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MSC4PhyC402x

Seat No : _____

M.SC.(Phy.) Semester - 4 (CBCS) Examination

May/June-2021 (NEW COURSE)

Experimental Techniques with interdisciplinary applications (Core)

Time: 1:30 Hours

Marks: 42

Instructions:

1. Figures to the right indicate marks.
 2. There are five questions in the question paper.
 3. Answer any three of the following questions.
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Que-1 Answer The Following Questions. (14)

- A. Discuss: Various sources of electromagnetic radiation.
- B. Discuss: Interaction of gamma radiation with matter.

Que-2 Answer The Following Questions. (14)

- A. Discuss: Continuous and characteristic X-ray spectra.
- B. Discuss: X-ray absorption and fluorescence technique.

Que-3 Answer The Following Questions. (14)

- A. Discuss with necessary figure: Continuous wave NMR spectrometer.
- B. Discuss: Hyperfine interaction in ESR spectroscopy.

Que-4 Answer The Following Questions. (14)

- A. Discuss: Various components of Mass spectrometer.
- B. Discuss: Various modes of vibrations of atoms in molecule.

Que-5 Answer The Following Questions. (14)

- A. Discuss: The important conditions to observe resonance fluorescence in Mossbauer spectroscopy.
- B. Write a note on Neutron diffraction and X-ray diffraction.
