

GUJARAT TECHNOLOGICAL UNIVERSITY

M. E. Sem. – III - Examination –June- 2011

Subject code:730406

Subject Name: Peripheral System Design & Interfacing

Date:07/06/2011

Time: 10.30 am – 01.00 pm

Total Marks: 70

Instructions:

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

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|------------|-----|---|-----------|
| Q.1 | (a) | Explain in detail function of MCR & LCR | 07 |
| | (b) | What is centronics? Explain operation of centronics protocol with timing diagram. | 07 |
| Q.2 | (a) | State operating modes of parallel port & explain procedure for using parallel port to input 8 bits. | 07 |
| | (b) | Explain Bus design in detail. | 07 |
| | | OR | |
| | (b) | Explain bidirectional operation of SPP. | 07 |
| Q.3 | (a) | Compare serial data transfer with parallel data transfer. Give advantages of serial data transfer. | 07 |
| | (b) | Write short notes on
1. PS/2 2. DTE/DCE Speeds | 07 |
| | | OR | |
| Q.3 | (a) | What are the basic signal conditioning requirements of below transducers
1. RTD 4. Strain Guage
2. Thermistor 5. Current O/P device . 3.
Thermocouple 6. IC temp sensor | 07 |
| | (b) | Classify GPIB bus configurations & bus signals & explain in detail control signals. | 07 |
| Q.4 | (a) | Draw & explain how seven segment display device is interfaced with microcontroller. | 07 |
| | (b) | Draw functional block diagram of DMA controller & explain DMA operation. | 07 |
| | | OR | |
| Q.4 | (a) | Write a short note on PID controller. | 07 |
| | (b) | What is PLC? Discuss its advantages with appropriate examples. | 07 |
| Q.5 | (a) | Write a short note on
1. Cross compilers 2. Simulator & Emulator | 07 |
| | (b) | Draw & explain the block diagram of PC based DAS. | 07 |
| | | OR | |
| Q.5 | (a) | Write short notes on
1. PCI BUS 2. EISA BUS | 07 |
| | (b) | Explain how ADC & DAC cards are interfaced with microcontroller with instructions. | 07 |
