

B.Sc. Semester - 3 (NEP-2020) Examination

OCT/NOV-2025

PHY: Fundamentals of AC Electronics (Major-6)

Time: 2:00 Hours

Marks:50

Instructions:

1. All questions are compulsory.
2. Figures to the right indicate marks.

-
- Que.1 Answer any 2 out of 3 following questions. (10)
- 1) Discuss power in the AC circuit.
 - 2) Discuss R-C circuit.
 - 3) Discuss the LCR series circuit with resonance.
- Que.2 Answer any 2 out of 3 following questions. (10)
- 1) Explain Owen's Bridge.
 - 2) Discuss in brief Wein's bridge.
 - 3) Discuss Maxwell's LC bridge.
- Que.3 Answer any 2 out of 3 following questions. (10)
- 1) Discuss positive feedback amplifier oscillator.
 - 2) With a neat diagram explain Hartley oscillator.
 - 3) Discuss the principle of the phase shift oscillator.
- Que.4 Answer any 2 out of 3 following questions. (10)
- 1) Discuss the Multimeter as a Voltmeter.
 - 2) Discuss the construction of the Cathode Ray Tube (CRT).
 - 3) Discuss the Multimeter as an Ammeter.
- Que.5 Answer any 5 out of 8 following questions. (10)
- 1) Explain in brief: R only in AC circuit.
 - 2) Write a short note on admittance.
 - 3) Draw a neat diagram of the De Sauty's bridge with notations.
 - 4) Which bridges are used for the measurement of capacitance?
 - 5) What are the different types of sinusoidal oscillators?
 - 6) Discuss the limitations of LC oscillators.
 - 7) What is the deflection sensitivity of CRT?
 - 8) What are the applications of Multimeter?
