BEE3602

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Following Paper ID and Roll No. to be filled in your Answer Book.

PAPER ID : 33325 Roll No.

B. Tech Examination 2021-22

(Even Semester)

ELECTRICAL INSTRUMENTATION AND PROCESS CONTROL

Time : Three Hours] *[Maximum Marks : 60*

Note :– Attempt all questions.

SECTION – A

1. Attempt all parts of the following : $8 \times 1 = 8$

   (a) Define Hall effect.

   (b) What is the difference between active and passive transducer?

   (c) Define resistance thermometer.

   (d) Define the term "Telemetry".

   (e) What is the need of data transmision and telemetry?

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(f) What are the different types of telemetering system?

(g) Discuss the advantages of digital oscilloscope over analog oscilloscope.

(h) Mention the use of capacitive transducer.

SECTION – B

2. Attempt any two parts of the following : $2 \times 6 = 12$

(a) What is the difference between LVDT and RVOT in detail?

(b) Descirbe the basic components of magnetic tape recorder and application using direct techniques .

(c) With the help of a block diagram explain the general telemetry system.

(d) What is a process control? Explain with a suitable example. Also explain the term control action.

SECTION – C

Note:- Attempt all questions. Attempt any two parts from each questions. $8 \times 5 = 40$

3. (a) Discuss the method of measurement of motion.

(b) Explain amplitude modulation for telemetry.

(c) Write a short note on prevmatic controllers.

4. (a) Explain in brief with the help of examples :

(i) Primary transducer

(ii) Secondary transducer

(b) Write short notes on :

(i) Thermocouples

(ii) Thermistars

(c) Discuss various types of transducers with examples. What are the basic requirements of a transducers?

5. (a) What is a data acquisition system (DAS)? Explain the role played by its different elements. Also, describe various types of multiplexer used.

(b) With neat diagram explain the working principle of x-y recorders. Also write its three applications.

(c) Write a short note on spectrum analyzer.