**Answers key for Pharmaceutic IV theory Mock Questions**

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|---|---|---|---|
| **1-A** | **25 A** | **48B** | **71 B** |
| **2 B** | **26 A** | **49 D** | **72 D** |
| **3 A** | **27 A** | **50 A** | **73 A** |
| **4 B** | **28 A** | **51 D** | **74 A** |
| **5 C** | **29 B** | **52 C** | **75 A** |
| **6 B** | **30 C** | **53 A** | **76B** |
| **7A** | **31 A** | **54 D** | **77C** |
| **8 A** | **32 A** | **55 C** | **78D** |
| **9 B** | **33 B** | **56 A** | **79 C** |
| **10 B** | **34 B** | **57 D** | |
| **11 B** | **35 B** | **58 D** | |
| **12 B** | **36B** | **59 D** | |
| **13 B** | **37 D** | **60 B** | |
| **14 A** | **38B** | **61 A** | |
| **15 C** | **39A** | **62 B** | |
| **16 B** | **40 D** | **63C** | |
| **17 B** | **41A** | **64 A** | |
| **18 C** | **42 D** | **65 C** | |
| **19 B** | **43 B** | **66 C** | |
| **20 A** | **44 D** | **67 A** | |
| **22 A** | **45 B** | **68 D** | |
| **23 C** | **46 B** | **69 D** | |
| **24B** | **47 A** | **70 A** | |

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

1. A high efficiency air filter
   **a. HEPA filter**
   b. Diluent
   c. Final filter
   d. Web filter

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. Chemicals produced by microorganisms that can cause fever reactions in patients
   a. Bacteria
   b. Viuruses
   **c. Pyrogens**
   d. Microorganisms

6. When a solution has an osmolarity equivalent to that of blood
   a. Hypotonic
   **b. Isotonic**
   c. Hypertoni
   d. Therapeutic

7. When a solution has a lesser osmolarity than that of blood
   **a. Hypotonic**
   b. Hypertonic
   c. Isotonic
   d. Tonic

8. Which of the following route has rapid onset of action
   **a. Parenteral**
   b. Oral
   c. Transdermal
   d. Rectal

9. What percentage of NaCl is isotonic with eyes
   a. 0.5%
   **b. 0.9**
   c. 1.9
   d. 5

10. What percentage of boric acid seems to be isotonic with eyes
    a. 0.9
    **b. 1.9**
    c. 0.5
    d. 2.9

11. Which layer of eye is also called as white of eye
    a. cornea
    **b. Sclera**
    c. Iris
    d. Retina

12. WFI contains bacteriostatic agents when in containers of
    a. 100ml of less
    **b. 30ml of less**
    c. 50ml of less
    d. 10ml of less

13. Parenteral in the form suspension are usually given by
    a. IV
    **b. SC or IM**
    c. ID
    d. IA

14. Which of the following is not a water soluble coating material
    **a. Ethyl cellulose**
    b. CMC
    c. PVP
    d. Gelatin

15. Which of the following is not used as thickening agent in ophthalmic products
    a. Methyl cellulose
    b. CMC
    **c. Ethyl cellulose**
    d. PEG

16. Most commonly used preservative in ophthalmic preparation is
    a. Chlorobutanol
    **b. Phenyl mercuric acetate**
    c. Phenyl mercuric nitrite
    d. Benzalkoniumchloride

17. Which of the following surfactant prefer in ophthalmic due to less irritation?
    a. ionic
    **b. cationic**
    c. amphoteric
    d. Nonionic

18. The Sterility test of Liquid involves:
    a. Colorimetric Assay
    b. Guinea Pigs Assay
    **c. Culturing in the fluid thioglycollate medium**
    d. HPLC assay

19. Non ionic surfactant vesicles related to:
    a. Liposomes
    **b. Niosomes**
    c. Nanoparticles
    d. Nanosuspension

20. The efficiency of HEPA filter is:
    **a. Remove at least 99.97% of airborne particles 0.3 micrometers (µm) in diameter.**
    b. Remove at least 100% of airborne particles 0.3 micrometers (µm) in diameter.
    c. Remove at least 99.97% of airborne particles 2 micrometers (µm) in diameter.
    d. Remove at least 97.99% of airborne particles 0.3 micrometers (µm) in diameter.

21. According to IP, the preparation passess the Rabbit Pyrogen test if:
    **a. The group of three rabbits does not exceed 0.6°C**
    b. The group of three rabbits does not exceed 1.4°C and if the response of individual rabbit is less than 0.3°C
    c. The group of three rabbits does not exceed 1.4°C and if the response of individual rabbit is less than 0.6°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

22. Which of the following in NOT true about LAL test:
    **a. It is a in vivo biological test**
    b. It is performed using lysates of amebocytes of the horseshoe crab (Limulus Polyphemus)
    c. It is a biochemical test perfomed in a test tube
    d. It is simple, rapid and more sensitive (5-10 times) than rabbit pyrogen test

