

**Section–C**

**2×16=32**

**(Long Answer Type Questions)**

*Note* :- Answer any *two* questions. You have to delimit your each answer maximum up to **500** words.

Each question carries 16 marks.

10. Discuss the functions of both phases of an assembler during translating source program to its processed form.
11. What is Bootstrap Loader ? Explain differences between Dynamic Linking and Dynamic Loading.
12. Define Compiler. Why code optimization is used ? How is it achieved ?
13. Define L-R Grammar. Explain differences between Top-down Parsing and Bottom-up Parsing.

**MCA–15**

**December – Examination 2022**

**MCA Examination**

**System Programming**

**Paper : MCA-15**

*Time : 3 Hours ]*

*[ Maximum Marks : 80*

*Note* :- The question paper is divided into three Sections A, B and C. Write answers as per the given instructions.

**Section–A**

**8×2=16**

**(Very Short Answer Type Questions)**

*Note* :- Answer all questions. As per the nature of the question delimit your answer in one word, one sentence or maximum up to **30** words. Each question carries 2 marks.

1. (i) What do you understand by Language Processor ?

- (ii) Define Interpreter.
- (iii) What is Assembly Language ?
- (iv) Define Linker.
- (v) Why symbol table is required ?
- (vi) What do you understand by Parsing ?
- (vii) Define Finite State Automata.
- (viii) What do you understand by Dynamic Memory Allocation ?

**Section-B** **4×8=32**

**(Short Answer Type Questions)**

*Note* :- Answer any *four* questions. Each answer should not exceed **200** words. Each question carries 8 marks.

- 2. What are the Language Processor Activities ?  
Explain phases and pass mechanism of a language processor.
- 3. What are basic features of Assembly Language Programming ? Explain statements used in assembly language in detail.

- 4. Define Loader. Explain types of loaders in detail. Also explain differences between Linker and Loader.
- 5. What do you understand by Compilation ? Explain the analysis and synthesis phases of compiler in detail.
- 6. Define Scanning. Explain deterministic finite automata and non-deterministic finite automata in detail. Also explain differences between these two.
- 7. Define Object Class. Explain object code libraries, relocation and dynamic linking in detail.
- 8. What is Assembler ? State the advantage of assembly language. Explain design specification of assembler in detail.
- 9. What is Parse Tree ? Explain recursive descent parsing and predictive parsing in detail. Also explain bottom-up parsing in detail.