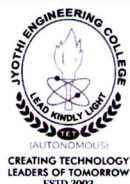


Reg No.: _____

Name : _____



Jyothi Engineering College(Autonomous)

B. Tech Degree S2 (S) Examination, June 2026 (2025 Scheme)

25MRT205 - TRANSDUCERS & MEASUREMENTS

Total Mark: 60



PART A

(Answer All Questions. Each question carries 3 marks)

1. Define active and passive transducers. Give one example for each. CO1 (3)
2. Define a diaphragm as a pressure sensitive devices. List any three advantages of diaphragm pressure sensor. CO1 (3)
3. State and explain the working principle of a photoelectric sensor. CO2 (3)
4. What is a thermistor? Explain its working principle briefly. CO2 (3)
5. Define accuracy and precision with respect to measuring instruments. CO3 (3)
6. Define direct and indirect methods of measurement with suitable examples. CO3 (3)
7. State and explain the general balance condition of an AC bridge. CO4 (3)
8. Explain DC bridge and state its principle of operation. CO4 (3)

PART B

(Answer any one full question from each module, each question carries 9 marks)

Module - 1

9. Explain in detail the construction, working principle, and applications of a bourdon tube used as pressure sensitive devices. CO1 (9)

OR

10. Explain primary and secondary transducers used in measurement systems with working principles, examples, and applications. CO1 (9)

Module - 2

11. Explain optical transducers. Describe their construction and working principle. CO2 (9)

OR

12. Explain the construction, working principle, types, and applications of a strain gauge used in measurement systems. CO2 (9)

Module - 3

13. Explain indicating, recording, and controlling functions of instruments. Draw and label a simple control system block diagram. CO3 (9)

OR

14. Explain the relationship between calibration and measurement error in measurement systems. Describe systematic errors and discuss how calibration helps in identifying and reducing systematic errors. CO3 (9)

Module - 4

15. Explain the construction and working of a Kelvin bridge with suitable diagram.

CO4 (9)

OR

16. What is a Digital Storage Oscilloscope (DSO)? Explain its working principle with the help of a neat block diagram.

CO4 (9)