23. As per USP which of the following is correct

    a. WFI should contains NMT 1000 ppm of solids

    b. WFI should contains NMT 100 ppm of solids
    **c. WFI should contains NMT 10 ppm of solids**
    d. WFI should contains NMT 1 ppm of solids

24. Pyrogens are

a. nontoxic
**b. thermostable**
c. non-filterable
d. volatile

25. Cryoprotectants or Lyoprotectants used in freeze dried parenteral products

**a. Mannitol**
b. Starch
c. Magnesium stearate
d. PVP

26. Freeze dried injectable products have to be reconstituted with _____ to form solution or suspension for administration

a. **Sterile Water for Injection**
b. Water for Injection
c. Purified water
d. Boiling water

27. Sterility testing of Parenteral products uses Soyabean Casein digest medium for:

**a. Aspergillus niger**
b. Pseudomonas aeruginosa
c. E.coli
d. S. aureus

**28.** HEPA filters have capacity to retain particles is as small as _____size of particles with efficiency _____

**a. 3 μm, 99.97%**
b. 0.03 μm, 99.9%
c. 0.003 μm, 99.97%
d. 0.3 μm, 99.99%

**29**. Lipid layer of tear film contains

**a. electrolytes**
b. Cholesterol esters
c. proteins
d. enzymes

30. Which amongst following is the easy to prepare ophthalmic dosage form.

a. suspension

b. ointment

**c. solution**

d. gel

31. Non-swellable water insoluble polymer

**a. Ethyl cellulose**

b. HPMC

c. Carbopol

d. Polycarbophil

32. Particle size of microcapsules is

a. 10-5000 micron

**b. 5000- 10000 micron**

c. 10000-12000 micron

d. 15000-30000 micron

33. In case of pan coating method of microencapsulation, core is in the form of

a. suspension

**b. solid**

C. emulsion

d. liquid

34. If mixing is too high, it leads to air entrapment in suspension and air is removed using _____

a. dessicator

**b. versator**

c. dryer

d. pump

35. 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

36. 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

37. ---------- is used as mucoadhesive polymer.

a. span 80

b. bentonite

c.polysorbate

**d.Carbopol**

38. Which component is a primary requirement of osmotically active drug delivery system?

a. lubricant

**b. osmotically active salt**

c. disintegrant

d. low density polymer

39. Topical drug delivery systems are used for treating

**a. local infections**

b. diabetes

c. hypertension

d. hypotension

40. Ocular inserts have following feature:

a. blurred vision

b. low bioavailability

c. sticking of eyelids

**d. Increased retention**

41. Approach used in colon targeted drug delivery system includes

**a. prodrug**

b. floating polymers

c. low density polymers

d. soluble salt

42. In the equation log C = log Co – KEt/2.303, what does Co stand for _____

a. Plasma drug concentration after 60 min of i.v. injection

b. Plasma drug concentration after 15 min of i.v. injection

c. Plasma drug concentration after 30 min of i.v. injection

**d. Plasma drug concentration immediately after i.v. injection**

43. The acceptable limits of osmolarity with respect to tonicity for parenteral solutions are

a. 250- 269 mosm/L
b. **278 – 328 mosm/L**
c. 329-350 mosm/L
d. 240 -260 mosm/L

44. Infusions, irrigating solutions, dialyzing fluids are examples of

a. Small volume parenterals
b. Lyophilized parenterals
c. Parenterals for intravenous administration
**d. Large volume parenterals**

45. The recommended particle size of dispersed active pharmaceutical ingredient in ophthalmic suspension is

a. More than 10 microns
**b. Not more than 10 microns**
c. Not more than 5 microns
d. Not more than 20 microns

46. Grade A aseptic area used for manufacturing of ophthalmic solutions prepared by membrane filtration comprises of :

a. Not more than 100 particles per cubic meter of size 0.5 microns
**b. Not more than 100 particles per cubic foot of size 0.5 microns**
c. Not more than 1000 particles per cubic foot of size 0.5 microns
d. Not more than 1000 particles per cubic meter of size 0.5 microns

47. The recommended limits for number of subvisible particles in ophthalmic solutions by light obscuration test as per USP are:

**a. Particles of size ≥ 10 microns : 50 per ml and ≥ 25 microns : 5 per mL**

b. Particles of size ≥ 20 microns : 50 per ml and ≥ 50 microns : 5 per mL

c. Particles of size ≥ 50 microns : 50 per ml and ≥ 100 microns : 5 per mL

d. Particles of size ≥ 20 microns : 50 per ml and ≥ 100 microns : 5 per mL

48. 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

49. Hydroxypropyl methyl cellulose, Xanthan gum, Hydroxy ethyl cellulose are some of the examples of polymers used in

a. Reservoir dissolution controlled systems

b. Reservoir diffusion controlled systems

c. Matrix dissolution controlled systems

**d. Matrix diffusion controlled systems**

50. The steps in sequence involved in microencapsulation by coacervationare

**a. Phase separation, rigidization and deposition**

b. Deposition, rigidization and phase separation

c. Phase separation, deposition and rigidization

d. Rigidization, deposition, phase separation

51. The process variables that affects quality of microencapsulated product prepared by Wurster technique are

a. Density

b. Particle size

c. Velocity of atomization air

**d. Density, particle size, velocity of atomization air, inlet and outlet temperature**

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. Prospective validation is carried out during

