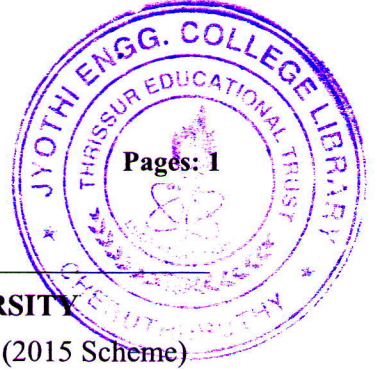


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Reg No.: \_\_\_\_\_

Name: \_\_\_\_\_

**APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY**

Third Semester B.Tech Degree (S,FE) Examination January 2022 (2015 Scheme)

**Course Code: MR205**

**Course Name: SCIENCE OF MEASUREMENTS**

Max. Marks: 100

Duration: 3 Hours

**PART A**

*Answer all questions, each carries 5 marks.*

- 1 Distinguish between direct and indirect measurements. (5)
- 2 Explain the dynamic response characteristics of first order instruments. (5)
- 3 Define active and passive transducer. (5)
- 4 What are the laws of thermocouples? (5)
- 5 What is meant by surface texture? How they are classified? (5)
- 6 What is the main linear and angular measurement instrument? (5)
- 7 What are the types of errors in thread? (5)
- 8 Explain with a neat sketch in detail about the two-wire method for measurement of effective diameter. (5)

**PART B**

*Answer any three questions, each carries 10 marks.*

- 9 Explain the generalised measurement system and their functional elements. (10)
- 10 Explain the method of inherent insensitivity and signal filtering. (10)
- 11 What are the different methods of correction for interfering and modifying inputs? Explain with example. (10)
- 12 With a neat sketch, explain the working of McLeod gauge. (10)
- 13 Write the working of piezoelectric transducer with suitable figures. (10)

**PART C**

*Answer any two questions, each carries 15 marks.*

- 14 Write short notes on the following: (15)
  - i) Slip gauges
  - ii) Tracer profilograph
  - iii) Surface texture
- 15 Write a note on Two wire method & Three wire method. (15)
- 16 Explain in detail about principle of Parkinson gear tester device with a neat sketch. (15)
- 17 Explain the classification of pitch errors. Explain with suitable figures. (15)

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