C994

Total Pages : 3   Roll No. ....

BCA-20

System Programming

Bachelor of Computer Applications (BCA-11/16/17)

Sixth Semester Examination, 2022 (June)

Time : 2 Hours]   **Max. Marks : 80**

Note : This paper is of Eighty (80) marks divided into two
(02) Sections A and B. Attempt the questions contained
in these sections according to the detailed instructions
given therein.

SECTION–A
(Long Answer Type Questions)

Note : Section 'A' contains Five (05) long answer type
questions of Twenty (20) marks each. Learners are
required to answer any Two (02) questions only.

(2×20=40)

1. What do you mean by compiler? Explain all the phases of
compiler with suitable example.

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

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

3. What do you mean by LALR parsing? Construct the LALR parsing table for the following grammar :

$S \rightarrow Aa \mid bAc \mid dc \mid bda$

$A \rightarrow d$

4. Explain the following categories of intermediate code: Three Address code, Quadruples, Triples. Generate the three address code for the following program :

While (A < C and B > D) do

    if A = 1 then C = C + 1

    else

      while A < = D do

        A = A + 3

5. What do you mean by local and global optimization? What are the different approaches of global and local optimization? Explain with example.

SECTION–B

(Short Answer Type Questions)

Note : Section 'B' contains Eight (08) short answer type questions of Ten (10) marks each. Learners are required to answer any Four (04) questions only.   (4×10=40)

1. What do you mean by types of languages? Explain about the Chomsky classification of languages.

2. Explain about LEX and YACC with suitable example.

3. Lexical analyzer is called as scanner. Do you agree with this statement? Justify our answer.

4. Explain about the pass structure of compiler.

5. What are the challenges in compiler design?

6. What are the cousins of compiler? Discuss in detail.

7. Discuss in detail the architecture of Intel 8088.

8. What do you mean by ambiguous grammar? How to remove the ambiguity? Discuss in detail.

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