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| **APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY**  FOURTH SEMESTER B.TECH DEGREE EXAMINATION, DECEMBER 2018 | | | |
| **Course Code: EE208** | | | |
| **Course Name: MEASUREMENTS AND INSTRUMENTATION(EE)** | | | |
| **Scheme of Valuation/Answer Key** | | | |
| (Scheme of evaluation (marks in brackets) and answersof problems/key) | | | |
| **PART A** | | | |
|  |  | ***Answer all questions, each carries5 marks.*** | Marks |
| 1 |  | Accuracy(2mark),Resolution (1mark),precision(2marks) | (5) |
| 2 |  | Circuit Diagram (3Marks),Explanation(2marks) | (5) |
| 3 |  | Construction with Circuit Diagram (2marks),Explanation(3marks) | (5) |
| 4 |  | Definition and Explanation (2marks),Optical Sensors(1.5marks),proximity sensors(1.5mark) | (5) |
| 5 |  | General principle (2marks),Two types of AC potentiometer(3marks) | (5) |
| 6 |  | Circuit Diagram (2marks),Derivation (3marks) | (5) |
| 7 |  | Circuit Diagram(2marks),Working (3marks) | (5) |
| 8 |  | General principle(2marks),Circuit Diagram(1mark),Working(2marks) | (5) |
| **PART B** | | | |
| ***Answer any twofull questions, each carries15marks.*** | | | |
| 9 |  | Circuit diagram(2marks),Construction(2marks),Torque Equation(4marks),Errors(2marks) | (10) |
| 10 |  | Circuit diagram(3marks), Construction (3 marks) working principle (4 marks) | (10) |
| 11 | a) | Any four points about TOD Meter (5marks) | (5) |
|  | b) | i)Resistance connected in parallel=0.030ohms(2.5marks)  ii)Resistance connected in series=9997ohms(2.5marks) | (5) |
| **PART C** | | | |
| ***Answer any twofull questions, each carries15 marks.*** | | | |
| 12 |  | Ratio error=-4.178%(7marks),phase angle error=2.83(3marks) | (10 ) |
| 13 |  | Construction(2marks),Circuit diagram(4marks),Derivation(4marks) | (10) |
| 14 | a) | Circuit diagram(2 marks) Description for different methods for measurement of AC voltages (3 marks) | (5) |
|  | b) | Circuit diagram(2 marks), determination of BH curve (3 marks) | (5) |
| **PART D** | | | |
| ***Answer any twofull questions, each carries 20 marks.*** | | | |
| 15 |  | Block diagram(3marks),function of each block(5mark),working principle(2mark) | (10) |
| 16 | a) | R2 value=387.7(3marks),frequency value=218Hz(2marks) | (5) |
|  | b) | Block diagram (2marks),explanation (3marks) | (5) |
| 17 | a) | General principle(2marks),Circuit Diagram(2marks),Working(2marks) | (6) |
|  | b) | Any four points about thermistor (4 marks) | (4) |
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