

Roll No.

Total No. of Pages : 02

Total No. of Questions : 09

MCA (E-I) (2019 & Onwards) (Sem.-3)

SYSTEM PROGRAMMING

Subject Code : MCA-305A

M.Code : 74077

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS 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 consisting of TEN questions carrying TWENTY marks in all.
3. Use of non-programmable scientific calculator is allowed.

SECTION-A

1. Draw detailed Flow Charts and Explain the Algorithm for Two Pass assembler.
2. a) Explain Two Pass Macro Processor using Flowcharts.
b) Explain concept of Conditional Macro Expansion and macros defining macros with example.

SECTION-B

3. a) Give overview of Dynamic Linking with example.
b) Explain the various types of Editors.
4. Explain various schemes of Loaders with its advantages and disadvantages. Also, Describe the Design of Absolute loader.

SECTION - C

5. What do you mean by Compiler? Explain various phases of Compiler with example.
6. a) Differentiate between Regular and Context Free Grammars. Give Examples.
b) Describe YACC. What is the purpose of this tool?

SECTION-D

7. a) Define Operating System. What are the main functions of Operating System?
b) Explain Bootstrapping Techniques and its Subroutines.
8. a) Why I/O Programming is Important? Explain.
b) Explain USB and Plug and Play Systems. Name some Current plug and play interfaces.

SECTION-E

9. Give short answers of the following :

- a) What is the Problem of Single Pass Assembly?
- b) Explain Deterministic Finite Automata (DFA).
- c) Differentiate between Compiler and Interpreter.
- d) Why Macros are called as Preprocessor statements?
- e) Explain different types of Real-Time Operating System with example.
- f) What is meant by Subroutine Linkages?
- g) What are the Device Drivers?
- h) What is Just-in-time Compiler?
- i) Explain the use of Debugger.
- j) Why is the System Programming APIs Important?

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.