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Course Name : D. Pharm

Year : First Year

Subject Name : Pharmaceutics

Topic Name : Pharmaceutical Solution

MULTIPLE CHOICE QUESTION

1. What is a pharmaceutical solution?

- a) A solid dosage form
- b) A liquid dosage form containing one or more active ingredients dissolved in a solvent
- c) A semisolid dosage form
- d) A gaseous dosage form

Answer: b) A liquid dosage form containing one or more active ingredients dissolved in a solvent

2. Which of the following is NOT a type of pharmaceutical solution?

- a) Oral solution
- b) Parenteral solution
- c) Topical solution
- d) Effervescent solution

Answer: d) Effervescent solution

3. What is the composition of a pharmaceutical solution?

- a) Solid particles suspended in a liquid
- b) Solid particles dispersed in a liquid
- c) One or more active ingredients dissolved in a solvent
- d) A mixture of oils and water

Answer: c) One or more active ingredients dissolved in a solvent

4. Which method is commonly used for the preparation of pharmaceutical solutions?

- a) Filtration
- b) Distillation
- c) Evaporation
- d) Dissolution

Answer: d) Dissolution

5. What is the primary purpose of using solvents in pharmaceutical solutions?

- a) To enhance flavor
- b) To increase viscosity
- c) To dissolve the active ingredients
- d) To add color

Answer: c) To dissolve the active ingredients

6. Which evaluation method is commonly used to assess the physical stability of pharmaceutical solutions?

- a) Visual inspection for color and clarity
- b) Spectrophotometry
- c) Gas chromatography
- d) High-performance liquid chromatography (HPLC)

Answer: a) Visual inspection for color and clarity

7. What role do preservatives play in pharmaceutical solutions?

- a) Enhancing flavor
- b) Preventing microbial growth
- c) Increasing viscosity
- d) Improving stability

Answer: b) Preventing microbial growth

8. Which of the following is NOT a characteristic of pharmaceutical solutions?

- a) High viscosity
- b) Rapid absorption
- c) Clarity
- d) Homogeneity

Answer: a) High viscosity

9. What is the primary method for determining the pH of a pharmaceutical solution?

- a) Taste testing
- b) Using a pH meter or pH indicator paper
- c) Conducting a titration
- d) Measuring the density

Answer: b) Using a pH meter or pH indicator paper

10. Which of the following is NOT a common route of administration for pharmaceutical solutions?

- a) Oral ingestion
- b) Topical application
- c) Intramuscular injection
- d) Intravenous injection

Answer: c) Intramuscular injection

11. What is the primary route of administration for solutions?

- a) Topical
- b) Intramuscular

- c) Oral
- d) Inhalation

Answer: c) Oral

12. What is the recommended storage condition for most solutions to maintain stability?

- a) Refrigeration at 4°C
- b) Freezing at -20°C
- c) Room temperature (20-25°C)
- d) Exposure to direct sunlight

Answer: c) Room temperature (20-25°C)

13. Which evaluation method is commonly used to assess the physical stability of solutions?

- a) Visual inspection for color and clarity
- b) High-performance liquid chromatography (HPLC)
- c) Gas chromatography (GC)
- d) Infrared spectroscopy (IR)

Answer: a) Visual inspection for color and clarity

14. What is the primary purpose of using preservatives in solution formulation?

- a) Enhancing flavor
- b) Increasing viscosity
- c) Improving stability and preventing microbial growth
- d) Masking unpleasant taste

Answer: c) Improving stability and preventing microbial growth

15. How is the pH of a solution typically evaluated?

- a) By taste testing
- b) Using a pH meter or pH indicator paper
- c) Conducting a titration
- d) Measuring the density

Answer: b) Using a pH meter or pH indicator paper

16. What is the recommended method for assessing the microbial quality of solutions?

- a) Microscopic examination
- b) Microbiological culture and enumeration
- c) Gas chromatography (GC)
- d) Organoleptic evaluation

Answer: b) Microbiological culture and enumeration

17. Which of the following is NOT a typical evaluation parameter for solution viscosity?

- a) Brookfield viscosity
- b) Newtonian viscosity
- c) Ostwald viscometer
- d) Rheological behavior

Answer: b) Newtonian viscosity

18. What role do antioxidants play in solution formulation?

- a) Enhancing color
- b) Improving taste
- c) Preventing oxidation and degradation of active ingredients
- d) Increasing shelf life

Answer: c) Preventing oxidation and degradation of active ingredients

19. What is the primary method for determining the presence of foreign particulate matter in solutions?

- a) Visual inspection under a microscope
- b) Spectrophotometry
- c) Particle size analysis
- d) Sedimentation testing

Answer: a) Visual inspection under a microscope

20. Which of the following is NOT a typical parameter evaluated during stability testing of solutions?

- a) pH
- b) Color and clarity
- c) Microbial growth
- d) Drug release profile

Answer: d) Drug release profile