Roll No .....

MEPE-202

M.E./M.Tech. II Semester

Examination, December 2015

Advanced Microprocessor and Application

Time : Three Hours

Maximum Marks : 70

Note: i) Attempt any five questions.

ii) All questions carry equal marks.

1. a) What is a Microprocessor? Explain the architecture of 8085 with the help of its internal block schematic diagrams.

   b) Describe the need for addressing modes in microprocessor. Compare the addressing modes of 8085 with 8086.

2. a) Compare the features of 80386 with 80486. Explain the need of paging mechanism.

   b) How 20 bit physical address is generated in 8086 microprocessor? If the 8086 execution unit calculates an effective address of 5050H and OS contains 7000H. What physical address will the BIU produce?

3. a) Draw and discuss minimum mode 8086 system with the help of timing diagram.

   b) Explain stack structure of 8086. What is the role of stack is calling a subroutine and returning from a routine?

4. a) How will you interface 8 bit ADC to microprocessor 8086? Indicate all the necessary signals required far this operation.

   b) Discuss the advantages of microcontroller based system over microprocessor based system. Enlist the salient features of 8051 family of microcontroller.

5. a) Draw block diagram of USART 8251. Explain Mode word and Status word format.

   b) Explain different modes of operation of 8253 timer with the help of timing diagram.

6. a) Draw a labeled functional diagram of 8255 PPI. Describe the input output operation of 8255 in mode 1.

   b) Draw the 8259 block diagram and discuss the function of each block.

7. a) Write a program to transfer "RGPV" serially at 9600 baud rate, with 8 bit data, 1 stop bit continuously.

   b) Explain the following 8086 instructions :

   i) XLAT ii) XCHG

   iii) MOV iv) CLC

   v) CMP

8. Write short notes on any two :

   a) DAC Chip

   b) RISC and CISC processor

   c) Architecture of 8051

   d) Timer functions of 8051

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