Reg No.:_____ Name:_____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

FIFTH SEMESTER B.TECH DEGREE EXAMINATION(R&S), DECEMBER 2019

Course Code: AE361

Course Name: VIRTUAL INSTRUMENT DESIGN

Max. Marks: 100 Duration: 3 Hours

PART A

Answer any two full questions, each carries 15 marks. Marks

1	a)	Explain the working of R-2R ladder DAC.	(6)
	b)	With the help of example, explain quantization process.	(6)
	c)	State sampling theorem.	(3)
2	a)	Explain the different phases of virtual instrumentation.	(6)
	b)	Compare traditional instruments with virtual instruments.	(6)
	c)	Explain data flow programming techniques.	(3)
3	a)	Explain successive approximation ADC.	(8)
	b)	Draw and explain the architecture of virtual instrument.	(7)

PART B

Answer any two full questions, each carries 15 marks.

4	a)	Explain different loops in VI programming.	(7)
	b)	What are the steps required to create a Sub VI?	(5)
	c)	What are the differences between Cluster and Array?	(3)
5	a)	Draw and explain PC based data acquisition.	(7)
	b)	What are the benefits of using DMA?	(5)
	c)	Explain the concept of DAC.	(3)
6	a)	Explain the various functions used in VI programming.	(8)
	b)	Draw and explain the architecture of DMA controller.	(7)

PART C

Answer any two full questions,each carries 20 marks.

7	a)	Explain RS 232C interface.	(5)
	b)	What are the applications of Virtual instrument software Architecture?	(5)
	c)	Explain different types of SCSI connector.	(5)

	d)	What is current loop interfacing?	(5)
8	a)	Explain instrument control using VI programming.	(5)
	b)	What are the features of Data base connectivity Tool Kit?	(5)
	c)	Explain different components of a motion control system.	(10)
9	a)	Explain VXI bus interface.	(10)
	b)	Explain various tool sets in VI programming.	(10)

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