**14EI803 (A)/EI423**

**Hall Ticket Number:**

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| **IV/IV B.Tech (Regular / Supplementary) DEGREE EXAMINATION** | | | |
| **July, 2021** | **Electronics and Instrumentation Engineering** | | |
| **Eighth Semester** | **PC Based Instrumentation** | | |
| **Time:** Three Hours | | **Maximum :** 60 Marks | |
| *Answer ALL Questions from PART-A.* | | | (1X12 = 12 Marks) |
| *Answer* ***ANY FOUR*** *questions from PART-B.* | | | (4X12=48 Marks) |
| Part - A | | | |

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| 1 | Answer all questions | | (1X12=12 Marks) | |
|  | a) | Define Nyquist Rate | |  |
|  | b) | What is meant by Accuracy of the sensor | |  |
|  | c) | Describe the need of signal conditioning? | |  |
|  | d) | What is the use of add-on cards? | |  |
|  | e) | List the advantages of programmable instruments? | |  |
|  | f) | What is meant by static device driver? | |  |
|  | g) | What is meant by virtual instrument? | |  |
|  | h) | List the advantages of graphical programming? | |  |
|  | i) | Write the uses of OPC? | |  |
|  | j) | What is the use of tunnel? | |  |
|  | k) | Write the difference between waveform chart and waveform graph? | |  |
|  | l) | Define PXI? | |  |
| **Part - B** | | | | |
| 2 | a) | Explain the building blocks of data acquisition system with a neat sketch | | 6M |
|  | b) | Write a brief note on ISA bus | | 6M |
|  | | | | |
| 3 | a) | Describe the requirements of data acquisition software | | 6M |
|  | b) | Write a detailed note on VME bus? | | 6M |
|  | | | | |
| 4 |  | Why add on cards are required? Explain the add on card design considerations? | | 12M |
|  | | | | |
| 5 |  | What is meant by device driver? Explain how to develop a device driver? | | 12M |
|  | | | | |
| 6 | a) | With a neat sketch explain the architecture of virtual instrumentation model? | | 6M |
|  | b) | Write a brief note on Embedded Controller | | 6M |
|  | | | | |
| 7 | a) | Write the advantages of data flow programming | | 4M |
|  | b) | Explain how virtual instruments are different from traditional instruments | | 8M |
|  | | | | |
| 8 | a) | Write the differences between wave form chart and waveform graph and explain various modes of waveform chart? | | 6M |
|  | b) | Write a short note on USB? | | 6M |
|  | | | | |
| 9 | a) | Write a detailed note on data types available in LabVIEW? | | 6M |
|  | b) | Write a detailed note on Virtual instrumentation software architecture? | | 6M |

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