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## PhD Entrance Examination PHARMACY

- Polymorphism refers to the compounds having:
  - (a) Different stereochemistry
  - (b) Different crystal structure
  - (c) Different composition
  - (d) All of the above
- 2. The rate of sedimentation of particle is directly proportional to:
  - (a) Particle size
  - (b) Particle colour
  - (c) Particle shape
  - (d) None of the above
- 3. High angle of repose of the granules indicates:
  - (a) Smooth surface of the granules
  - (b) Rough surface of the granules
  - (c) High bulk density of the granules
  - (d) High porosity of the granules
- 4. Surfactants having an HLB value of more than 16 are useful as:
  - (a) Solubilising agent
  - (b) Detergents
  - (c) Antifoaming agents
  - (d) w/o emulgents
- 5. Addition of alcohol to a hydrophilic colloid lead to:
  - (a) Precipitation
  - (b) Crystallisation
  - (c) Solubilisation
  - (d) Stabilisation
- 6. Flocculated suspensions have ...... sedimentation rate than deflocculated suspensions
  - (a) Higher
  - (b) Equal
  - (c) Lower
  - (d) Zero
- 7. Non-Newtonian flow can be described with the help of:
  - (a) True viscosity
  - (b) Apparent viscosity
  - (c) Kinematic viscosity
  - (d) Shear viscosity
- 8. The stability constant is increased in complexation if the ligand has:
  - (a) High solubility
  - (b) Bulky group
  - (c) High electron density on the donor
  - (d) Low ionization potential

- The area under the curve (AUC) represents the (a) t<sub>1/2</sub> of the drug (b) V<sub>d</sub> of the drug (c) Amount of drug absorbed (d) None of the above 10. Cab-o-Sil is used as (a) Antiadherent (b) Lubricant (c) Disintegrant (d) Glidant 11. Which of the following tests for parenteral solutions ensures that it is free from all microbes? (a) Pyrogen test (b) Clarity test (c) Leakage test (d) Sterility test 12. The latin word 'ad libitum' means (a) As much as you please (b) To be added (c). When required (d) Upto 13. Saponification test is generally used for the identification of the following substances (a) Fixed oils and fats (b) Gums and mucilages (c) Alkaloids (d) Glycosides 14. The plant hormone which shows specific effect on the cell division is (a) Auxins (b) Abscisic acid (c) Cytokinins (d) Ethylene 15. Which of the following alkaloids are found as salt of Meconic acid (a) Ergot (b) Rauwolfia

  - (c) Tropane
  - (d) Opium
  - 16. Tropane alkaloids are biosynthesized from
    - (a) Ornithine
    - (b) Tryptophan
    - (c) Tyrosine
    - (d) Phenylalanine
  - 17. Example of hydrolysable tannin is
    - (a) Catechin
    - (b) Ketosterol
    - (c) Chebulic acid
    - (d) None of the above

- 18. The adulterant of honey contains furfural is detected by
  - (a) Fehling test
  - (b) Fieches lest
  - (c) By the use of Sanger reagent
  - (d) Osazone test
- 19. Which of the following drugs contain bufadienolide glycosides?
  - (a) Scilla bulbus
  - (b) Convallaria
  - (c) Digitalis
  - (d) Oleander
- 20. Choose the plant species which are the steroid sources for the Industry
  - (a) Liquorice species
  - (b) Dioscorea species
  - (c) Hydrastis canadensis
  - (d) Ipomea purge
- 21. Which of the following is an aromatic heterocyclic compound?
  - (a) Pyrrole
  - (b) Epoxyethane
  - (c) Pyrrolidine
  - (d) Dioxane
- 22. Which of the following tetrahedral molecules shows optical activity?
  - (a) CH<sub>3</sub>
  - (b) CH<sub>3</sub>Cl
  - (c) CHF<sub>2</sub>Cl
  - (d) CHFClBr
- 23. Carbamazepine is a tricyclic anticonvulsant drug, it is a
  - (a) Benzodiazepine derivative
  - (b) Azocine derivative
  - (c) Xanthene derivative
  - (d) Dibenzoazepine derivative
- 24. Chlorpromazine is
  - (a) [3-(2-Chlorophenothiazin-10-yl) propyl] diethyl amine
  - (b) [2-(3-Chlorophenothiazin-10-yl) propyl] dimethyl amine
  - (c) [2-(3-Chlorophenothiazin-10-yl) propyl] diethyl amine
  - (d) [3-(2-Chlorophenothiazin-10-yl) propyl] dimethyl amine
- 25. Atropine is a racemic mixture of equal parts of
  - (a) + and Hyoscine
  - (b) + and Hyoscyamine
  - (c) Tropine and tropic acid
  - (d) + and Scopine
- 26. Pheniramine is prepared by condensing
  - (a) 2-Amino pyridine and dimethylamino ethyl chloride
  - (b) 2-Benzyl pyridine and diethylamino methyl chloride
  - (c) 2-Amino pyridine and diethylamino methyl chloride
  - (d) 2- Benzyl pyridine and dimethylamino ethyl chloride

