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INSTITUTE OF AERONAUTICAL ENGINEERING

(Autonomous)

B.Tech VI Semester End Examinations (Regular), November – 2020

Regulation: IARE–R16

MICROPROCESSORS INTERFACING AND APPLICATIONS

Time: 2 Hours

(IT)

Max Marks: 70

Answer any Four Questions from Part A

Answer any Five Questions from Part B

PART – A

1. Explain register organization of 8086 microprocessor. [5M]
2. Write an assembly language program for 8086 to search a character in string stored in memory. [5M]
3. Discuss about initialization command word in PIC with the help of neat diagrams. [5M]
4. Draw and explain status word register of 8251 USART. [5M]
5. Describe Register organization of 80386 microprocessor. [5M]
6. Develop an assembly language program to find average of N numbers. [5M]
7. How registers of 8257 DMA controller are organized? Explain. [5M]
8. Draw the pin diagram of RS-232 and explain its characteristics. [5M]

PART – B

9. Draw and explain the flag register of 8086 microprocessor. Describe the flag registers present in 8086 microprocessor? [10M]
10. Explain arithmetic instructions of 8086 microprocessor with examples. [10M]
11. Draw the timing diagram of memory read cycle in minimum mode operation of 8086 microprocessor. [10M]
12. Develop an assembly language program to calculate the factorial of a number using recursive procedure. [10M]
13. Discuss the following modes of DMA transfer. i) Single byte transfer mode ii) Block transfer mode [10M]
14. Draw the interfacing diagram for ADC with 8086 microprocessor and write an assembly language program for this interfacing. [10M]
15. Describe synchronous and asynchronous data transmissions through schematic diagrams. List the advantages and disadvantages of the same. [10M]
16. Write assembly language program to transmit 100 bytes of data string starting at location 2000:5000H. [10M]
17. What is the purpose of global descriptor table(GDT) and local descriptor table(LDT) in Intel x86? Differentiate GDT and LDT. [10M]
18. Describe protected mode of 80386 micro processor with a neat sketch. [10M]