

Roll No.

Total No. of Pages : 02

Total No. of Questions : 10

B.Pharmacy (Sem.-8)
PHARMACEUTICAL ANALYSIS-III

Subject Code : PHM-482

Paper ID : [D1146]

Time : 3 Hrs.

Max. Marks : 80

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of FIFTEEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains FOUR questions carrying TEN marks each and students have to attempt any THREE questions.

SECTION-A

Q1 Answer briefly :

- a) Define Molecular ion peak and Base peak in MS.
- b) Explain the term 'auxochrome'.
- c) Explain space lattice and unit cell.
- d) Write the range of functional group region in IR.
- e) Draw vibrational modes of H₂O molecule.
- f) Discuss pellet method of sample preparation in IR.
- g) What is chemical shift in NMR spectrum?
- h) Write structure of tropyllium ion.
- i) What is Hook's law?
- j) What are Woodward-Fieser rules?
- k) What is the source of X-rays in X-ray spectroscopy?

- 1) Name the radiation source used in AAS.
- m) Write two pharmaceutical applications of flame photometry.
- n) Name any two soft sources used in MS.
- o) Give two pharmaceutical applications of polarimetry.

SECTION-B

- Q2 Give an account of your understanding of isotopic peaks in MS. Describe their usefulness in determining the structure of halogenated compounds.
- Q3 Discuss in detail the different factors affecting fluorescence and phosphorescence.
- Q4 Describe cationic and anionic interferences encountered in Flame photometry.
- Q5 Write about the various sampling methods followed in Infrared spectroscopy.
- Q6 Why do nuclei like ^{12}C , ^{16}O do not show NMR spectra? Explain.

SECTION-C

- Q7 Describe the working of a typical IR instrument with the help of a suitable diagram, describe functioning of each part.
- Q8 Compare atomic absorption spectroscopy and flame photometry. Describe cationic and anionic interferences encountered in them. Give pharmaceutical applications.
- Q9 What is spin-spin decoupling? Give a detailed account of instrumentation of NMR.
- Q10 What is the function of an analyser in mass spectrometer? Describe various analysers used in Mass spectroscopy.