

Roll No.

Total No. of Pages : 02

Total No. of Questions : 09

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

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTION TO CANDIDATES :

1. **SECTIONS-A, B, C & D** contains **TWO** questions each carrying **TEN** marks each and students has to attempt any **ONE** question from each **SECTION**.
2. **SECTION-E** is **COMPULSORY** carrying **TWENTY** marks in all.
3. Use of non-programmable **scientific calculator** is allowed.

SECTION-A

1. Discuss the general design procedure for a two pass assembler.

ext Editor in detail.

SECTION-B

3. Can we combine the macro-processor with the assembler pass? If yes then discuss its implementation structure. Also discuss the advantages and disadvantages of the new design.
4. Discuss the design direct linking loader with an appropriate example.

SECTION-C

5. a. Differentiate between a phase and a pass. Can we have **n pass** compiler?
b. Give the output produced by every phase of a compiler for the given assignment statement :
$$\text{Position} = \text{initial} + \text{rate} * 60$$
6. Give at least two main purposes of a linker. Discuss the design of a Linker in detail.

SECTION-D

7. Discuss the structure and features of file system.
8. a. What are the three main purposes of Operating Systems?
b. Discuss various types of schedulers.

SECTION-E

9. a. Differentiate between Operating system and system software.
b. Give an example of each of the following types of address constants
 - i. Simple Relocatable
 - ii. Absolute.
 - c. What advantages are there to a language-processing system in which a compiler produces assembly language rather than machine language?
d. Describe some of the tasks that assembler needs to perform.
- s components of a language processing system?
- f. What is the impact of page size on the overall system performance?
 - g. What is Compile and Go loader?
 - h. Define a pure interpreter.
 - i. List at least two advantages of binding at load time over binding at assemble time.
 - j. Give at least two main properties of Macros.