Reg No.:_____ Name:_____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

V SEMESTER B.TECH DEGREE EXAMINATION(S), MAY 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 process of conversion of continuous time signals into the digital domain	(10)
	b)	With a block diagram explain the concept of DAC. List different types of DAC	(5)
2	a)	Draw and explain the architecture of a virtual Instrument system	(8)
	b)	Differentiate conventional programming and graphical programming	(7)
3	a)	Discuss the salient features of virtual instruments when compared to conventional instruments.	(7)
	b)	Discuss the advantage of digital signals over analog signals	(5)
	c)	State the sampling theorem	(3)

PART B

Answer any two full questions, each carries 15 marks.

4	a)	Explain in detail about PC based data acquisition system	(6)
	b)	Describe the application techniques used with digital I/O.	(9)
5	a)	Explain about arrays and clusters in LabVIEW	(6)
	b)	Write the steps to create case structures in LabVIEW programming	(4)
	c)	Explain how to create VI from state diagram using state machine.	(5)
6	a)	Explain in detail about formulae node	(6)
	b)	Explain the components of waveform graphs in Lab VIEW	(5)
	c)	What the basic functions of file Input and Output operations? Explain the file formats used in LabVIEW.	(4)

PART C

Answer any two full questions, each carries 20 marks.

7	a)	Explain about the typical GPIB devices and configurations	(10)

	b)	Explain in detail about USB	(5)
	c)	Compare the features of RS 232 and RS-485 interface	(5)
8	a)	What is VISA? List its advantages	(8)
	b)	What is firewire? Explain its features	(4)
	c)	Explain PCI BUS and PCMCIA interface	(8)
9	a)	What is called distributed I/O module? Explain the components and function any one distributed I/O system with proper illustration	(10)
	b)	Draw and explain the different components of a motion control system.	(10)

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