Enrolment No.

## **GUJARAT TECHNOLOGICAL UNIVERSITY**

	Subject Code: 2723101 Subject Name: Virtual Biomedical Instrumentation Time:10:30 am to 01:00 pm Instructions:  Total Marks: 7			
	2.	Attempt all questions.  Make suitable assumptions wherever necessary.  Figures to the right indicate full marks.		
Q.1	(a)	Explain technical aspects of Data acquisition system for Virtual Instrumentation systems.	07	
	<b>(b)</b>	Enlist type of ADC. Explain fastest ADC.	07	
Q.2	(a) (b)	Compare Virtual Instrumentation with conventional programming technique.  Explain the concept of clusters, case & sequence structures for programming.  OR	07 07	
	(b)	Explain concept of local & global variable for programming with example.	07	
Q.3	(a)	What is the need of virtual Instrumentation? Explain historical perspectives of Virtual Instrumentation.	07	
	<b>(b)</b>	Write a short note on PC Hardware structure for VI systems.  OR	07	
Q.3	(a) (b)	Draw block diagram & Explain architecture of Virtual Instrumentation. Explain concept of VIS & Sub VIS for programming.	07 07	
Q.4	(a) (b)	Explain use of Virtual Instrumentation for medical applications like spirometer.  Discuss the role of software in Virtual Instrumentation.  OR	07 07	
Q.4	(a)	Explain use of Virtual instrumentation for process control designing application with any one Example.	07	
	(b)	Discuss the roll of Virtual instrumentation for medical Image acquisition and processing in Diagnostic field.	07	
Q.5	(a) (b)	Explain technical aspects of Common Instrument Interfaces for Current loop. Draw the physical bus structure of GPIB Bus structure with description of each pin function.	07 07	
Q.5	(a) (b)	OR Explain technical aspects of RS 232C Interface. Give technical description of Virtual Instrumentation software architecture (VISA) system.	07 07	

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