



**WEST BENGAL STATE UNIVERSITY**  
B.Sc. Programme 6th Semester Examination, 2022

**ELSGDSE04T-ELECTRONICS (DSE2)**

**ELECTRONIC INSTRUMENTATION**

Time Allotted: 2 Hours

Full Marks: 40

*The figures in the margin indicate full marks.  
Candidates should answer in their own words and adhere to the word limit as practicable.*

**GROUP-A**

**Answer any five questions from the following**

2×5 = 10

1. What are the advantages of digital voltmeter over analog voltmeter?
2. What do you mean by accuracy of an instrument?
3. What do you mean by electromagnetic interference?
4. Draw circuit for a 5 V regulated power supply using IC 7805.
5. Two power supplies A and B both have no load voltage (open circuit voltage) 12 V. For maximum load, they provide output voltages as 11.5 V and 11.8 V respectively. Explain, which power is better.
6. What do you mean by transducer? Give two examples.
7. Why, short circuit protection is required in power supply?
8. State importance of oscilloscope in electronic measurement.
9. How do you approach to measure a very high (of the order of MΩ) unknown resistance?

**GROUP-B**

**Answer any six questions**

5×6 = 30

10. With schematic diagrams, describe, how to measure current.

11. Two sinusoidal signals are only differed by a constant phase angle. Describe, how do you measure the phase difference using CRO.
- 12.(a) What is 10:1 probe of CRO? 2+2+1  
(b) State the difference between dual beam CRO and dual trace CRO.  
(c) A sine-wave signal is observed on CRO. The peak-to-peak voltage of the signal is found to be 80 mV. Calculate the RMS of the signal.
13. Describe Anderson bridge to measure an unknown inductance. 5
14. What is the main application of LVDT? Describe the operation of LVDT. 1+4
15. Compare between active and passive transducers. Describe the operation of photovoltaic cell as a light detecting transducer. 2+3
16. With neat diagram, explain the working of a power supply.
17. Explain the operation of a capacitive transducer.
18. Describe the measurement of temperature using RTD.

**N.B. :** *Students have to complete submission of their Answer Scripts through E-mail / Whatsapp to their own respective colleges on the same day / date of examination within 1 hour after end of exam. University / College authorities will not be held responsible for wrong submission (at in proper address). Students are strongly advised not to submit multiple copies of the same answer script.*

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