Code: 15A02801

R15

B.Tech IV Year II Semester (R15) Regular Examinations April 2019

INSTRUMENTATION

(Electrical & 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 systematic error? List out different types of systematic errors.
(b) Define average deviation and standard deviation.
(c) What is frequency division multiplexing (FDM)?
(d) What is the difference between pulse modulation and frequency modulation?
(e) List out applications of spectrum analyzers.
(f) Define sensitivity of digital meter.
(g) What are the differences between thermocouples and thermistors?
(h) Mention the applications of capacitive transducers.
(i) Write equivalent circuit of piezoelectric crystal.
(j) Define pyrometers.

PART – B

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

UNIT – I

2 Explain various types of static characteristics with suitable examples.

OR

3 What are standard test signals? Explain their importance in instrumentation with neat diagrams.

UNIT – II

4 Explain about analog DAS and digital DAS with neat diagrams and sketches.

OR

5 What are different types of data transmission systems used? Explain in detail.

UNIT – III

6 What is spectrum analyzer? Explain various types of spectrum analyzers with neat sketches.

OR

7 Explain with neat diagram, the working of digital frequency meter.

UNIT – IV

8 What is inductive transducer? Explain different types of inductive transducers with neat sketches.

OR

9 What is synchro? Explain the operation of different synchros with suitable examples.

UNIT – V

10 List out various flow transducers and explain the operation with suitable sketches.

OR

11 Compare different types of temperature measuring transducers and write its applications.

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