MCA (Sem. -4ᵗʰ)
SYSTEM SOFTWARE
SUBJECT CODE : MCA - 403
Paper ID : [B0117]

[Note : Please fill subject code and paper ID on OMR]

Time : 03 Hours   Maximum Marks : 60

Instruction to Candidates:

1) Attempt any One question from each Sections - A,B,C, & D.

2) Section - E is Compulsory.

3) Use of Non-programmable **scientific calculator** is allowed.

Section - A

(1 × 10 = 10)

Q1) (a) Describe in detail various databases used by an assembler.

(b) Describe the elements of assembly language programming.

Q2) Describe in detail the general design procedure of a two pass assembler.

Section - B

(1 × 10 = 10)

Q3) Explain the concept of macro processor. With the help of an example, explain how a macro is defined.

Q4) (a) What is Absolute loader?

(b) List two advantages and disadvantages of binding at execution time over binding at load time.

Section - C

(1 × 10 = 10)

Q5) Describe in detail the syntax analysis phase of compilation. What is its input and output?

Q6) What is code optimization? Describe in detail local and global optimizations.

Section - D

(1 × 10 = 10)

Q7) Describe in detail the structure and features of file systems.

Q8) a) What is an operating system? Explain the functions of an operating system.

b) Describe the role of I/O traffic controller.

Section - E

(10 × 2 = 20)

Q9)

a) What is interpreter? What is its use?

b) What is relocating loader?

c) Differentiate between macro definition and macro expansion.

d) What are self relocating programs?

e) What are the objectives of segmented environment?

f) What is Compile and go loader?

g) What is race condition?

h) What is deadlock?

i) What do you mean by uniform symbol table and identifier table?

j) Differentiate between the use of productions and use of reductions.