MPY-101
M. Pharmacy I Semester Examination, **December 2016**
Modern Analytical Technique
Time : Three Hours   Maximum Marks : 70
Note: i) Attempt any five questions.
ii) All questions carry equal marks.

1. a) What is Beer Lambert's law? What are its applications in quantitative analysis?

b) What are different molecular vibrations which occur in i.r region? How coupling and hydrogen bonding affects the frequency?

2. a) What are the advantages of FTIR over IR? Give instrumentation of FTIR?

b) Compare 1HNMR and 13CNMR. Discuss the application of decoupling in structure confirmation.

3. a) Explain the principle of mass spectroscopy. What are different soft ionization techniques?

b) What are Rearrangements which take place in MS?

4. a) How fluorescence is produced? What are the factors which affect fluorescence?

 b) Explain principle of atomic absorption spectroscopy. What are its applications in analysis?

5. Give principle, instrumentation and applications of HPLC?

6. a) Discuss principle and applications of Ion-Pair chromatography.

b) Discuss principle, instrumentation and applications of optical rotary dispersion.

7. What is the importance of thermal methods of analysis? Discuss principle and applications of DSC.

8. Write short notes on any two of the following

a) Flow cytometer and its applications

b) Auto radiography and its applications

 c) Radio-immunoassay and its applications

d) Applications of GC. MS