**M. Pharm 1st Semester Examination**

**Subject- Pharmacology (MPLI0IT)**

**Full Marks- 75 Time – 3 hours**

**Answer any five questions:**

**1. Explain the basic principles and applications of UV- visible spectroscopy. How various solvents affect UV- visible spectroscopy in its operation. (15)**

**2. Explain π -π\* transition with examples. What are hyperchromic and hypsochromic effects. (15)**

**3. Discuss the rules of mass fragmentation. Explain metastable ions and isotopic peaks. (15)**

**4. Write short notes on (15)**

**(a) 13CNMR**

**(b) Gel chromatography**

**(c) Paper electrophoresis**

**5. Give an account of the principle, instrumentation, and applications of capillary electrophoresis and zone electrophoresis. (15)**

**6. Explain principle and applications of potentiometry. (15)**

**7. Write Short notes on (15)**

**(a) DSC**

**(b) DTA**

**(c) TGA**