PHB Education

Government Exam and D. Pharm Exit Exam Preparation

Questions Bank

Subject: Pharmaceutics

Chapter 16 : Sterile Formulations

Section A: GENERAL – STERILE FORMULATIONS (20 MCQs)

1. Sterile formulations are those that are:
   a) Free from microorganisms
   b) Free from dust
   c) Free from color
   d) Free from flavor
   → **a**
2. Sterility means absence of:
   a) Living microorganisms
   b) Inert gases
   c) Solvents
   d) Suspended particles
   → **a**
3. Sterile dosage forms are mainly used for:
   a) Parenteral and ophthalmic use
   b) Oral use
   c) Topical use only
   d) None
   → **a**
4. The process of making a formulation sterile is called:
   a) Sterilization
   b) Pasteurization
   c) Evaporation
   d) Sedimentation
   → **a**
5. Which of the following must be sterile?
   a) Eye drops
   b) Syrups
   c) Dusting powders
   d) Elixirs
   → **a**

6. Sterile dosage forms are prepared under:
   a) Aseptic conditions
   b) Normal room
   c) Sunlight
   d) High humidity
   → **a**
7. The area used for sterile preparation is called:
   a) Clean room or aseptic area
   b) Store room
   c) Washing area
   d) Office
   → **a**
8. HEPA filters are used to:
   a) Remove microorganisms from air
   b) Increase air temperature
   c) Add color
   d) Filter liquids
   → **a**
9. Sterility of formulations is tested by:
   a) Sterility testing
   b) Melting point test
   c) Viscosity test
   d) Solubility test
   → **a**
10. Sterile formulations include:
    a) Eye drops, eye ointments, injections
    b) Creams and lotions
    c) Suspensions and syrups
    d) Powders and tablets
    → **a**
11. Aseptic techniques are used to:
    a) Prevent microbial contamination
    b) Improve color
    c) Increase viscosity
    d) Reduce solubility
    → **a**

12. The major vehicle used in sterile formulations is:

a) Water for injection

b) Alcohol

c) Glycerin

d) Propylene glycol

→ **a**

13. Pyrogens are:

a) Fever-producing substances

b) Sweetening agents

c) Coloring agents

d) Preservatives

→ **a**

14. Pyrogens are removed by:

a) Dry heat sterilization

b) Freezing

c) Filtration

d) Pasteurization

→ **a**

15. The shelf life of sterile products is affected by:

a) Storage temperature

b) Color

c) Odor

d) Label design

→ **a**

16. The most common method of sterilization for glassware is:

a) Dry heat

b) Steam

c) Filtration

d) Radiation

→ **a**

17. The pH of ophthalmic and injectable formulations must be:

a) Near physiological pH (7.4)

b) Less than 2

c) Greater than 10

d) Between 1–2

→ **a**

18. The isotonicity of sterile formulations is achieved using:
    a) Sodium chloride
    b) Alcohol
    c) Starch
    d) Lactose
    → **a**
19. The term “aseptic filling” means:
    a) Filling sterile product under sterile conditions
    b) Filling under non-sterile conditions
    c) Mixing under sunlight
    d) None
    → **a**
20. The containers used for sterile formulations must be:
    a) Sterile and airtight
    b) Plastic only
    c) Opaque
    d) Non-labeled
    → **a**

SECTION B: EYE DROPS (30 MCQs)

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21. Eye drops are:
    a) Sterile, aqueous solutions for instillation into eye
    b) Oily solutions for oral use
    c) Syrups
    d) Dusting powders
    → **a**
22. Another name for eye drops is:
    a) Ophthalmic solutions
    b) Parenteral
    c) Syrups
    d) Suspensions
    → **a**
23. Eye drops are applied to:
    a) Conjunctival sac
    b) Skin

c) Ear canal

d) Nose

→ **a**

24. The volume of one drop from a dropper is approximately:

a) 0.05 ml

b) 1 ml

c) 5 ml

d) 10 ml

→ **a**

25. Eye drops must be:

a) Sterile and isotonic

b) Acidic and colored

c) Non-sterile

d) Containing alcohol

→ **a**

26. The tonicity of eye drops should be equal to:

a) Lacrimal fluid

b) Blood plasma

c) Saliva

d) Water

→ **a**

27. The vehicle used in eye drops is:

a) Water for injection

b) Oil

c) Glycerin

d) Alcohol

→ **a**

28. Viscosity-increasing agents used in eye drops are:

a) Methylcellulose, PVP

b) Starch

c) Acacia

d) Sucrose

→ **a**

29. pH of eye drops should be:

