Advance Pharmacology

General Pharmacology.

1. Essential drugs' are:
    a. Lifesaving drugs
    b. **Drugs that meet the priority health care needs of the population**
    c. Drugs that must be present in the emergency bag of a doctor
    d. Drugs that are listed in the pharmacopeia of a country

2. Drug administered through the following route is most likely to be subjected to first-pass metabolism
    a. **Oral**
    b. Sublingual
    c. Subcutaneous
    d. Rectal

3. A physical process by which a weak acid becomes less water-soluble and more lipid-soluble at low pH is
    a. Distribution
    b. Elimination
    c. First-pass effect
    d. Permeation
    e. **Protonation**

4. Which of the following is a phase II drug metabolizing reaction ?
    a. Acetylation
    b. Deamination
    c. Hydrolysis
    d. Oxidation
    s
5. Compared to subcutaneous injection, the intramuscular injection of drugs:
    a. Is more painful
    b. Produces faster response
    c. Is unsuitable for depot preparations
    d. Carries greater risk of anaphylactic reaction

6. Diffusion of drugs across cell membrane:
    a. Is dependent upon metabolic activity of the cell

b. Is competitively inhibited by chemically related drugs
c. Is affected by extent of ionization of drug molecules
d. Exhibits saturation kinetics
e.

7. Which of the following drugs may inhibit the hepatic microsomal P450 responsible for warfarin metabolism?
   a. Cimetidine
   b. Ethanol
   c. Phenobarbital
   d. Procainamide
   e. Rifampin

8. Bioavailability of drug refers to:
   a. Percentage of administered dose that reaches systemic circulation in the unchanged form
   b. Ratio of oral to parenteral dose
   c. Ratio of orally administered drug to that excreted in the faeces Ratio of drug excreted unchanged in urine to that excreted as metabolites
   d. Ratio of drug excreted unchanged in urine to that excreted as metabolites

9. The blood-brain barrier, which restricts entry of many drugs into brain, is constituted by:
   a. P-glycoprotein efflux carriers in brain capillary cells
   b. Tight junctions between endothelial cells of brain capillaries
   c. Enzymes present in brain capillary walls
   d. **All of the above**

10. Phenylephrine causes
    a. **Constriction of vessels in the nasal mucosa**
    b. Increased gastric secretion and motility
    c. Increased skin temperature
    d. Miosis
    e. All of the above

11. The pH value is calculated mathematically as the
    a. Log of the hydroxyl ion (OH–) concentration
    b. Negative log of the OH– concentration
    c. Log of the hydrogen ion (H+) concentration
    d. Negative log of the H+ concentration

12. Biotransformation of drugs is primarily directed to:
    a. Activate the drug

b. Inactivate the drug
c. Convert lipid soluble drugs into nonlipid soluble metabolites
d. Convert nonlipid soluble drugs into lipid soluble metabolites

13. A prodrug is:
    a. The prototype member of a class of drugs
    b. The oldest member of a class of drugs
    c. An inactive drug that is transformed in the body to an active metabolite
    d. A drug that is stored in body tissues and is then gradually released in the circulation

14. The following drug metabolizing reaction is entirely nonmicrosomal:
    a. Glucuronide conjugation
    b. Acetylation
    c. Oxidation
    d. Reduction

15. Select the drug that undergoes extensive first-pass metabolism in the liver:
    a. Phenobarbitone
    b. Propranolol
    c. Phenylbutazone
    d. Theophylline

16. Which mechanism is most often responsible for chemical degradation?
    a. Racemization
    b. Photolysis
    c. Hydrolysis
    d. Decarboxylation
    e. Oxidation

17. The route of drug administration that gives the most rapid onset of the pharmacological effect is
    a. Intramuscular injection
    b. Intravenous injection
    c. Intradermal injection
    d. Peroral administration
    e. Subcutaneous injection

18. The earliest evidence that a drug is stored in tissue is
    a. An increase in plasma protein binding
    b. A large apparent volume of distribution (VD)
    c. A decrease in the rate of formation of metabolites by the liver

d. A decrease in the amount of free drug excreted in the urine

19. All of the following statements about plasma protein binding of a drug are true except
    a. Displacement of a drug from plasma protein binding sites results in a transient increased volume of distribution (VD)
    b. Displacement of a drug from plasma protein binding sites makes more free drug available for glomerular filtration
    c. Albumin is the major protein involved in protein binding of drugs
    d. Drugs that are highly bound to plasma proteins generally have a greater VD compared with drugs that are highly bound to tissue proteins

20. Which of the following terms best describes a co-factor that is firmly bound to an apoenzyme?
    a. Holoenzyme
    b. Prosthetic group
    c. Coenzyme
    d. Transferase

21. Glomerular filtration of a drug is affected by its:
    a. Lipid solubility
    b. Plasma protein binding
    c. Degree of ionization
    d. Rate of tubular secretion

22. If a drug is eliminated by first order kinetics:
    a. A constant amount of the drug will be eliminated per unit time
    b. Its clearance value will remain constant
    c. Its elimination half-life will increase with dose
    d. It will be completely eliminated from the body in 2 half-life period

23. 'Drug efficacy' refers to:
    a. The range of diseases in which the drug is beneficial
    b. The maximal intensity of response that can be produced by the drug
    c. The dose of the drug needed to produce half maximal effect
    d. The dose of the drug needed to produce therapeutic effect