

U.G. 6th Semester Examination-2021

PHYSICS

[HONOURS]

Discipline Specific Elective (DSE)

Course Code : PHY-H-DSE-T-04

(Experimental Technique)

Full Marks : 40

Time : 2½ Hours

The figures in the right-hand margin indicate marks.

Candidates are required to give their answers in their own words as far as practicable.

1. Answer any **five** questions : 2×5=10
- Explain electrostatic shielding.
 - What is S/N ratio?
 - What do you mean by random error?
 - What is a Thermistor?
 - Mention the advantages of Pirani gauge.
 - Write down the principle of Gas filled detector.
 - What is digital LCR Bridge?
 - Write briefly on Turbo Modular Pump.

2. Answer any **two** questions: 5×2=10
- What is safety grounding? State the methods of safety grounding.
 - What are the differences between ionization chamber and scintillation detector?
 - Draw the block diagram of RLC Bridge.
 - What is Q-meter? Explain its working operation.
3. Answer any **two** questions: 10×2=20
- Briefly discuss the Linear Variable Differential Transformer (LVDT).
 - Draw a block diagram of digital multimeter. Explain its principle of measurement and accuracy.
 - Explain transducers as electrical element. State its characteristics and signal conditioning. Why it is used for?
 - Write a short note on statistical analysis of data.