**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**