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USN

18MT53

(10 Marks)

(10 Marks)

## Fifth Semester B.E. Degree Examination, Jan./Feb. 2023 Virtual Instrumentation

Time: 3 hrs.

Max. Marks: 100

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

Module-1 Define VI. With a neat block diagram, explain the architecture of VI. (12 Marks) 1 Explain the following: (i) Need of VI (ii) Advantages of VI (08 Marks) b. With a neat diagram, explain the PC based data acquisition system. (10 Marks) 2 a. Explain the different types of multiplexing of analog input techniques. (10 Marks) b. Module-2 With a neat diagram, explain sample and hold circuit. 3 (10 Marks) Explain successive approximation ADC techniques. (10 Marks) OR Explain the following: DAQ software (06 Marks) a. **DMA** (06 Marks) b. (08 Marks) Counters and timers Module-3 Define LabView. Explain the components of LabView. (12 Marks) 5 Explain for loop and while loop with an example. (08 Marks) b. Explain any five string function with an syntax. (10 Marks) With a VI diagram, explain read and write of file I/O. (10 Marks) b. Module-4 (ii) USB Explain the following: (i) RS-232 (10 Marks) (10 Marks) Explain architecture of OSI model. OR Explain architecture of Modbus Protocol. (10 Marks) (10 Marks) Explain architecture of CAN Bus. Module-5 Explain the following: 9 b. Power spectrum Fourier transform a. d. Windowing and filtering tools Correlation (20 Marks)

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With a neat VI diagram, explain PID controller.

With a neat VI, explain generation of HTML page.