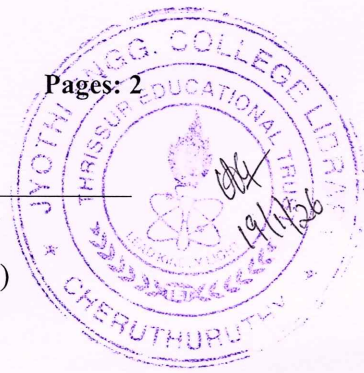


Reg No.: _____

Name: _____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
B.Tech Degree S2 (S) Examination January 2026 (2024 Scheme)



Course Code: PCMRT205

Course Name: TRANSDUCERS & MEASUREMENTS

Max. Marks: 60

Duration: 2 hours 30 minutes

PART A

(Answer all questions. Each question carries 3 marks)

		CO	Marks
1	Differentiate between active and passive transducers with examples.	CO1	(3)
2	List the different electrical phenomena that are utilized in the operation of transducers with examples	CO1	(3)
3	Explain the principle used in Hall effect transducers	CO2	(3)
4	Illustrate different calibration techniques in measurement?	CO2	(3)
5	Distinguish between direct and indirect method of measurement, providing one example of each	CO3	(3)
6	Explain the terms linearity and hysteresis	CO3	(3)
7	State one key difference between Wheatstone bridge and kelvins bridge. Why Kelvins bridge is used for the measurement of low resistance?	CO5	(3)
8	Explain the working principle of strip chart recorder	CO4	(3)

PART B

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

Module -1

- | | | | |
|----|---|-----|---|
| 9 | What do you mean by temperature detectors? Explain any two temperature detectors. | CO1 | 9 |
| 10 | Explain the different classification of electrical transducers. List any 3 advantages of electrical transducer. | CO1 | 9 |

Module -2

- | | | | |
|----|--|-----|---|
| 11 | Explain the working principle of strain gauge. Derive the gauge factor. | CO2 | 9 |
| 12 | Describe the operating principle of an LVDT. Explain its characteristics curve and discuss its application in displacement measurement | CO2 | 9 |

Module -3

- | | | | |
|----|---|-----|---|
| 13 | Draw the block diagram of generalized measurement system and explain each block in detail | CO3 | 9 |
| 14 | Define Static error. Explain in detail classification of errors. | CO3 | 9 |

Module -4

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|----|---|-----|---|
| 15 | Compare and contrast AC and DC bridges, highlighting their applications, sources and detectors. Give examples of specific AC bridge types and their uses. | CO5 | 9 |
| 16 | Explain the working principle of Cathode Ray Oscilloscope. How measurement is done using Cathode Ray Oscilloscope? | CO4 | 9 |
