

FOURTH SEMESTER UG DEGREE EXAMINATION, APRIL 2025**(Regular/Improvement/Supplementary)****BCA****GBCS4A04T: SENSORS AND TRANSDUCERS****Time: 2 ½ Hours****Maximum Marks: 80****SECTION A: Answer the following questions. Each carries two marks.****(Ceiling 25 marks)**

1. What are radiation sensors? Give two examples.
2. Define microphone.
3. Differentiate between U tube and Well type manometer.
4. What do you mean by dielectric constant?
5. What are Thermal sensors?
6. State Bernoulli's principle.
7. What are thermocouples?
8. Write a note on hydraulic load cell.
9. What are level transducers? Give two examples.
10. State Hall effect principle.
11. What do you mean by a sensor?
12. Write short note on Capacitance.
13. State and explain Faraday's law of electromagnetic induction.
14. What is a Potentiometer?
15. What are tacho generators? Mention the types of tacho generators.

SECTION B: Answer the following questions. Each carries 5 marks**(Ceiling 35 Marks)**

16. Write a note on Resistive transducers. Explain the basic principle.
17. With neat diagram explain the working of ultrasonic level transducer.
18. How does eddy current transducers work? Explain.
19. Explain the working of GM detector.
20. What is Seebeck Effect? Give the temperature measurement formula of Thermocouples.
21. Give the difference between active and passive transducers. Give examples of each.
22. With the help of a diagram, explain the working of rotameter.
23. What are proving rings? Discuss its working with diagram.

SECTION C: Answer any two questions. Each carries ten marks.

24. Explain the construction and working of LVDT. Give any two advantages and disadvantages.
25. What is RTD? With a neat labeled diagram explain the construction and working principle of RTD.
26. Compare Orifice meter, Venturi meter and Flow nozzle.
27. With neat diagram explain photovoltaic cells. Discuss its advantages and disadvantages.

(2 x 10 = 20 Marks)