Total Pages : 3   **Roll No. ....**

BCA-20

Bachelor of Computer Application (BCA)

(System Programming)

6th Semester Examination, 2024 (June)

Time : 2:00 Hrs.   Max. Marks : 70

Note **:–** This paper is of Seventy (70) marks divided into Two (02) Sections 'A' and 'B'. Attempt the questions contained in these Sections according to the detailed instructions given therein. ***Candidates should limit their answers to the questions on the given answer sheet. No additional (B) answer sheet will be issued.***

Section–A

(Long Answer Type Questions)   2×19=38

Note **:–** Section 'A' contains Five (05) Long-answer type questions of Nineteen (19) marks each. Learners are required to answer any *two* (02) questions only.

1. What are the various phases of Language Processor ? Explain any *two* phase in detail.

2. What do you mean by local and global optimization ? Discuss different approaches of global and local optimization with example.

3. What is Finite State Automation ? Explain about Regular expression, Top down parsing without backtracking and parse tree.

4. What do you mean by operator precedence grammar ? Parse the string id + id * id using the following grammar :

$$T \rightarrow T + T \mid T * T \mid id$$

5. Consider the statement a = b * 15 + c, where a, b, c are of type float. Show the translation of the given statement by different phases of compiler to produce assembly language statement.

Section–B

(Short Answer Type Questions)　　4×8=32

Note :– Section 'B' contains Eight (08) Short-answer type questions of Eight (08) marks each. Learners are required to answer any *four* (04) questions only.

1. What are the various phases of compiler ? Briefly discuss each phases.

2. What do you understand by classification of Grammar ? Explain type 0, type 1, type 2 Grammar.

3. What is the concept of Top down parsing without backtracking ?

4. Discuss the architecture of Intel 8088.

5. Explain direct-linking loaders. What are the functions of a Loader ?

6. Explain symbol table and Mnemonics table with suitable examples.

7. Draw the detailed PASS-1 flow chart of an assembler.

8. What is relocation and linking ?

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