Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

ME – SEMESTER III (OLD) – EXAMINATION – SUMMER-2017

Subject Code: 730406 **Date : 04/05/2017**

Subject Name: Peripheral System Design and Interfacing

Time:02:30 pm to 05:00 pm **Total Marks: 70**

Instructions:

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Q.1	(a)	What do you mean by Bus? Explain bus structure and bus design in detail.	07
	(b)	Explain in brief I) ISA II) EISA III) VESA-VL IV) MCA V) PCI VI) USB VII) GPIB bus systems in microcomputers.	07
Q.2	(a)	Explain RS-232 C standard with its voltage level and connectors. Also mention its key features and limitations.	07
	(b)	What is CENTRONICS? Explain SPP signal and handshake with timing diagram for CENTRONICS.	07
		OR	
	(b)	Compare serial data transfer with parallel data transfer in detail.	07
Q.3	(a)	Give the classification of GPIB bus signal. Explain each signal in brief.	07
	(b)	1. Explain GPIB bus configuration with their advantage and disadvantage. 2. Explain serial and parallel method of polling in GPIB.	07
		OR	
Q.3	(a)	What is PCI bus? What are the benefits of using PCI bus for the data acquisition and imaging application?	07
	(b)	1. Explain serial communication using null modem and loop back plug. 2. Explain DTE/DCE Speed.	07
Q.4	(a)	Draw block diagram for CRT. State different contention schemes in CRT controller. Explain two of them in detail.	07
	(b)	Draw functional block diagram of DMA controller. Explain DMA operation.	07
		OR	
Q.4	(a)	Draw and explain the internal block diagram of keyboard / display interface 8279.	07
	(b)	Draw and explain block diagram of the PID controllers and also write its limitation.	07
Q.5	(a)	Explain Programmable Logic Controllers with example.	07
	(b)	What is Data Acquisition System? Draw and explain block diagram of PC based Data acquisition System.	07
		OR	
Q.5	(a)	Define Program development tool. Explain any six different program development tools used in Micro-processor based system with models.	07
	(b)	1. Explain current loop interface. 2. State and Explain pin function of RS-232 interface.	07

****