Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY ME Semester –III Examination Dec. - 2011

| • | ubject code: 730406 Date: 08/12 | | | | |
|--------|---------------------------------|--|--------------|--|--|
| - | | Name: Peripheral System Design & Interfacing 0.30 am – 01.00 pm Total Marks: | al Marks: 70 | | |
| Instru | 1. 2. | ns: Attempt all questions. Make suitable assumptions wherever necessary. Figures to the right indicate full marks. | | | |
| Q.1 | (a) (b) | • | 07 07 | | |
| Q.2 | (a) | Give answer of following questions. (i) What are the major advantages offered by PCI bus? What is the purpose of the configuration memory found on the PCI bus? (ii) Discuss benefits of PCI bus for various applications. | 07 | | |
| | (b) | Give answer of following questions. (i) Can I connect a serial A/D to my computer's Serial port? If yes what are the problems? What is Bit-Banging? (ii) Compare serial data transfer with parallel data transfer and state advantages of using serial data transfer rather than parallel. | 07 | | |
| | (b) | • | 07 | | |
| Q.3 | (a) | Give answer of following questions. (i) Explain RS-449 communication interface in brief. (ii) Describe current loop interface. | 07 | | |
| | (b) | 1 I | 07 | | |
| Q.3 | (a) | - | 07 | | |
| | (b) | | 07 | | |
| Q.4 | (a) | List various schemes for memory contention control of a CRT display system. Explain CRT display system with transparent addressing. | 07 | | |
| | (b) | Draw and explain block diagram of PID controller. Also give its limitations. | 07 | | |

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| Q.4 | (a) | Elaborate the need of a dedicated Keyboard/Display controller. Draw | 07 | |
| | | and discuss architecture of the Keyboard/Display controller 8279. | | |
| | (b) | Give answer of following questions. | 07 | |
| | | (i) Write general function of CRT controller. What is the principle of | | |
| | | displaying characters or graphic on CRT screen? | | |
| | | (ii) Describe VESA local bus including its flaws. | | |
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| Q.5 | (a) | What is the advantage of DMA controlled data transfer over interrupt | 07 | |
| driven or program controlled data transfer? Draw and discuss | | | | |
| | | architecture of 8257 DMA controller. | | |
| | (b) | Give answer of following questions. | 07 | |
| | (0) | (i) Describe Programmable logic controllers with its features. Also list | 07 | |
| | | Traditional PLC applications, advantages and disadvantages of | | |
| | | PLC control. | | |
| | | | | |
| | | (ii) What is data acquisition system? | | |
| 05 | (a) | on a | 07 | |
| Q.5 | (a) | Write brief note on GPIB and GPIB programming techniques. Also | 07 | |
| | | mention advantages and disadvantages of GPIB. | 07 | |
| | (b) | Give answer of following questions. | 07 | |
| | | (i) What do you understand by Microprocessor Development System | | |
| | | (MDS)? What are its hardware and software support? | | |
| | | (ii) What is in- circuit emulators? Discuss its function in brief. | | |
