B. PHARM.
SEVENTH SEMESTER
INSTRUMENTAL METHOD OF ANALYSIS
BP701T
[USE OMR SHEET FOR OBJECTIVE PART]

| SET C |

Duration : 3 hrs.

Full Marks : 75

(**PART-A: Objective**)

Time : 30 min.

Marks : 20

Choose the correct answer from the following:

1×20=20

1. Which of the following is Octadecyl Silane (ODS) column.
   a. C-10
   b. C-8
   c. C-4
   d. C-18

2. In normal phase chromatography the mobile phase is
   a. Polar
   b. Non-polar
   c. Both
   d. None of these

3. Most commonly used stationary phase in TLC is _____
   a. Silica
   b. Silica gel-G
   c. Alumina
   d. Silica gel-H

4. Principle involved in paper chromatography is
   a. Adsorption
   b. partition
   c. Both a and b
   d. None of these.

5. Device that converts radiation energy to electrical signals are called__.
   a. Recorder
   b. Amplifier
   c. Detector
   d. Monochromator.

6. Diffraction grating consist of a_____.
   a. Glass
   b. Quartz
   c. Alkyl halide
   d. All of the above.

7. In which type of vibration bond length is altered.
   a. Asymmetrical vibration
   b. Wagging vibration
   c. Twisting vibration
   d. Rocking vibration

8. Which of the following is not a GC detector.
   a. Katharometer
   b. Bolometer
   c. Electron capture detector
   d. Flame ionization detector.

9. Which of the following is mid-IR range?
   a. 400-10 cm^{-1}
   b. 4000-400 cm^{-1}
   c. 12000-4000 cm^{-1}
   d. None of these.

10. UV cutoff wavelength of water is
    a. 198 nm
    b. 191 nm
    c. 204 nm
    d. 205 nm

11. Which type of column is commonly used for separation of enantiomers.
    a. Phenyl
    b. amino
    c. C-18
    d. Chiral

12. Length of capillary column used in GC.
    a. 80-100 cm
    b. 5-25 cm
    c. 1-10 cm
    d. All of the above

13. Ninhydrin reagent is commonly used for detection of
    a. Alkaloids
    b. carbohydrates
    c. Amino acid
    d. terpenoids

14. In flame photometry λ is used for_____ purpose.
    a. Quantitative
    b. Both a and c
    c. Qualitative
    d. None of these

15. Most commonly use carrier gas in GC.
    a. Nitrogen
    b. Hydrogen
    c. Helium
    d. All of these.

16. If the particle size of stationary phase is decreases it leads to separation
    a. Decreases
    b. Increases
    c. No effect
    d. Both b and c

17. In turbidimetry concentration decreases leads to
    a. I_t.decreases
    b. I_t increases
    c. I_t -similar
    d. All of above

18. Which of the following is not a factor influencing fluorescence intensity.
    a. temperature
    b. Rigidity of structure
    c. conjugation
    d. Source of light

19. Inter-system crossing occurs due to...
    a. Low temperature
    b. Absence of oxygen
    c. both
    d. None of these

20. 1μg is equal to-
    a. 100 ng
    b. 1000 ng
    c. 10000 ng
    d. 500 ng

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PART-B : Descriptive

[Answer any seven (7) questions]

1. Write a note on principle and application of gel chromatography.   5

2. Write a note on AAS.   5

3. Write a note on application of UV Visible spectroscopy.   5

4. Write a note on Principle and application of flame photometry.   5

5. Discuss in brief the methodology of TLC.   5

6. Write a note on principle and types of vibration in IR spectroscopy.   5

7. Define- a. Bathochromic shift b. wavelength c. Chromophore d. Auxochrome e. Hypochromic effect.   1+1+1 +1+1 =5

8. Write a note on paper chromatography.   5

9. Wrote a note on construction and working of hallow cathode lamp (HCL).   5

PART-C: Long type questions

[Answer any two (2) questions]

1. Define and derived Beer's and Lambert's law.   5+5=10

2. Discuss in brief principle, instrumentation of high-performance liquid chromatography.   3+7=10

3. Write a note on derivatization of gas chromatography and factors affecting fluorescence intensity.   5+5=10

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