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10CS45

Fourth Semester B.E. Degree Examination, Dec.2019/Jan.2020
Microprocessor

Time: 3 hrs. Max. Marks:100

Note: ***Answer any FIVE full questions, selecting atleast TWO questions from each part.***

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.

PART – A

1 a. What is microprocessor? Explain with a neat block diagram the working of the internal architecture of 8086. **(10 Marks)**

b. Discuss the flag registor of 8086 with example. **(06 Marks)**

c. For DS = 1200 h, DT = 2024h, ARRAY = 0012h, BX = 1012h, find the physical address for the following instructions.
(i) MOV AL, ARRAY[BX]
(ii) MOV AL, ARRAY[BX][DI] **(04 Marks)**

2 a. Explain any 5 addressing mode in details with example. **(10 Marks)**

b. Explain MOV instruction coding format with the help of an example. **(10 Marks)**

3 a. What are assembler directive? Explain the following :
(i) Assume (ii) ORG (iii) PROC and ENDP **(07 Marks)**

b. Write 8086 ALP to add 10 non-negative data items using string instruction. **(05 Marks)**

c. Describe the following instruction with suitable example:
(i) PUSH (ii) MUL (iii) AAA (iv) CMP **(08 Marks)**

4 a. Explain conditional and unconditional jump instruction in 8086 microprocessor with example. **(10 Marks)**

b. Write the differences between macro and procedure. **(04 Marks)**

c. With a suitable example explain the repeat prefixes available in 8086. **(06 Marks)**

PART – B

5 a. Write an ALP to sort a given set of N numbers in ascending order using bubble sort. **(06 Marks)**

b. Explain the basic rules for using assembly language with C/C++ for 16-bit DOS applications with the help of example. **(08 Marks)**

c. Write an ALP to compute the factorial of a given number using recursion. **(06 Marks)**

6 a. Illustrate with a neat diagram, the working of 8086 in minimum mode. **(10 Marks)**

b. With a neat diagram, explain memory organization of 8086 microprocessor. **(10 Marks)**

7 a. What is interrupt? Discuss the interrupts classification in 8086. **(08 Marks)**

b. With a neat diagram, explain the linear decoding techniques. **(08 Marks)**

c. List the difference between 8086 and 8088. **(04 Marks)**

8 a. With a neat block diagram, explain the internal block diagram of 82C55 PPI. **(10 Marks)**

b. Draw the control word format of 8255 explain it. **(10 Marks)**

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- 4 FEB 2020