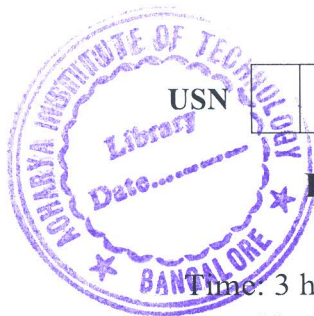


CBCS SCHEME

17MT52



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Fifth Semester B.E. Degree Examination, Dec.2019/Jan.2020 Virtual Instrumentation

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. Explain the working of PC based data acquisition system. (10 Marks)
- b. Explain the concept of multiplexing the analog inputs and briefly explain the types. (10 Marks)

OR

- 2 a. Define Virtual Instrumentation (VI). Explain the architecture of VI. (10 Marks)
- b. Explain the operation of single ended input and differential inputs with neat diagram. (10 Marks)

Module-2

- 3 a. Define sampling and explain the working of sample and hold circuit with neat sketches. (10 Marks)
- b. Explain different I/O techniques used in data acquisition using a flow chart. (10 Marks)

OR

- 4 a. Explain the concept of successive Approximation Analog to Digital converter. (10 Marks)
- b. Explain the concept of Digital I/O in data acquisition system. (10 Marks)

Module-3

- 5 a. Define structures. Explain different types of structures available in Lab view. (10 Marks)
- b. Define Labview. Explain the important components of Labview. (10 Marks)

OR

- 6 a. With the example, explain any five string functions. (10 Marks)
- b. Explain the significance of file I/O in Labview. Also explain different types of file I/O formats available in Labview. (10 Marks)

Module-4

- 7 a. Explain the architecture of OSI model. (10 Marks)
- b. Explain the architecture of IEEE 488 bus system with neat diagram. (10 Marks)

OR

- 8 a. With the neat diagram, explain mod Bus protocol. (10 Marks)
- b. Explain the concept of Universal Serial Bus. (10 Marks)

Module-5

- 9 a. Design a PID controller. (10 Marks)
- b. Build a VI for simple second order system. (10 Marks)

OR

- 10 a. Design a temperature monitoring system for continuously monitoring the heat exchanger using Labview. (10 Marks)
- b. Design a VI for generation of HTML page. (10 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
 2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.