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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?

- l) 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.