

FYUGP/2nd Sem/25(NEP)New/Pr.

2025

Four Year Under Graduate Programme (FYUGP)

2nd Semester Examination (Under NEP)

(New Session 2024-25)

PHYSICS (Minor)

Paper Code : PHSMN MN-201

(Electricity and Magnetism)

(Practical)

Full Marks : 20

Time : Four Hours

Answer any *one* question on the basis of lottery.

(LNB : 3, Viva-voce : 4, and Experiment : 13)

1. Determine the capacitance of an unknown capacitor using De Sauty's bridge for a fixed frequency. Take atleast 5 readings.

(Working formula & Circuit Diagram - 2, Circuit Construction - 1, Method and Tabulation - 7, Calculation - 2, Accuracy - 1)

2. Study the current - voltage characteristics of a series RC circuit with AC source for a fixed frequency. Take at least 5 readings.

(Working formula & Circuit Diagram - 2, Circuit Construction - 1, Method and Tabulation - 5, Graph - 3, Calculation - 1, Accuracy - 1)

3. Study the frequency response of a series LCR circuit and determine (a) Resonance frequency, (b) Quality Factor. Take atleast 7 readings.

(Working formula & Circuit Diagram - 2, Circuit Construction - 1, Method and Tabulation - 5, Graph - 3, Calculation - 1, Accuracy - 1)

4. Study the frequency response of a parallel LCR circuit and determine (a) Anti-resonance frequency, (b) Quality Factor. Take at least 7 readings.

(Working formula & Circuit Diagram - 2, Circuit Construction - 1, Method and Tabulation - 5, Graph - 3, Calculation - 1, Accuracy - 1)

(3)

5. Determine the value of a given unknown resistance using Carey Fosters bridge. Take at least 5 readings.

(Working formula & Circuit Diagram - 2, Circuit Construction - 2, Method and Tabulation - 6, Calculation - 2, Accuracy - 1)
