QP CODE: 111329 Reg. No:.... First Semester M.Pharm Degree Supplementary Examinations July 2019 M.Pharm (Pharmaceutical Analysis) Paper I: Modern Pharmaceutical Analytical Technique (MPA101T) Time: 3 Hours **Total Marks: 75** Answer all Questions. Draw Diagrams wherever necessary. **Essays** (3x10=30)1. Explain the instrumentation and applications of NMR. Brief the principle of FT-NMR. 2. Define Bragg's law. Add note on different X-ray methods and applications of X-ray diffraction. 3. Explain principle and instrumentation of gel electrophoresis. Enlist the factors affecting separation **Short Notes** (9x5=45)4. What are the choice of solvents and solvent effect of UV-visible spectroscopy. 5. Describe the instrumentation of FTIR spectroscopy. 6. Isotope peaks in mass spectroscopy and its applications. 7. Principle and application of differential thermal analysis. 8. Any two experimental parameters of hyper DSC. 9. Principle and working of potentiometry. 10. What are guenchers. Enlist the factors affecting fluorescence in spectroflouurimetry.

11. Applications and interferences of flame emission spectroscopy

12. Discuss the factors affecting resolution in HPLC.