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Reg. No.................................

Name....................................

B.Sc. (ELECTRONICS AND COMPUTER HARDWARE) DEGREE (SPECIAL MERCY CHANCE) EXAMINATION, JANUARY 2025

Fourth Semester

ELECTRONIC INSTRUMENTATION

(Prior to 2009 Admissions)

Time : Three Hours

Maximum Marks : 75

Answer any **five** *questions.*
Each question carries 15 *marks.*

1. (a) Describe the main components of generalised measurement systems. (7)

   (b) Elucidate the working principle of a resistive position transducer. (8)

2. a) Assess the applications and limitations of capacitive transducers. (7)

   (b) Distinguish between the inductive transducers and variable inductance transducers. (8)

3. (a) What is a thermistor ? How does it differ from a thermocouple ? (7)

   (b) Explain the advantages of ultrasonic temperature transducer. (8)

4. (a) How does a bridge circuit improve the sensitivity of a measurement system ? (7)

   (b) Estimate the construction and working of a piezoelectric transducer with diagram. (8)

5. (a) Evaluate the purpose of a look-in amplifier in instrumentation systems. (7)

   (b) Compare and construct the chopper amplifiers and carrier amplifiers. (8)

6. (a) What are the different types of multimeters? Explain. (7)

   (b) Discover the components of cathode ray oscilloscope with diagram. (8)

7. (a) Express the working principle of a self-balancing potentiometer. (7)

   (b) How does digital tape recording differ from analog recording methods. (8)

8. (a) What is ultrasound and how is it generated in medical imaging systems? (7)

   (b) Compare the similarities and difference between ECG and EEG recorders. (8)

($5 \times 15 = 75$)