

VPM's ADVANCED STUDY CENTRE

POST GRADUATE DIPLOMA IN APPLIED ANALYTICAL CHEMISTRY  
( Final Examination 2005-2006 )

Date: 28.03.2006

Time : 5.00 – 8.00 p.m.

PAPER – II

Marks: 100

Note: 1) Attempt **Any Five** questions. 2) All questions carry equal marks

Q.1) Explain HPLC with the help of neat-labeled diagram. What are the advantages and limitations of HPLC?

Q.2) Define the term Chromatography. Explain G.C. with the help of schematic diagram.

Q.3) What is chemical shift? Why TMS used as a reference standard in NMR?

Q.4) Explain Infra-Red Spectroscopy with schematic diagram. What are the advantages of double beam spectrophotometer over single beam spectrophotometer?

Q.5) What is finger print region? Explain the various molecular vibrations in IR technique.

Q.6) Write Notes on any 4 (Four) of the following:

- i) Flame Photometry
- ii) Atomic Absorption Spectroscopy
- iii) Thin Layer Chromatography
- iv) Column Chromatography
- v) Detectors used in HPLC
- vi) Use of complexing agents in solvent extraction

Q.7) A) Discuss the various types of detectors used in G.C.

B) What is equivalence point? Explain any two methods of detection of equivalence point by electro analytical method.

Q.8) A) Why band broadening occurs in chromatography? How does the band broadening affect the number of theoretical plate?

B) Write the position of signal for following isomers in NMR spectroscopy:

