

**Final Year B. Pharm CBCS (Semester VIII)**  
**Pharmaceutics IV Theory Examination**  
**ACADEMIC YEAR 2019-2020**  
**MOCK QUESTIONS**

1. A solvent that dissolves a lyophilized powder or dilutes a solution
  - a. Diluent
  - b. Solvent
  - c. Additive
  - d. Admixture
2. Movement of particles in a solution through permeable membranes
  - a. Filter
  - b. Dialysis
  - c. Flow rate
  - d. Anhydrous
3. Methods that maintain sterility products
  - a. Aseptic technique
  - b. Bleaching
  - c. A clean person
  - d. Admixture
4. The rate (in ml/hour or ml/minute) at which the solution is administered to the patient
  - a. Gauge
  - b. Coring
  - c. Diluent
  - d. Flow rate
5. The A drugs molecular weight divided by its valence, a common measure of electrolyte concertation.
  - a. Coring
  - b. Valence
  - c. Flow rate
  - d. Equivalent weight
6. Chemicals produced by microorganisms that can cause fever reactions in patients
  - a. Bacteria
  - b. Viruses
  - c. Pyrogens
  - d. Microorganisms

7. When a solution has an osmolarity equivalent to that of blood
  - a. Hypotonic
  - b. Isotonic
  - c. Hypertonic
  - d. Therapeutic
8. When a solution has a lesser osmolarity than that of blood
  - a. Hypotonic
  - b. Hypertonic
  - c. Isotonic
  - d. Tonic
9. Which of the following route has rapid onset of action?
  - a. Parenteral
  - b. Oral
  - c. Transdermal
  - d. Rectal
10. What percentage of NaCl is isotonic with eyes
  - a. 0.5
  - b. 0.9
  - c. 1.9
  - d. 5
11. Tears have pH of about
  - a. 5.4
  - b. 6.4
  - c. 7.4
  - d. 8.4
12. What percentage of boric acid seems to be isotonic with eyes
  - a. 0.9
  - b. 1.9
  - c. 0.5
  - d. 2.9
13. Which layer of eye is also called as white of eye
  - a. Cornea
  - b. Sclera
  - c. Iris
  - d. Retina
14. WFI contains bacteriostatic agents when in containers of
  - a. 100ml of less
  - b. 30ml of less
  - c. 50ml of less
  - d. 10ml of less
15. Which of the following used as enteric resin in microencapsulation?
  - a. Stearic acid
  - b. PVA

- c. Cellulose acetate phthalate
  - d. Ethyl cellulose
16. Which of the following is not a water-soluble coating material?
- a. Ethyl cellulose
  - b. CMC
  - c. PVP
  - d. Gelatin
17. Which of the following is not used as thickening agent in ophthalmic products?
- a. Methyl cellulose
  - b. CMC
  - c. Ethyl cellulose
  - d. PEG
18. Most commonly used preservative in ophthalmic preparation is
- a. Chlorobutanol
  - b. Phenyl mercuric acetate
  - c. Phenyl mercuric nitrite
  - d. Benzalkonium chloride
19. Which of the following surfactant prefer in ophthalmic due to less irritation?
- a. Anionic
  - b. Cationic
  - c. Amphoteric
  - d. Nonionic
20. Which of the following is TRUE?
- a. Rabbit pyrogen test is quantitative biologic test
  - b. Pyrogenic effect is high with IM compared to IV injection
  - c. Greater danger of pyrogens exists in LVP's than SVP's
  - d. LAL test is in vivo test
21. Nonionic surfactant vesicles related to:
- a. Liposomes
  - b. Niosomes
  - c. Nanoparticles
  - d. Nanosuspension
22. Powdered glass test challenges the leaching potential of:
- a. Exterior structure of glass
  - b. Plastic containers
  - c. Interior structure of glass
  - d. Intact surface of glass
23. According to IP, the preparation passes the Rabbit Pyrogen test if:
- a. The group of three rabbits does not exceed  $0.6^{\circ}\text{C}$
  - b. The group of three rabbits does not exceed  $1.4^{\circ}\text{C}$  and if the response of individual rabbit is less than  $0.3^{\circ}\text{C}$
  - c. The group of three rabbits does not exceed  $1.4^{\circ}\text{C}$  and if the response of individual rabbit is less than  $0.6^{\circ}\text{C}$

