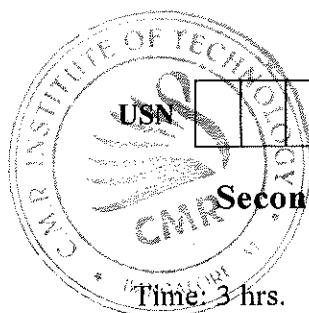


# CBCS SCHEME

16/17MCA25



## Second Semester MCA Degree Examination, Dec.2019/Jan.2020 System Software

Time: 3 hrs.

Max. Marks: 80

Note: Answer any FIVE full questions, choosing ONE full question from each module.

### Module-1

- 1 a. Define System Software, Bring out the differences between System Software and Application Software. (06 Marks)
- b. Explain the data formats, instruction formats and addressing modes of SIC/XE machine architecture. (10 Marks)

OR

- 2 a. Give the target address generated for the following machine instruction. 03C300H, 010030H, 0310C303H If (B) = 006000, (PC) = 003000, (x) = 000090. (06 Marks)
- b. Describe the following with respect to VAX machine. Memory, Registers, Data Formats, Addressing modes, Instruction Set. (10 Marks)

### Module-2

- 3 a. Write the algorithm of pass 1 of a 2 pass assembler. (10 Marks)
- b. What is program relocation? How will you solve the relocation problem? (06 Marks)

OR

- 4 a. Explain Expression, symbol defining statement with respect to assembler design. (10 Marks)
- b. How forward references are handled in multi pass assembler? (06 Marks)

### Module-3

- 5 a. Mention the functions of a loader. Write an algorithm for absolute loader. (06 Marks)
- b. With programming example, explain a simple bootstrap loader. (10 Marks)

OR

- 6 a. Explain the following loader design options LINKAGE EDITOR, DYNAMIC LINKING. (10 Marks)
- b. Write in brief about MS - DOS Linker. (06 Marks)

### Module-4

- 7 a. What do you mean by a MACRO? Explain macro definition and expansion with suitable example. (10 Marks)
- b. What is conditional macro expansion? With an example, explain any one statement used for conditional macro expansion. (06 Marks)

OR

- 8 a. With an illustrative example, explain the macro processing features of MASM macro processor. (10 Marks)
- b. What are the advantages and disadvantages of general purpose macro processors? (06 Marks)

### Module-5

- 9 a. What is the use of compilers? Explain basic compiler functions. (10 Marks)
- b. Discuss machine dependent compiler features. (06 Marks)

OR

- 10 a. Describe the terms interpreters, compiler - compilers. (06 Marks)
- b. Explain about sunOS C compiler. (10 Marks)

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18 DEC 2019

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.