

Roll No.

Y – 3132

M.Sc. (Chemistry) (Second Semester) EXAMINATION, May/June-2021

Paper – P-IX

MCH-409

SPECTROSCOPY-II AND DIFFRACTION METHODS

Time : Three Hours

Maximum Marks : 85

Minimum Pass Marks : 29

Note—Attempt *all* questions.

Unit-I

1. Explain the principle of NMR spectroscopy. Draw schematic diagram of NMR Spectrometer and explain its function. 17

Unit-II

2. Explain principle of NQR spectroscopy. Discuss coupling constant and splitting in NQR. 17

Unit-III

3. Explain zero field splitting and Kramer's degeneracy. Describe factors affecting 'g' value. 17

Unit-IV

4. Describe principle of X-ray diffraction. Discuss structure factor and Fourier synthesis. 17

Unit-V

5. Explain scattering of Neutrons by solids. Discuss measurement techniques of Neutron Diffraction. 17

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