

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
THIRD SEMESTER M.TECH DEGREE EXAMINATION
MECHANICAL ENGINEERING
(MACHINE DESIGN)
04ME7503 SENSORS FOR INDUSTRIAL APPLICATIONS

Time: 3 hrs

Max. Marks: 60

PART A

(Answer all questions. Each question carry 3 marks).

1. Discuss sensor errors.
2. Differentiate static and dynamic sensing.
3. Why Industries prefer predictive maintenance ?
4. Draw the circuit diagram of LVDT.
5. Briefly explain a pattern recognition technique.
6. How acoustic emission is applied on motor condition monitoring ?
7. Summarise optical character recognition technique.
8. What is RFID? Write its acronym. Mention one application.

PART B

(Each full question carries 6 marks).

9. Describe multiple ways to minimise sensor errors.

OR

10. Identify three static characteristics of sensor.
11. Recall the working of opto-electrical transducers.

OR

12. Outline principle behind LVDT, with a suitable example.
13. Detail selection procedures for force sensor.

OR

14. Illustrate the relevance of condition monitoring in preventive maintenance.
15. Show the working of a radiation sensor.

OR

16. Discuss the working of a sensor for monitoring pressure.

17. Explain two applications of acoustic emission sensor.

OR

18. Describe the sources of acoustic emission.

19. Illustrate the working of OCR.

OR

20. Discuss on Automatic Identification Techniques applied in Shop Floor Control.