

(3 hours)

- 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)
All questions are compulsory

(20)

- Which of the following is a commonly used technique for pKa determination?
 - Potentiometric titration
 - Mass Spectrometry
 - X ray crystallography
 - Thin Layer Chromatography
- Choose the correct statement.
 - Crystalline forms have better solubility as compared to amorphous
 - Crystalline forms have better stability as compared to amorphous
 - Amorphous forms have better stability as compared to crystalline
 - Amorphous and crystalline have equivalent solubility
- The breakdown of aspirin in water, resulting in the formation of acetic acid, is an example of
 - Oxidation
 - Esterification
 - Reduction
 - Hydrolysis
- _____ is responsible for delivering the aerosol product in desired form.
 - Actuator
 - Gasket
 - Stem
 - Ferrule
- Type NP Soda Lime glass is indicated for _____ use.
 - parenteral
 - ophthalmic
 - subcutaneous
 - non parenteral
- Abrasive is used in _____.
 - Shampoo
 - Lipstick
 - Nail polish
 - Toothpaste
- Pearl pigment used in lipstick _____.
 - Iron oxide
 - Titanium dioxide
 - Bismuth oxychloride
 - Zinc Oxide

8. Incorporation of water-soluble drug in an ophthalmic ointment is possible due to the presence of....._____
- wool fat
 - liquid paraffin
 - soft paraffin
 - isopropyl myristate
9. Volume of small volume parenteral is _____
- less than 500 ml
 - less than 100 ml
 - more than 100 ml
 - more than 500 ml
10. Which of the following is **not** considered a primary route of parenteral administration?
- intrauterine
 - intravenous
 - subcutaneous
 - intramuscular
11. Buffers used in parenteral formulations
- acetates
 - chlorates
 - sulphates
 - benzoates
12. Which type of endotoxin can the LAL test specifically detect?
- Gram-positive bacterial endotoxins
 - Fungal endotoxins
 - Viral endotoxins
 - Gram-negative bacterial endotoxins
13. Excipient used pre and post granulation in tablet manufacturing process _____
- diluent
 - binder
 - disintegrant
 - glidant
14. More than one medium is used for the Disintegration test of _____ tablets.
- effervescent
 - chewable
 - sugar coated
 - enteric coated
15. Pellets are commonly manufactured using _____
- Rapid mixer granulator
 - Extruder-spheronizer
 - Rotary die process
 - Tamping finger and dosing disc

16. Which of the following is the large-scale manufacturing technique for filling liquid in soft gelatin capsules?
- Accogel process
 - Bubble method
 - Plate method
 - Rotary die process
17. Which of the following is a vegetarian alternative to gelatin for manufacturing capsule shells?
- PEG
 - Acacia
 - HPMC
 - Tragacanth
18. In a multi-station rotary tablet press, _____ guides the movement of punches.
- cam track
 - feed frame
 - turret
 - hopper
19. Tablet defect related to uneven distribution of colour is called as ____.
- capping
 - mottling
 - rat-holing
 - picking
20. Choose the major instability in suspensions.
- phase inversion
 - coalescence
 - caking
 - creaming

Q.2. Answer any 2 questions.

(20)

- Define preformulation and classify various tests involved in preformulation studies. Write a note on solubility analysis of a drug during preformulation studies.
- Draw the flow chart for wet granulation process including the names of equipment used at each step and elaborate on rapid mixer granulator.
- Discuss the different techniques used in the preparation of Water for Injection.

Q.3. Answer any 7 questions.

(35)

- Write a note on Biopharmaceutics Classification System of drugs and its significance.
- Explain the pressure filling method of filling propellants during the manufacturing of aerosols.
- Describe plastic as a packaging material and its possible interactions with drugs.
- Elaborate on the process of filling hard gelatin capsules using dependent filling equipment.
- What are pellets? Write a note on the excipients used in the manufacturing of pellets.
- Classify coating pans. Discuss any one type of perforated coating pan.
- Explain the evaluation of ophthalmic preparations.
- Differentiate between cold cream and vanishing cream.
- What is isotonicity? Explain the methods of adjusting isotonicity in parenterals.