a) Close to 7.4

b) 1

c) 10

d) 3

→ **a**

30. Preservatives used in eye drops are:

a) Benzalkonium chloride

b) Menthol

c) Phenol red

d) Peppermint oil

→ **a**

31. Eye drops should be clear and free from:

a) Particulate matter

b) Color

c) Solvent

d) Base

→ **a**

32. Example of an antibiotic eye drop:

a) Ciprofloxacin eye drop

b) Vitamin syrup

c) Paracetamol solution

d) None

→ **a**

33. Anti-inflammatory eye drops contain:

a) Dexamethasone

b) Menthol

c) Zinc oxide

d) Talc

→ **a**

34. Mydriatic eye drops are used to:

a) Dilate the pupil

b) Constrict the pupil

c) Reduce blood pressure

d) None

→ **a**

35. Miotic eye drops cause:

a) Constriction of pupil

b) Dilation of pupil

c) Lacrimation

d) None

→ **a**

36. The function of buffering agents in eye drops is to:

a) Maintain pH

b) Add color

c) Prevent microbial growth

d) None

→ **a**

37. Common buffer used in eye drops:

a) Borate buffer

b) Phosphate buffer

c) Both a and b

d) None

→ **c**

38. Eye drops should be stored in:

a) Sterile dropper bottles

b) Wide-mouth jars

c) Metal tins

d) None

→ **a**

39. Duration of use after opening eye drops is usually:

a) 28 days

b) 6 months

c) 1 year

d) Indefinite

→ **a**

40. Lubricant eye drops are used for:

a) Dry eyes

b) Infection

c) Pain

d) Allergy

→ **a**

41. Eye drops must be prepared under:

a) Laminar airflow cabinet

b) Open air

c) Normal room

d) Refrigerator

→ **a**

42. Sterilization of eye drops is done by:

a) Membrane filtration

b) Dry heat

c) Radiation

d) None

→ **a**

43. Eye drops used to treat glaucoma contain:

a) Timolol

b) Paracetamol

c) Ibuprofen

d) Zinc oxide

→ **a**

44. Viscosity agents in eye drops improve:

a) Retention time

b) Color

c) Taste

d) Volume

→ **a**

45. Eye drops are generally:

a) Single dose or multidose preparations

b) Tablets

c) Suspensions only

d) Powders

→ **a**

46. Eye drops should not contain:

a) Suspended particles visible to naked eye

b) Preservatives

c) Buffers

d) Vehicle

→ **a**

SECTION C: EYE OINTMENTS (20 MCQs)

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51. Eye ointments are:
    a) Semi-solid sterile preparations
    b) Liquids
    c) Powders
    d) Capsules
    → **a**
52. The base used in eye ointments is:
    a) White soft paraffin + liquid paraffin
    b) Alcohol + starch
    c) Water
    d) Sugar syrup
    → **a**
53. Eye ointments are applied in:
    a) Lower conjunctival sac
    b) Ear canal
    c) Nose
    d) Skin
    → **a**
54. Eye ointments provide:
    a) Prolonged contact with eye
    b) Rapid drainage
    c) Rapid absorption
    d) None
    → **a**
55. Eye ointments must be:
    a) Sterile
    b) Non-sterile
    c) Non-homogeneous
    d) Coarse
    → **a**
56. Sterilization of ointment base is done by:
    a) Dry heat
    b) Autoclaving
    c) Filtration
    d) Pasteurization
    → **a**

57. The melting point of the base must be:
    a) Near body temperature
    b) Below 0°C
    c) Above 100°C
    d) None
    → **a**
58. Example of antibiotic eye ointment:
    a) Chloramphenicol eye ointment
    b) Menthol cream
    c) Zinc oxide paste
    d) None
    → **a**
59. The container used for eye ointments is:
    a) Collapsible metal tube
    b) Glass jar
    c) Plastic bottle
    d) None
    → **a**
60. Eye ointments are mainly used for:
    a) Local effect in the eye
    b) Systemic absorption
    c) Oral effect
    d) Skin therapy
    → **a**

SECTION D: INJECTABLES (30 MCQs)

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61. Injectables are:
    a) Sterile preparations intended for parenteral administration
    b) Oral preparations
    c) Powders for external use
    d) None
    → **a**
62. Parenteral administration means:
    a) Bypassing the alimentary canal
    b) Through mouth

c) Through skin

d) None

→ **a**

63. Routes of injection include:

a) Intravenous, intramuscular, subcutaneous

b) Oral and rectal

c) Nasal and topical

d) None

→ **a**

64. The vehicle commonly used is:

a) Water for injection

b) Oil

c) Alcohol

d) Glycerin

→ **a**

65. Oily vehicles are used for:

a) Depot or sustained release injections

b) Rapid action

c) Oral solutions

d) None

→ **a**

66. Water for injection must be:

a) Pyrogen-free

b) Colored

c) Acidic

d) Alkaline

→ **a**

67. Injectables must be:

a) Sterile and pyrogen-free

b) Colored

c) Sweetened

d) Thick

→ **a**

68. The pH of injectable should be:

a) 7.4 (physiological)

