

**Total No. of Pages : 01**

**M.Code : 74657**

**Max. Marks : 75**

**2. Each question carries EQUAL marks.**

1. What is the Principle, instrumentation and applications of U.V visible spectroscopy? (15)
2. Write a note on Proton NMR. How it is different from the usual NMR process? (15)
3. a) What is Mass fragmentation? Discuss its rules. (10)  
b) Discuss the isotropic peaks in mass spectroscopy. (5)
4. a) Explain the principle, apparatus and instrumentation of HPLC. (10)  
b) Discuss the major applications of column chromatography. (5)
5. a) Write a note on X-Ray diffraction methods. (10)  
b) Discuss Bragg's Law. (5)
6. Write a note on the following :  
a) ELISA (7)  
b) Isoelectric focusing electrophoresis (8)

**NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.**