

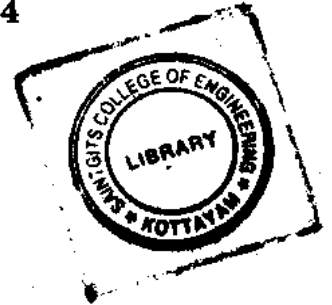
B.TECH. DEGREE EXAMINATION, MAY 2014**Eighth Semester**

Branch : Electrical and Electronics Technology

INSTRUMENTATION (E)

(Old Scheme—Prior to 2010 Admissions)

[Supplementary/Mercy Chance]



Maximum : 100 Marks

Time : Three Hours

Part A*Answer all questions.**Each question carries 4 marks.*

1. Differentiate between active and passive transducers with examples.
2. Briefly explain the role of instrumentation amplifier in instrumentation systems.
3. Explain the features of piezoelectric crystal with the help of its equivalent circuit.
4. Give a schematic to explain any one application of LVDT ?
5. How does a thermistor provide better sensitivity ?
6. Write short note on advantages and applications of optical pyrometer.
7. Explain the basic working principle of an ultrasonic flaw meter.
8. List the applications of accelerometer ?
9. Explain the concept of hygrometer.
10. Mention the salient features of Pirani gauge.

(10 × 4 = 40 marks)

Part B*Answer all questions.**Each question carries 12 marks.*

11. (a) Explain the input-output configuration of instrumentation system.
- (b) Mention the advantages of digital transducers.

(8 + 4 = 12 marks)

Or

12. Explain the first order and second order instruments with suitable examples.
13. Explain how does temperature affect the performance of strain gauge ? Give a schematic to compensate this ?

Or

Turn over

14. (a) Compare the performance of different capacitive transducers.
(b) Write a short note on load cell applications.

(7 + 5 = 12 marks)

15. What are the different types of resistance temperature detectors? How do you select them for specific applications?

Or

16. Write short notes on :
(a) radiation pyrometer ;
(b) thermocouple calibration.

(6 + 6 = 12 marks)

17. Explain the working principle of electromagnetic flow meter.

Or

18. Differentiate between null type and servo type accelerometers.
19. Explain the working of spectrum analyzer with the help of block diagram.

Or

20. (a) How do you measure pH of a solution?
(b) Write short note on McLeod gauge.

(6 + 6 = 12 marks)

[5 × 12 = 60 marks]