- d. The group of six rabbits does not exceed 1.4°C and if the response of individual rabbit is less than 0.6°C
24. Which of the following is NOT true about LAL test?
- It is an in vivo biological test
  - It is performed using lysates of amoebocytes of the horseshoe crab (*Limulus Polyphemus*)
  - It is a biochemical test performed in a test tube
  - It is simple, rapid and more sensitive (5-10 times) than rabbit pyrogen test
25. As per USP which of the following is correct
- WFI should contain NMT 1000 ppm of solids
  - WFI should contain NMT 100 ppm of solids
  - WFI should contain NMT 10 ppm of solids
  - WFI should contain NMT 1 ppm of solids
26. Pyrogens are
- Nontoxic
  - Thermostable
  - Non-filterable
  - Volatile
27. Cryoprotectants or Lyoprotectants used in freeze dried parenteral products
- Mannitol
  - Starch
  - Magnesium stearate
  - PVP
28. Class 1,00,000 is \_\_\_\_\_ number of particles of size \_\_\_\_\_ or larger per cubic foot of air
- 100, 5 μm
  - 1,00,000, 0.5 μm
  - 1000, 0.05 μm
  - 10,000, 0.005 μm
29. Freeze dried injectable products have to be reconstituted with \_\_\_\_\_ to form solution or suspension for administration
- Sterile Water for Injection
  - Water for Injection
  - Purified water
  - Boiling water
30. Sterility testing of Parenteral products uses Soyabean Casein digest medium for:
- Aspergillus niger*
  - Pseudomonas aeruginosa*
  - E. coli*
  - S. aureus*
31. HEPA filters have capacity to retain particles as small as \_\_\_\_\_ size of particles with efficiency \_\_\_\_\_
- 3 μm, 99.97%
  - 0.3 μm, 99.9%

- c. 0.003  $\mu\text{m}$ , 99.97%
  - d. 0.3  $\mu\text{m}$ , 99.99%
32. Lipid layer of tear film contains
- a. Electrolytes
  - b. Cholesterol esters
  - c. Proteins
  - d. Enzymes
33. Benzalkonium Chloride is incompatible with
- a. Nitrates
  - b. Cetrimide
  - c. Sodium oleate
  - d. Sodium stearate
34. Non-swellable water insoluble polymer
- a. Ethyl cellulose
  - b. HPMC
  - c. Carbopol
  - d. Polycarbophil
35. Penn Kinetic system is
- a. Dissolution controlled DDS
  - b. Diffusion controlled DDS
  - c. Ion exchange DDS
  - d. Osmotic DDS
36. Particle size of microcapsules is
- a. 10-5000 micron
  - b. 5000- 10000 micron
  - c. 10000-12000 micron
  - d. 15000-30000 micron
37. State the method of microencapsulation for cinnamon oil.
- a. Air suspension coating
  - b. Pan coating
  - c. Coacervation phase separation by salt addition
  - d. Coacervation phase separation by temperature change
38. The building(s) used for the factory shall obey the conditions laid down in the Factories Act,
- a. 1945
  - b. 1948
  - c. 1947
  - d. 1946
39. To prevent any interaction between tank material with the product some tanks are lined with \_\_\_\_\_ as liners
- a. PVC
  - b. polytetrafluoroethylene
  - c. Polyester
  - d. Nylon