- 27. Replacement of O by isosters like S in 2<sup>nd</sup> position of barbiturates
  (a) Increases lipophilicity, long-acting drug
  (b) Decreases lipophilicity, long-acting drug
  (c) Decreases lipophilicity, short-acting drug
  (d) Increases lipophilicity, short-acting drug
- 28. All of the following hormonal drugs possess steroidal nucleus except
  - (a) Ethinyl estradiol
  - (b) Prednisolone
  - (c) Fluoxy mesterone
  - (d) Liothyronine
- 29. The commonly used detector in the UV spectrophotometer is:
  - (a) Thermocouple
  - (b) Photomultiplier tube
  - (c) Bolometer
  - (d) Littrow prisms
- 30. The commonly used detecting reagent for amino acids is:
  - (a) CCl<sub>4</sub>
  - (b) Chloroform
  - (c) Ninhydrin solution
  - (d) Both (a) and (b)
- 31. Which of the following is classified as belonging to the tyrosine kinase family of receptors?
  - (a) GABA-A receptor
  - (b) Alpha-adrenergic receptor
  - (c) Insulin receptor
  - (d) Nicotinic receptor
- 32. Drug of choice in status epilepticus in children is
  - (a) Diazepam
  - (b) Phenobarbitone
  - (c) Carbamazepine
  - (d) Phenytoin
- 33. The principal action of noscapine is
  - (a) Analgesic
  - (b) Antiemetic
  - (c) Antitussive
  - (d) Antihistaminic
- 34. Choose the "Cholinesterase reactivator"
  - (a) Atropine
  - (b) Pralidoxime
  - (c) Pirenzepine
  - (d) Ipratropium
- 35. Fluoxetine is FDA- approved to treat:
  - (a) Schizophrenia
  - (b) Anxiety
  - (c) Mania
  - (d) Depression

- 36. Indicate the narcotic analgesic, which is a natural agonist:
  - (a) Meperidine
  - (b) Fentanyl
  - (c) Morphine
  - (d) Naloxone
- 37. This drug is an alpha-1 adrenergic receptor antagonist
  - (a) Prazosin
  - (b) Clonidine
  - (c) Enalapril
  - (d) Nifedipine
- 38. Which of the following drugs is an antiplatelet drug:
  - (a) Dicumarol
  - (b) Ticlopidine
  - (c) Heparin
  - (d) Warfarin
- 39. Drugs most commonly used in chronic heart failure are:
  - (a) Cardiac glycosides
  - (b) Diuretics
  - (c) Angiotensin-converting enzyme inhibitors
  - (d) All the above
- 40. This drug is a Class IA antiarrhythmic drug:
  - (a) Sotalol
  - (b) Propranolol
  - (c) Verapamil
  - (d) Quinidine

## Answer key PHARMACY

- 1. b
- 2. a
- 3. b
- 4. a
- 5. a
- 6. a
- 7. b
- 8. a
- 9. c
- 10. d
- 11. d
- 12. a
- 13. a
- 14. c
- 15. d
- 16. a
- 17. c
- 18. a
- 19. a
- 20. b
- 21. a
- 22. d
- 23. b
- 24. d
- 25. b
- 26. b
- 27. d
- 28. d
- 29. b
- 30. c
- 31. c

- 32. a
- 33. c
- 34. b
- 35. d
- 36. c
- 37. a
- 38. b
- 39. d
- 40. d