BP-701T

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ODD SEMESTER EXAMINATION , 2022-23

COURSE NAME :- B. PHARM

SEMESTER- VIIth

SUBJECT :- INSTRUMENTAL METHOD OF ANALYSIS

TIME: 3 HOURS   MAX MARKS:75

NOTE: Attempt all parts.

PART A

Multiple Choice Questions   20 x 1= 20

1. Range for UV spectrum of light?

a) 400 nm – 700 nm   b) 700 nm to 1 mm   c) 0.01 nm to 10 nm   d) 10 nm to 400 nm

2. The λmax in α, β-unsaturated acids can be determined by

   (a) Wood ward fieser   (b) Nielsen rules   (c) Fieser-Kuhn rules   (d) All of the above

3. Radiation sources for UV are

   a) Tungestan lamp   b) Hydrogen discharge   c) both   d) none

4. Fluorimetry is

   a) They emit radiation   b) they emit visible light   c) both   d) none

5. Factors affecting fluorescence are

   a) Nature of molecule b) nature of substituent c) effect of concentration   d) all of these

6. Chromatography is a technique which is used for

   a) Addition of mixture   b) separation of mixture   c) both   d) none

7. Full foam of TLC

   a) Thick layer chromatography b) thin layer chromatography   c) both   d) none

8. Componants of TLC are

   a) TLC plate   b) mobile phase   c) TLC chamber   d) all of these

9. Retention fector depends on

   a) Distance travelled by solute   b) distance travelled by solvent   c) both   d) none

10. Development techniques of paper chromatography are

   a) ascending   b) descending   c) radial   d) all of these

11. Basic principle of paper chromatography is based on

   a) Adsorption   b) Partition   c) Ion exchange   d) Capillary rise

12. When movement of mobile phase is in up-word direction, development is called

   a) Ascending- descending   b) Radial   c) Ascending   d) Descending

13. Ninhydrin can be used as spraying reagent for

   a) Carbohydrate   b) Glycosides   c)   Amino acids d) Alkaloids

14. The efficiency of separation increases if the particle size is...

   a) Large   b) Amorphous   c) Coarse   d) Small

15. The main components of high performance liquid chromatography are...

   a) A high pressure pump b) an injection system c) A detector   d) all

16. The very near infra red region is also known as...

   a) Vibration region b) Overtone region c) Vibration rotation   d) Rotation region

17. There is continuous change in the angle between two bands in ....vibration.

   a) Stretching   b) Bending   c) Symmetric   d) Asymmetric

18. The most important applications of flame photometry are

   a) Analysis of Na and K in biological fluid and tissues

   b) Analysis of those otherwise difficult to determine elements

   c) Both   d) None of these

19. The most widely used flame in atomic absorption is

   a) Air coal gas   b) Air propane   c) Air acetylene d) Oxyacetylene

20. Which of the following shift lead to the decreased intensity of absorption?

   a) Hypochromic   b) Hyperchromic   c) Hypsochromic   d) Bathochromic

PART B

LONG ANSWER TYPE QUESTION

Attempt any 2 questions   **10x2**

1. Explain UV spectroscopy method with its instrumental parts and how it will useful in Pharmaceutical industries.
2. Review Capillary and gel electrophoresis and how it is applied.
3. Explain applications of IR Spectroscopy: Fundamentals, Equipment, and Techniques.

PART C

SHORT ANSWER TYPE QUESTION

Attempt any 7 questions   **7 x 5= 35**

1. Why Beer's and Lambert's Laws exist.
2. Explain paper chromatography using different development techniques.
3. How the TLC play an important role in the identification of compounds.
4. A brief outline of the principles of FT-NMR and 13C NMR with their applications
5. The elements influencing the mobility of electrophoresis.
6. Instrumentation description of fluorimetry.
7. Discuss the application and principle of flame photometry.
8. Illustrate instrumentation of atomic absorption spectroscopy.
9. Summarize the principle and application of Nepheloturbidometry.