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Question Paper Code: 35502

B.E. / B.Tech. DEGREE EXAMINATION, APRIL 2019

Fifth Semester

Electronics and Instrumentation Engineering

01UEI502 – MICROPROCESSOR AND INTERFACING

(Regulation 2013)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions.

PART A - (10 x 2 = 20 Marks)

1. Explain the functions of ALE and IO/\bar{M} signals of the 8085 microprocessor.
2. The clock frequency of microprocessor is 5MHz. How much time is required to execute an instruction of 18 states.
3. Give two examples for instructions that use indirect addressing mode.
4. Define : Stack and Subroutine.
5. List the main features of 8259A interrupt controller.
6. Mention the applications of A/D converters.
7. What is BHE.
8. Define pipelining?
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) With neat diagram, summarize 8085 microprocessor architecture and its operations. (16)

Or

- (b) Discuss the execution of OUT instruction in 8085 processor and also draw the timing diagram. (16)

12. (a) (i) Write in detail about the following instructions with suitable examples
(1) DAD Rp (2) DAA (3) SPHL (4) PUSH Rp (5) RAL. (16)

Or

- (b) Point out the instructions required for using stack in 8085 processor. Also explain its functions. (16)

13. (a) (i) Write an assembly language program to switch PC1 and PC3 continuously between 0 and 1 with a delay of 0.5 sec. (8)
(ii) Draw the block diagram of 8251 and explain the function of each block. (8)

Or

- (b) With a neat block diagram, explain in detail the internal architecture of 8255 and its registers. (16)

14. (a) Illustrate in detail about the architecture of 8086 microprocessor. (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) Develop a program to add two 8 bit data (*FOH* and *50H*) in 8086 processor and store the result in the memory, when MASM assembler is used. (16)