**QP CODE: 111327** Reg. No:.... First Semester M.Pharm Degree Supplementary Examinations July 2019 M.Pharm (Pharmaceutics) Paper I: Modern Pharmaceutical Analytical Techniques (MPA101T) Time: 3 Hours **Total Marks: 75** Answer all Questions. Draw Diagrams wherever necessary. **Essays** (3x10=30)1. Explain the instrumentation associated with UV-visible spectroscopy 2. Discuss about the principle and instrumentation of mass spectrometry. 3. Discuss the principle and applications of high performance liquid chromatography **Short Notes** (9x5=45)4. Discuss the applications of IR spectroscopy 5. Theory of fluorescence and mention any four applications of fluorescence spectrophotometer. 6. Factors influencing chemical shift. 7. Thin layer chromatography 8. Principle and applications of gel electrophoresis 9. Explain different X-ray diffraction methods 10. Applications of radio immune assay and ELISA. 11. Principle of NMR spectroscopy. 12. What are the applications of flame emission spectroscopy and atomic absorption spectroscopy.

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