Reg. No. : | | | | | | | | | | |

Question Paper Code: 31552

B.E. / B.Tech. DEGREE EXAMINATION, MAY 2016

Fifth Semester

Electronics and Instrumentation Engineering

01UEI502 - MICROPROCESSORS AND INTERFACING

(Regulation 2013)

Duration: Three hours Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 2 = 20 Marks)

1. State the role of RESETIN and RESETOUT signals in 8085.
2. List five interrupts available in 8085 microprocessor.
3. When is the instruction *XRA A* used?
4. Define stack. List the instructions related to stack operations.
5. List the various operating modes of the 8253.
6. Compare simplex and duplex transmission.
7. What is the role of the TEST (low) pin in the 8086?
8. Identify the addressing mode of the following instruction.
   (i) MOV AL, 50H (ii) PUSH AX.
9. What is the function of the DAA instruction in the 8086?
10. What is Macro?

PART - B (5 x 16 = 80 Marks)

11. (a) (i) Explain the operation of the following 8085 signals: Ready, S1 and S0, HOLD and HLDA and ALE. (8)

(ii) Draw the structure of the flag register and explain each flag with an example. (8)

Or

(b) (i) Explain with the help of diagram, memory interfacing of 32 *kb* EPROM and 32 *kb* RAM with 8085. (8)

(ii) Draw the timing diagram for execution of the instruction MVI A, 32*H*. (8)

12. (a) (i) Explain the operation carried out when the following instructions are executed by 8085 microprocessor.
(1) LDAX B (2) RAL (3) CMP A (4) SIM (8)

(ii) Analyze the various addressing modes available in the 8085 with examples. (8)

Or

(b) (i) Write a program using 8085 instructions
(1) clear the accumulator
(2) add 47*H* (use ADI instruction)
(3) subtract 92*H*
(4) add 64*H*
(5) display the results after subtracting 92H and after adding 64*H*.
Store the results at two consecutive memory locations. (8)

(ii) Write an ALP using 8085 instruction set for the following: Six bytes are stored in memory locations starting at 4500*H*. Add all the data bytes. Use register *B* to save any carry generated while adding the data bytes. Store the sum at two consecutive memory locations, 4570*H* and 4571*H*.
Data (*H*): *A*2, *FA*, *DF*, *E*5, 98, 8*B*. (8)

13. (a) (i) Describe the block diagram of 8259 interrupt controller. (10)

(ii) Explain the operations of different I/O modes in 8255. (6)

Or

(b) (i) Describe the block diagram of 8279 keyboard /display interface. (12)

(ii) Explain the function of EOC and SOC signals in ADC interfacing. (4)

14. (a) Explain the architecture of the 8086 with a neat functional block diagram. (16)

Or

(b) (i) Explain the interrupt structure of the 8086 in detail. (10)

(ii) Compare minimum and maximum mode operation of the 8086. (6)

15. (a) (i) Explain the different logical instructions in the 8086 with suitable examples. (8)

(ii) Explain the different data transfer instructions in the 8086 with suitable examples. (8)

Or

(b) (i) Write an ALP to add 8 bit data (FFH and FFH) using 8086 instructions and store the result in the memory locations. (8)

(ii) Explain the function of the assembler directives PTR, TYPE, SHORT, GLOBAL and LOCAL with an example for each. (8)

———————