Seventh Semester B.Tech. Degree Examination, February 2017
(2008 Scheme)
08-704 Elective – III (g) : MICROPROCESSOR BASED SYSTEM DESIGN (E)

Time : 3 Hours
Max. Marks : 100

PART – A

Answer all questions :

1. What is meant by a port and state the need of it? Give some examples of port devices.

2. List the various operating modes of INTEL 8253 Programmable Interval Timer.

3. What is meant by an interrupt? Classify the interrupts and explain how a microprocessor services an interrupt request.

4. What is meant by polling of interrupts? List the different types of polling.

5. What is meant by RS-232C standard? State the voltage levels that are used in RS-232C serial communication standard.

6. State the information that can be obtained from the status word of INTEL 8251 USART.

7. List the tasks involved in keyboard interfacing.

8. What is the maximum number of key codes that can be generated using INTEL 8279 Keyboard/Display Controller?

9. How the physical address for fetching the next instruction to be executed is obtained in INTEL 8086 processor?

10. List out the segment registers used in INTEL 8086 microprocessor.

(10×4=40 Marks)

P.T.O.
PART - B

Answer any one full question from each Module.

Module - 1

11. Draw and explain the block diagram of INTEL 8255 PPI (Programmable Peripheral Interface) and discuss in brief the three modes of operation of it.

12. Explain in detail with a neat sketch how INTEL 8259 PIC (Programmable Interrupt Controller) can be used for interrupt generation and control. List the salient features of it.

Module - 2

13. With a neat sketch explain how INTEL 8257 DMA (Direct Memory Access) controller is connected to the INTEL 8085 microprocessor. Outline the sequence of operation needed in performing a DMA transfer. State also the different modes of DMA transfer.

14. State the different modes of serial communication. Draw the internal block diagram of INTEL 8251 USART (Universal Synchronous Asynchronous Receiver Transmitter) and explain how the CPU uses it for serial communication.

Module - 3

15. Draw the block diagram of INTEL 8279 Keyboard/Display Controller and explain the functions of each block in detail.

16. With a neat sketch explain the architecture of INTEL 8086 microprocessor and also explain in brief the functions of it in the maximum mode.