

Reg No.: _____

Name: _____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

Fifth Semester B.Tech Degree Regular and Supplementary Examination December 2020

Course Code: AE303**Course Name: ELECTRICAL MEASUREMENTS AND MEASURING INSTRUMENTS**

Max. Marks: 100

Duration: 3 Hours

PART A*Answer any two full questions, each carries 15 marks.*

Marks

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| 1 | a) Define any two types of errors in an instrumentation system. | (10) |
| | b) Explain Threshold and Resolution in an instrument. | (5) |
| 2 | a) Differentiate between absolute and working standards. | (5) |
| | b) Elaborate the working of a PMMC type instrument. | (10) |
| 3 | a) Draw the circuit of a rectifier voltmeter and explain its working. | (7) |
| | b) Explain the working of a thermal instrument. | (8) |

PART B*Answer any two full questions, each carries 15 marks.*

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| 4 | a) Demonstrate the measurement of an unknown medium resistance using Wheatstone's Bridge. | (8) |
| | b) Explain the principle of operation of a Carey Foster Slide Wire Bridge | (7) |
| 5 | a) Describe the working principle of AC potentiometers. | (5) |
| | b) Explain coordinate type and polar type of AC potentiometers. | (10) |
| 6 | a) Demonstrate the working of Kelvin Bridge stating its advantage. | (8) |
| | b) Explain the working of Schering's bridge with circuit diagram. | (7) |

PART C*Answer any two full questions, each carries 20 marks*

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| 7 | a) With a block diagram, describe the working of a DSO. | (15) |
| | b) Describe the working of a strip chart recorder. | (5) |
| 8 | a) What is a thermocouple? Explain the working of thermocouple instruments. | (10) |
| | b) Elaborate the working of a true RMS meter. | (10) |
| 9 | a) Illustrate the working of a Q-meter with a basic circuit and explain any one measurement method. | (10) |
| | b) With block diagram elaborate the working of a spectrum analyser. | (10) |
