

Duration: (3 hours)

[Total Marks: 75]

- N.B.:**
1. All questions are compulsory.
 2. Draw neat and well labeled diagrams wherever necessary.
 3. Figure to the right indicate full marks.

Q.1. Multiple Choice Questions (MCQs)

20M

1. Maillard reaction is an incompatibility seen with-
 - a. Starch
 - b. Lactose
 - c. Microcrystalline cellulose
 - d. Calcium carbonate
2. The following test is not applicable for sugar coated tablets as per IP.
 - a. Weight Variation
 - b. Hardness
 - c. Disintegration
 - d. Dissolution
3. Which of the following is a super-disintegrant?
 - a. Microcrystalline cellulose
 - b. Sorbitol
 - c. Avicel
 - d. Croscarmellose
4. Choose the incorrect type of tablet tooling.
 - a. BB
 - b. DB
 - c. DD
 - d. D
5. P-11, P-12 and P-114 are examples of _____ class of propellants?
 - a. Hydrocarbons
 - b. Chlorofluorocarbons
 - c. Compressed gases
 - d. Hydrogenated gases
6. Water stored in a poor-quality glass for a prolonged duration is likely to turn _____.
 - a. alkaline
 - b. acidic
 - c. neutral
 - d. no change
7. Benzalkonium chloride is used as a _____ in parenterals
 - a. Preservative
 - b. Antioxidant
 - c. Solubliser
 - d. Cosolvent

8. Which of the following dosage form will have maximum bioavailability?
 - a. Parenteral
 - b. Tablet
 - c. Capsule
 - d. Emulsion

9. LAL test is used for the detection of
 - a. Viral load
 - b. Bacterial Endotoxins
 - c. Exotoxins by gram positive bacteria
 - d. Impurities in parenterals

10. Which method is most suitable for sterilization of thermosensitive parenterals?
 - a. Membrane Filtration
 - b. Dry heat
 - c. Moist heat
 - d. Boiling

11. Which gram-negative bacteria is generally found to be present in ophthalmic products?
 - a. *Escherichia coli*
 - b. *Pseudomonas aeruginosa*
 - c. *Staphylococcus aureus*
 - d. *Streptococcus pneumoniae*

12. Which of the following capsule size number has the maximum capacity?
 - a. 000
 - b. 1
 - c. 2
 - d. 0

13. Identify the incorrect step in manufacturing of empty hard gelatin capsule shells.
 - a. Coating
 - b. Dipping
 - c. Spinning
 - d. Trimming

14. One of the following is an alternate for gelatin in vegetarian capsules____
 - a. Sucrose
 - b. HPMC
 - c. Acacia
 - d. Bentonite

15. BET method is used to determine____.
 - a. Partition coefficient
 - b. Surface Area
 - c. organoleptic property
 - d. Intrinsic dissolution

16. Carr's index gives an indication of_____
- viscosity
 - flow property
 - aqueous solubility
 - very poor
17. Shake flask method using two immiscible solvents (oil/water) is used to determine_____.
- Flow property
 - organoleptic property
 - Intrinsic Dissolution
 - Partition coefficient
18. Flocculating agent is used in_____
- syrup
 - suspension
 - aromatic waters
 - mouth wash
19. Beeswax is the major ingredient in
- shampoo
 - lipstick
 - toothpaste
 - cold cream
20. Dry gum method is used to manufacture
- syrup
 - suspension
 - aromatic waters
 - emulsion

Q.2. Answer any 2 questions.

2 x 10 = 20M

- Enlist different types of tablets. Write a note on dry granulation technique of manufacturing tablets.
- Elaborate on the different techniques used for the preparation of Water for Injection
- Discuss polymorphism and solid state stability studies done during preformulation stage of drug development.

Q.3. Answer any 7 questions.

7 x 5 = 35M

1. Give an account of defects in film coated tablets.
2. Describe advantages and working of a metered dose inhaler.
3. Differentiate between glass and plastic as packaging materials for pharmaceuticals.
4. Explain important factors to consider when formulating ophthalmic products.
5. Elaborate on quality control testing for injectables
6. Elaborate on the process of filling hard gelatin capsules using independent filling equipment.
7. Explain various studies done to determine solubility profile of a drug
8. Write a short note on toothpaste.
9. Write a note on manufacturing techniques of pellets.
