

Roll No.

Total No. of Questions : 13]

[Total No. of Pages : 02

J-3414[S-1270] [2037]
MCA (Semester - 4th)

SYSTEM SOFTWARE (MCA - 403)

Time : 03 Hours

Maximum Marks : 75

Instruction to Candidates:

- 1) Section-A is **Compulsory**.
- 2) Attempt any **Nine** questions from Section - B.

Section-A

Q1)

(15 x 2 = 30)

- a) Differentiate between System Software and Application Software.
- b) What are the various difficulties in using natural languages as computer system language?
- c) Briefly discuss how macro calls within macros are handled?
- d) Discuss the utility of MOT and POT tables.
- e) Discuss different databases used in the design of an assembler.
- f) What are the advantages and disadvantages of dynamic linking?
- g) What are the various databases used in the designing of a loader?
- h) Differentiate between syntax analysis and semantic analysis.
- i) What do you mean by global optimization ?
- j) What do you mean by self relocating programs?
- k) What do you mean by fragmentation?
- l) Differentiate between simple paging and demand paging.
- m) What is the purpose of scheduler?
- n) Differentiate between contiguous and non-contiguous memory allocation.
- o) What is a segmented environment?

P.T.O.

Section-B

(9 x 5 = 45)

- Q2)** What is Assembler? Discuss the designing of second pass of assembler.
- Q3)** Briefly discuss important phases in the design of a text editor.
- Q4)** What modifications must be made to the macro processor implementation, if labels are allowed in the macro definition?
- Q5)** Discuss the input and output of the macro processor with an example. How dependent is it on the assembler source code format?
- Q6)** What is Interpreter? What is its use? Differentiate between pure and impure interpreter.
- Q7)** Discuss the format of Data Bases in the design of a direct linking loader.
- Q8)** Draw block diagram of the phases of a compiler and indicate the main function of each phase.
- Q9)** Differentiate between machine dependent and machine independent optimization with an example.
- Q10)** Discuss important functions performed by an Operating System.
- Q11)** Discuss how paged allocation is implemented?
- Q12)** Discuss important features to be provided by a General File System.
- Q13)** What is race condition? Discuss in detail.

