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Pages: 2

Reg No.: _____

Name: _____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

Third semester B.Tech degree examinations (S) September 2020



Course Code: MR205

Course Name: SCIENCE OF MEASUREMENT

Max. Marks: 100

Duration: 3 Hours

PART A

Answer all questions, each carries 5 marks.

- | | | Marks |
|---|--|-------|
| 1 | What are the types of input quantities? Explain briefly. | (5) |
| 2 | Elucidate zero order instruments. | (5) |
| 3 | Differentiate total and partial immersion thermometer. | (5) |
| 4 | Give a brief description about optical pyrometer. | (5) |
| 5 | How to measure distance between two points of cylindrical component? Explain the instrument used for it. | (5) |
| 6 | Illustrate the method used for surface texture measurement. | (5) |
| 7 | Define the terms
(1) Addendum
(2) Dedendum | (5) |
| 8 | Explicate three wire method used for measurement of effective diameter. | (5) |

PART B

Answer any three questions, each carries 10 marks.

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|----|---|------|
| 9 | a) List out the type of errors in measurement. Briefly explain. | (5) |
| | b) Differentiate systematic and random errors. | (5) |
| 10 | Differentiate first and second order instrument. | (10) |
| 11 | With neat figure explain the working of capacitive transducer. | (10) |
| 12 | Illustrate the instrument used for flow measurement. | (10) |
| 13 | a) State the laws behind thermo couple. | (5) |
| | b) Elucidate the working of the thermo couple. | (5) |

PART C

Answer any two questions, each carries 15 marks.

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|----|---|-----|
| 14 | a) Compare the operations of profilograph and tracer type profilograph. | (8) |
| | b) With neat fig. explain the operation of angle dekkor. | (7) |

- 15 a) Differentiate callipers and screw gauges. (8)
b) List out the types of vernier callipers used in engineering metrology. (7)
- 16 a) List out the errors in screw thread profiles, explain in detail. (8)
b) Illustrate the methods used for measuring major diameter. (7)
- 17 a) For measuring gear profile, what are the factors we considered? Briefly explain. (8)
b) How to measure tooth spacing in gear profile measurement. (7)