**a. During development stage of pharmaceutical product**
b. After launch of pharmaceutical product
c. During development and after launch of pharmaceutical product
d. During routine production batches

54. Pilot plant studies are done before taking full scale validation batches in order to

a. To optimize the manufacturing process conditions at plant level
b. To confirm the suitability of equipments used for manufacturing
c. To confirm the consistency of quality of product manufactured at plant level
**d. To optimize the manufacturing process conditions, confirm suitability of equipments, consistency of quality of products manufactured at plant level**

55. The equipment used in improving the consistency of cream is

a. Propeller mixer
b. planetary mixer
**c. triple roller mill**
d. Anchor agitator

56. Operational qualification of equipment

**a. After installation and repair**
b. During installation
c. After repair
d. Before installation

57. 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**

58. 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**

59. The equation that best fits the plasma level time curve of azlocillin after an i.v. bolus dose of 2000 mg (assuming one-compartment kinetics) is:C = 143 e–0.87t. What will be its apparent volume of distribution?

a. 12 liters
b. 8 liters
c. 10 liters
**d. 14 liters**

60. The equation that best fits the plasma level time curve of azlocillin after an i.v. bolus dose of 2000 mg (assuming one-compartment kinetics) is:C = 143 e–0.87t. What will be its Elimination t½ of the drug?

a. 1.2 hours
**b. 0.8 hours**
c. 1.4 hours
d. 0.6 hours

61. ---------- is used as Opthalmic diagnostic agent.

**a. Fluorescine Sodium**
b. Methyl Paraben
c. Benalkonium Chloride
d. Murexide

62. 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

63. The Sterility test of Liquid involves:

a. Colorimetric Assay
b. Guinea Pigs Assay
**c. Culturing in the fluid thioglycollate medium**
d. HPLC assay

64. Freezing point depression is the function of

**a. No. of particles in the solution**

b. Quantity of solution

c. Emulsifying agent

d. Colour

65. 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.

66. Suspension & oily injection can be administered through:

a. intravenous

b. intraarterial

**c. intramuscular**

d. intraspinal

67. Vitamin C is antioxidant because it is

**a. Acting as reducing agent**

b. Acting as blocking agent

c. Acting as complexing agent

d. Acting as sequestering agent

68. In Rotating Basket Apparatus for dissolution studies, Basket of mesh size used ----------

a. 22 mesh

b. 30 mesh

c. 35 mesh

**d. 40 mesh**

69. For preparations intended for parenteral administration USP 24 requires the use of ---- as pharmaceutical aid except.

a. Water for injection

b. Sterile water for injection

c. Bacteriostatic water for injection

**d. Purified water**

70. The DOP test is used for checking the efficiency of

**a. HEPA filter**
b. Membrane Filter
c. Asbestos filter
d. Water filter

71. Non ionic surfactant vesicles related to:

a. Liposomes
**b. Niosomes**
c. Nanoparticles
d. PEGylated Liposome

72. The solution instilled as eye drops into ocular cavity may disappear from the Precorneal area of the eye by which of the following routes:

a. Nasolacrimal drainage
b. Tear Turnover
c. Corneal absorption
**d. Nasolacrimal drainage, tear turnover, corneal absorption &conjunctival uptake**

73. The rate of drug release from dissolution controlled release system does not depend on the following parameters:

a. **Law of dissolution**
b. Surface area
c. Diffusion Coefficient
d. Diffusion layer thickness

74. Which of the following statement is False :

a. **Drugs that are metabolized before absorption can show increased bioavailability from sustained release formulation**.
b. Compound with very low solubility ( < 0.01 mg/ml) are will inherently be sustained in GI tract.
c. Compounds that are unstable in small intestine may demonstrate decreased bioavailability when administered from sustained release dosage form.
d. Increase concentration at absorption site will increase the rate of absorbtion& bioavailability when given by oral SR formulation.

75. All the following viscosity builders have been used in ophthalmic solutions except

**a. Veegum**

b. Methyl Cellulose

c. Polyethylene Glycol

d. polyvinyl alcohol

76. The characteristic of an active transport process include all the following except:

a. Active transport moves drug molecules against concentration gradient

**b. Follows Ficks First law of diffusion**

c. It required energy

d. 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:

a. Facillitated Transport

b. carrier mediated transport

**c. Simple diffusion or Passive Transport**

d. Pinocytosis

78. Lecithin is a type of surface active agent;

a. Anionic

b. Cationic

c. Nonionic

**d. Ampholytic**

79. Which of the following statement is false:

a. Sesame oil is preferred oil for most of the official injections in oil

b. Water miscible solvents used in parenteral formulations include glycerine, ethyl alcohol, propylene glycol

**c. Water for injection must be stored at Room Temp if it is to be held for 24 hrs.**

d. Inert gases purging improves product integrity of Oxygen sensitive materials