

Reg No.: _____

Name: _____

**APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
THIRD SEMESTER B.TECH DEGREE EXAMINATION(S), MAY 2019**

Course Code: MR205

Course Name: SCIENCE OF MEASUREMENTS

Max. Marks: 100

Duration: 3 Hours

PART A

Answer all questions, each carries 5 marks.

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| 1 | Explain any 5 methods of measurement. | 5 |
| 2 | With a neat figure, explain high gain feedback. | 5 |
| 3 | Compare and contrast primary and secondary transducers. | 5 |
| 4 | Write a note on liquid in glass thermometer. | 5 |
| 5 | What is wringing? Explain the procedure | 5 |
| 6 | Write a note on angle measurement using angle dekkor. | 5 |
| 7 | What are the types of errors in thread? | 5 |
| 8 | Explain the working of bench micrometer. | 5 |

PART B

Answer any three questions, each carries 10 marks.

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| 9 | What is propagation of uncertainty? Explain Kline McIntock method | 10 |
| 10 | Write a note on zero order, first order and second order measuring devices | 10 |
| 11 | a) What is the use of a strain gauge? | 2 |
| | b) Explain the term gauge factor and derive the formula for a strain gauge | 8 |
| 12 | With a neat figure, explain McLeod gauge working. | 10 |
| 13 | What is method of opposing input? | 10 |

PART C

Answer any two questions, each carries 15 marks.

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| 14 | Explain the working of autocollimator with a figure | 15 |
| 15 | a) What is a sine bar? Explain with a figure | 8 |
| | b) What is the role of slip gauges in measurement using sine bar | 7 |
| 16 | Explain the classification of pitch errors | 15 |
| 17 | Write a note on Two wire method & Three wire method | 15 |