

10. (a) (i) Give an account of FT-IR and FT-Raman spectroscopy and their applications. (10)
- (ii) Discuss the role of computer averaging in spectroscopic techniques. (5)

Or

- (b) (i) Explain the principle of FT spectroscopy. Discuss various types of FT spectrographs. (6)
- (ii) What are the requirements of solvents used in UV-visible spectroscopy? (4)
- (iii) Explain the following :
- (1) Photometric precision
- (2) Difference spectroscopy. (5)

Paper I — RESEARCH METHODOLOGY
(Held in April 2010)

Time : Three hours

Maximum : 100 marks

PART A — (5 × 5 = 25 marks)

Answer ALL questions.

1. Distinguish between basic research and applied research.
2. Explain the terms histogram, dispersion and range.
3. What are the postulates of a group?
4. TLC is superior over other chromatographic techniques. Explain.
5. Explain the factors affecting photometric accuracy.

PART B — (5 × 15 = 75 marks)

Answer ALL questions.

6. (a) (i) What is an optimum data? How are the collected data analysed? (8)
- (ii) Explain the following :
 - (1) Literature survey
 - (2) Bibliography. (3 + 4)

Or