40. Prospective validation done when there is a \_\_\_\_\_ in the manufacturing process
- Consistency
  - Change
  - Uniformity
  - Similarity
41. Topical drug delivery systems are used for treating
- Local infections
  - Diabetes
  - Hypertension
  - Hypotension
42. In the equation  $\log C = \log C_0 - Kt/2.303$ , what does  $C_0$  stand for \_\_\_\_\_
- Plasma drug concentration after 60 min of i.v. injection
  - Plasma drug concentration after 15 min of i.v. injection
  - Plasma drug concentration after 30 min of i.v. injection
  - Plasma drug concentration immediately after i.v. injection
43. The i.v. bolus dosage is 500mg and the plasma drug concentration is 0.8 mg/ml. What should be the volume of distribution?
- 625 mg/ml
  - 625 l
  - 625 ml
  - 16 mg/ml
44. Trehalose, mannitol, dextrans are examples of ----- used in parenterals
- Preservatives
  - Buffers
  - Cryoprotectants
  - Vehicles
45. Infusions, irrigating solutions, dialyzing fluids are examples of
- Small volume parenterals
  - Lyophilized parenterals
  - Parenterals for intravenous administration
  - Large volume parenterals
46. The sequential steps involved in freeze drying of parenterals are
- Freezing, Vacuum Drying, Sublimation
  - Vacuum Drying, Freezing, Sublimation
  - Freezing, Sublimation, Vacuum Drying
  - Sublimation, Vacuum Drying, Freezing
47. Grade A aseptic area used for manufacturing of ophthalmic solutions prepared by membrane filtration comprises of:
- Not more than 100 particles per cubic meter of size 0.5 microns
  - Not more than 100 particles per cubic foot of size 0.5 microns
  - Not more than 1000 particles per cubic foot of size 0.5 microns
  - Not more than 1000 particles per cubic meter of size 0.5 microns
48. The recommended limits for number of subvisible particles in ophthalmic solutions by light obscuration test as per USP are:

- a. Particles of size  $\geq 10$  microns: 50 per ml and  $\geq 25$  microns: 5 per mL
  - b. Particles of size  $\geq 20$  microns: 50 per ml and  $\geq 50$  microns: 5 per mL
  - c. Particles of size  $\geq 50$  microns: 50 per ml and  $\geq 100$  microns: 5 per mL
  - d. Particles of size  $\geq 20$  microns: 50 per ml and  $\geq 100$  microns: 5 per mL
49. ----- are materials used for primary packaging of ophthalmic products
- a. Polypropylene, low density polyethylene, high impact polystyrene
  - b. Polyvinyl chloride, Polyvinylidene chloride, high impact polystyrene
  - c. Polyvinyl chloride, Polypropylene, low density polyethylene
  - d. Polyvinyl chloride, high impact polystyrene, polypropylene
50. Some of the common examples of ophthalmic ointment bases are
- a. Lanolin, cetostearyl alcohol, beeswax
  - b. Mineral oil, petrolatum, lanolin
  - c. Beeswax, petrolatum, mineral oil
  - d. Beeswax, cetostearyl alcohol, lanolin
51. The mechanism of drug release from reservoir dissolution-controlled systems is by
- a. Slow dissolution of coating material
  - b. Swelling of coating material
  - c. Slow dissolution and swelling of coating material
  - d. Swelling and erosion of coating material
52. Spermaceti and Glyceryl stearate are examples of ----- used as coating materials in microencapsulation are
- a. Water soluble resins
  - b. Water insoluble resins
  - c. Waxes
  - d. Gums
53. Octagonal blender, roller compactor and double rotary compression machines are the equipments required for tablet manufacture by
- a. Wet granulation
  - b. Direct compression
  - c. Dry granulation
  - d. Wet and Dry Granulation
54. The equipment used in improving the consistency of cream is
- a. Propeller mixer
  - b. Planetary mixer
  - c. Triple roller mill
  - d. Anchor agitator
55. Operational qualification of equipment
- a. After installation and repair
  - b. During installation
  - c. After repair
  - d. Before installation
56. Absolute bioavailability of drug is measured by comparing AUC of drug
- a. Given by oral route to that by topical route
  - b. Given by oral route to that by rectal route

- c. Given by oral route to that by subcutaneous route
  - d. Given by oral route to that by intravenous route
57. Pharmacokinetics study involve
- a. Therapeutic drug monitoring
  - b. Optimizing dosing strategies
  - c. Validating safety evaluation parameters
  - d. Therapeutic drug monitoring, optimizing dosing strategies, validating safety evaluation parameters
58. The pharmacokinetic parameters for drug administered as IV bolus following one compartment open model are
- a.  $V_d$ , CL and AUC
  - b.  $T_{max}$ , CL and AUC
  - c.  $C_{max}$ , CL and AUC
  - d.  $C_{max}$ ,  $T_{max}$ , CL
59. ----- is used as an ophthalmic diagnostic agent.
- a. Fluorescein Sodium
  - b. Methyl Paraben
  - c. Benalkonium Chloride
  - d. Murexide
60. One of the following is used as a pH dependant controlled release excipient.
- a. Carnauba wax
  - b. Hydroxy propyl methyl cellulose phthalate
  - c. Methyl cellulose
  - d. Glyceryl monostearate
61. A new drug delivery system which is composed of phospholipids form a multilamellar concentric bilayer vesicles with aqueous media is
- a. Prodrugs
  - b. Liposomes
  - c. Osmotic Pumps
  - d. Nanoparticles
62. The Sterility test of Liquid involves:
- a. Colorimetric Assay
  - b. Guinea Pigs Assay
  - c. Culturing in the fluid thioglycollate medium
  - d. HPLC assay
63. Freezing point depression is the function of
- a. No. of particles in the solution
  - b. Quantity of solution
  - c. Emulsifying agent
  - d. Colour
64. Bacterial endotoxin test is used to determine:
- a. The amount of Pyrogens
  - b. The level of Pyrogens from Gram negative bacteria
  - c. The level of bacterial endotoxin from Gram negative bacteria



- d. The level of bacterial endotoxin from Gram positive bacteria.
65. Suspension & oily injection can be administered through:
- Intravenous
  - Intraarterial
  - Intramuscular
  - Intraspinal
66. Vitamin C is antioxidant because it is
- Acting as reducing agent
  - Acting as blocking agent
  - Acting as complexing agent
  - Acting as sequestering agent
67. In Rotating Basket Apparatus for dissolution studies, Basket of mesh size used -----
- 22 mesh
  - 30 mesh
  - 35 mesh
  - 40 mesh
68. For preparations intended for parenteral administration USP 24 requires the use of ---- as pharmaceutical aid except.
- Water for injection
  - Sterile water for injection
  - Bacteriostatic water for injection
  - Purified water
69. The DOP test is used for checking the efficiency of
- HEPA filter
  - Membrane Filter
  - Asbestos filter
  - Water filter
70. Nonionic surfactant vesicles related to:
- Liposomes
  - Niosomes
  - Nanoparticles
  - PEGylated Liposome
71. Which layer is the major rate limiting barrier for permeation of hydrophilic drugs across the cornea?
- Endothelial barrier
  - Stroma
  - Epithelial barrier
  - Endothelial barrier and Epithelial Barrier
72. One of the organisms given below is used as biological indicator in IP for ethylene oxide sterilization. Choose the correct one:
- Bacillus stearothermophilus*
  - Spores of *Bacillus subtilis*
  - Spores of *Bacillus cereus*
  - Spores of *Bacillus stearothermophilus*

73. The rate of drug release from dissolution-controlled release system does not depend on the following parameters:
- Law of dissolution
  - Surface area
  - Diffusion Coefficient
  - Diffusion layer thickness
74. Which of the following statement is False?
- Drugs that are metabolized before absorption can show increased bioavailability from sustained release formulation.
  - Compound with very low solubility ( $< 0.01$  mg/ml) are will inherently be sustained in GI tract.
  - Compounds that are unstable in small intestine may demonstrate decreased bioavailability when administered from sustained release dosage form.
  - Increase concentration at absorption site will increase the rate of absorption & bioavailability when given by oral SR formulation.
75. All the following viscosity builders have been used in ophthalmic solutions except
- Veegum
  - Methyl Cellulose
  - Polyethylene Glycol
  - Polyvinyl alcohol
76. The characteristic of an active transport process includes all the following except:
- Active transport moves drug molecules against concentration gradient
  - Follows Fick's First law of diffusion
  - It required energy
  - Active transport of drug molecules may be saturated at high concentrations
77. The passage of drug molecules from region of higher concentration to lower concentration is known as:
- Facilitated Transport
  - Carrier mediated transport
  - Simple diffusion or Passive Transport
  - Pinocytosis
78. Lecithin is a type of surface-active agent;
- Anionic
  - Cationic
  - Nonionic
  - Ampholytic
79. Which of the following statement is false?
- Sesame oil is preferred oil for most of the official injections in oil
  - Water miscible solvents used in parenteral formulations include glycerine, ethyl alcohol, propylene glycol
  - Water for injection must be stored at Room Temp if it is to be held for 24 hrs.
  - Inert gases purging improves product integrity of Oxygen sensitive materials