b) 2

c) 10

d) 1

→ **a**

69. The volume of an injection dose is measured in:

a) mL

b) g

c) kg

d) cm^3

→ **a**

70. Intramuscular injections are given into:

a) Muscles

b) Veins

c) Skin

d) None

→ **a**

71. Intravenous injections are given into:

a) Veins

b) Muscles

c) Subcutaneous tissue

d) None

→ **a**

72. Subcutaneous injections are given:

a) Under the skin

b) In the vein

c) In the mouth

d) None

→ **a**

73. Intradermal injections are given:

a) Between layers of skin

b) In muscles

c) In veins

d) None

→ **a**

74. Large volume parenterals are:

a) Above 100 ml

b) Below 10 ml

c) 1 ml only

d) None

→ **a**

75. Small volume parenterals are:

a) Below 100 ml

b) Above 500 ml

c) 1 litre

d) None

→ **a**

76. Examples of small volume parenterals:

a) Insulin, adrenaline injection

b) Dextrose saline

c) Ringer's solution

d) Plasma

→ **a**

77. Large volume parenterals include:

a) Dextrose saline, Ringer's lactate

b) Insulin injection

c) Adrenaline injection

d) None

→ **a**

78. Antioxidants in injectables prevent:

a) Oxidation

b) Sedimentation

c) Emulsification

d) Precipitation

→ **a**

79. Common antioxidant:

a) Sodium metabisulphite

b) Sugar

c) Salt

d) Glycerin

→ **a**

80. Preservatives are added to:

a) Prevent microbial growth

b) Add flavor

c) Increase viscosity

d) None

→ **a**

81. Common preservative used:

a) Benzyl alcohol

b) Menthol

c) Paraffin

d) None

→ **a**

82. Single-dose injections should:

a) Not contain preservatives

b) Contain preservatives

c) Contain colors

d) None

→ **a**

83. Multiple-dose injections contain:

a) Preservatives

b) Flavors

c) Dyes

d) None

→ **a**

84. Injection vials are sterilized by:

a) Steam under pressure (autoclaving)

b) Dry heat

c) Sunlight

d) None

→ **a**

85. Filtration method is used for sterilizing:

a) Heat-sensitive solutions

b) Oily injections

c) Powders

d) None

→ **a**

86. Freeze-dried injections are also called:

a) Lyophilized injections

b) Liquid injections

c) Aqueous injections

d) None

→ **a**

87. Lyophilized injections are prepared for:

a) Heat-sensitive drugs

b) Stable drugs

c) Volatile oils

d) None

→ **a**

88. Example of lyophilized injection:

a) Penicillin injection

b) Paracetamol syrup

c) Zinc oxide ointment

d) None

→ **a**

89. Injectables must be clear and:

a) Free from particulate matter

b) Colored

c) Flavored

d) None

→ **a**

90. Containers for injections are made of:

a) Neutral glass

b) Plastic

c) Iron

d) Copper

→ **a**

91. Before administration, injections should be:

a) Inspected visually

b) Shaken vigorously

c) Heated

d) Cooled

→ **a**

92. Applications of injectables include:

a) Rapid systemic action

b) Local effect

c) Taste masking

d) None

→ **a**

93. Disadvantage of injectables:

a) Pain at injection site

b) Rapid onset

c) High sterility

d) None

→ **a**

94. Intravenous route provides:

a) Immediate systemic effect

b) Slow absorption

c) No absorption

d) None

→ **a**

95. Oil-based injections are used for:

a) Slow release

b) Fast absorption

c) Topical action

d) None

→ **a**

96. Injectable emulsions are:

a) Lipid-based formulations

b) Powder

c) Syrup

d) None

→ **a**

97. Example of large volume parenteral:

a) Dextrose 5%

b) Insulin

c) Adrenaline

d) None

→ **a**

98. Injectable suspensions must have:

a) Uniform particle size and good dispersion

b) Coarse particles

c) Grit

d) None

→ **a**

99. Sterile powders for injection must be reconstituted with:

a) Sterile water for injection

b) Tap water

c) Alcohol

d) None

→ **a**

100. The main advantage of injectables is:

a) Rapid and accurate dosage administration

b) Slow action

c) Taste masking

d) None

→ **a**

Dr. Arvind Kumar Gupta
(M.Pharm, PDCR, PGDMM & Ph.D)
GATE 2003 Qualified with 97.2 percentile
Dr. S. N. Dev College of Pharmacy
Shamli (U.P.)