophen
- C. **Ibuprofen**
- D. Prednisone

21. Digoxin primarily affects which organ?

- A. Liver
- B. Kidney
- C. **Heart**
- D. Lungs

22. Which of the following drugs is classified as a thiazide diuretic?

- A. Furosemide
- B. Spironolactone
- C. **Hydrochlorothiazide**
- D. Mannitol

23. Which of these is a first-generation antihistamine?

- A. Loratadine
- B. Fexofenadine
- C. Cetirizine
- D. **Diphenhydramine**

24. Which of the following is an antiplatelet agent?

- A. Warfarin
- B. Heparin
- C. **Aspirin**
- D. Streptokinase

25. Which of these drugs is used to treat hypertension and has alpha-blocking effects?

- A. Metoprolol
- B. **Prazosin**
- C. Lisinopril
- D. Amlodipine

26. The main adverse effect of statins is:

- A. Hypoglycemia
- B. **Myopathy**
- C. Hyperkalemia
- D. Nephrotoxicity

27. Which drug class does amlodipine belong to?

- A. ACE inhibitor
- B. **Calcium channel blocker**
- C. Beta-blocker
- D. Loop diuretic

28. Which of the following is an antifungal agent?

- A. Acyclovir
- B. Fluconazole**
- C. Ciprofloxacin
- D. Gentamicin

29. Which receptor is primarily blocked by antipsychotics?

- A. GABA
- B. Dopamine D2**
- C. Serotonin
- D. NMDA

30. Which of these drugs is used in the treatment of peptic ulcer disease?

- A. Metformin
- B. Omeprazole**
- C. Amlodipine
- D. Furosemide

31. Which of the following is a rapid-acting insulin?

- A. NPH
- B. Glargine
- C. Lispro**
- D. Detemir

32. The mechanism of action of penicillin is:

- A. Protein synthesis inhibition
- B. DNA synthesis inhibition
- C. Cell wall synthesis inhibition**
- D. Folic acid antagonism

33. Which of the following drugs is a selective serotonin reuptake inhibitor (SSRI)?

- A. Amitriptyline
- B. Fluoxetine**
- C. Phenelzine
- D. Bupropion

34. The main adverse effect of aminoglycosides is:

- A. Hepatotoxicity
- B. Nephrotoxicity**
- C. Hypoglycemia
- D. Hypotension

35. Which drug is used as a bronchodilator in asthma?

- A. **Albuterol**
- B. Lisinopril
- C. Metoprolol
- D. Atorvastatin

36. Which of the following is used to treat hyperthyroidism?

- A. Levothyroxine
- B. **Methimazole**
- C. Prednisone
- D. Metformin

37. Which drug class reduces platelet aggregation?

- A. Beta-blockers
- B. ACE inhibitors
- C. Statins
- D. **Antiplatelets**

38. Which of the following is a loop diuretic?

- A. Spironolactone
- B. Hydrochlorothiazide
- C. **Furosemide**
- D. Amiloride

39. Which drug is commonly used for gout treatment?

- A. Allopurinol
- B. Metformin
- C. **Colchicine**
- D. Furosemide

40. Which antibiotic inhibits bacterial protein synthesis by binding to the 30S ribosomal subunit?

- A. Penicillin
- B. **Tetracycline**
- C. Ciprofloxacin
- D. Cephalexin

41. The main effect of atropine is:

- A. Beta-blockade
- B. Alpha-blockade
- C. Dopamine receptor blockade
- D. **Muscarinic receptor blockade**

42. Which drug is used to reverse benzodiazepine overdose?

- A. Naloxone
- B. Flumazenil**
- C. Protamine
- D. Atropine

43. Which of the following drugs is a monoclonal antibody used for cancer therapy?

- A. Methotrexate
- B. Cyclophosphamide
- C. Trastuzumab**
- D. Doxorubicin

44. Which of the following is a common side effect of ACE inhibitors?

- A. Hypokalemia
- B. Hyperglycemia
- C. Cough**
- D. Tachycardia

45. Which of these drugs is a HMG-CoA reductase inhibitor?

- A. Furosemide
- B. Atorvastatin**
- C. Spironolactone
- D. Amlodipine

46. Which drug is used as an anticoagulant during hemodialysis?

- A. Warfarin
- B. Heparin**
- C. Aspirin
- D. Clopidogrel

47. Which of these is a long-acting insulin?

- A. Lispro
- B. Aspart
- C. Glargine**
- D. Regular insulin

48. Which drug class is used to treat anxiety and insomnia?

- A. Beta-blockers
- B. Benzodiazepines**
- C. ACE inhibitors
- D. Statins

49. Which drug is an opioid antagonist?

- A. Morphine
- B. Codeine
- C. **Naloxone**
- D. Fentanyl

50. Which antibiotic inhibits bacterial cell wall synthesis?

- A. Ciprofloxacin
- B. Tetracycline
- C. **Penicillin**
- D. Erythromycin