

B.Tech IV Year II Semester (R15) Advanced Supplementary Examinations July 2019

**INSTRUMENTATION**

(Electrical &amp; Electronics Engineering)

Time: 3 hours

Max. Marks: 70

**PART – A**

(Compulsory Question)

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1 Answer the following: (10 X 02 = 20 Marks)

- (a) What is gross error? List out different types of gross errors.
- (b) What is the use of standard test signals?
- (c) What is Time Division Multiplexing (TDM)?
- (d) List out the components of analog DAS.
- (e) What is the difference between wave analyzer and harmonic distortion analyzer?
- (f) Specify the advantages of DVM over analog voltmeters.
- (g) Distinguish between bonded and unbonded strain gauges.
- (h) Name different types of photo-electric transducers.
- (i) List out different types of flow meters.
- (j) Explain the Seebeck effect.

**PART – B**

(Answer all five units, 5 X 10 = 50 Marks)

**UNIT – I**

2 What are sources of errors? Explain dynamic characteristics of instrument.

**OR**

3 What are different types of errors? Explain the use of pulse modulation and pulse code modulation in instrumentation.

**UNIT – II**

4 What are different modulation techniques used in instrumentation? Explain with neat sketches.

**OR**

5 Explain the different types of multiplexing systems with suitable diagrams and sketches.

**UNIT – III**

6 What is special significance of frequency selective wave analyzer? Explain its operation with neat diagrams.

**OR**

7 Explain the operation of integrating type digital voltmeter with neat sketch and example.

**UNIT – IV**

8 What is resistive transducer? Explain different types of resistive transducers with suitable sketches.

**OR**

9 List out different types of photo – electric transducers. Explain each of them with suitable diagrams.

**UNIT – V**

10 What are different types of pressure transducers? Explain them with neat sketches.

**OR**

11 Explain different types of temperature measuring transducers with suitable diagrams.

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