

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

**INSTRUMENTATION**

(Electrical &amp; Electronics Engineering)

Time: 3 hours

Max. Marks: 70

**PART – A**

(Compulsory Question)

\*\*\*\*\*

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.

\*\*\*\*\*