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00730

Jan. 2022

B.Tech. (EIC) - V SEMESTER Virtual Instrumentation//Virtual / Intelligent Instrumentation Computer Architecture (OEL-503//EIEL-503)

Time: 90 Minutes]

[Max. Marks: 25

Instructions:

- 1. It is compulsory to answer all the questions (1 mark each) of Part-A in short.
- 2. Answer any three questions from Part-B in detail.
- 3. Different sub-parts of a question are to be attempted adjacent to each other.

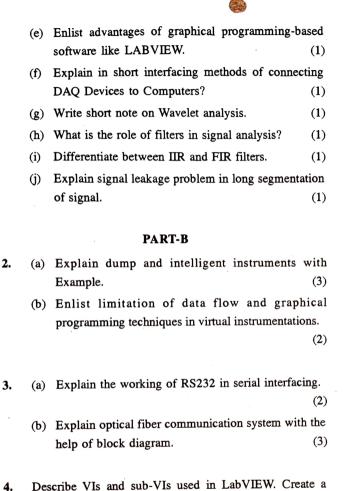
PART-A

- (a) What are various elements of an intelligent instrument?
 - (1) (1)

(1)

- (b) What is software-based instrumentation.
- (c) If the speed of I/O devices does not match the speed of the microprocessor, what type of data transfer techniques is used? (1)
- (d) Built a VI to find factorial of a number.
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VI to select between two input clusters using a toggle

2

(5)

switch and display in an output cluster.



5. (a) A 8 bit D/A Converter has a referenced voltage of 12 V. It uses a weighted resistive network. Find the minimum value of resistance R to be connected to MSB input circuit such that maximum output current does not exceed 10 mA. Find the smallest quantified value of current. (3)

(b) Define VI's loops and charts. (2)

6. (a) Explain wait state generator implementation required for memory interfacing in detail. (2)

(b) Discuss various types of signals used in memory decoding while microprocessor interfacing. (3)