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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.**

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 register 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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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.