

Roll No. :

BCA-102(N)

B. C. A. (First Semester) EXAMINATION, Dec., 2019

(New Course)

Paper Second

PROGRAMMING PRINCIPLE AND ALGORITHM

Time : Three Hours] [Maximum Marks : 75

Note : Attempt questions from all Sections as directed.

Inst. : The candidates are required to answer only in serial order. If there are many parts of a question, answer them in continuation.

Section—A

(Short Answer Type Questions)

Note : All questions are compulsory. Each question carries 3 marks.

1. (A) Give a general structure of a C program.
- (B) Give the operator precedence chart.
- (C) Explain the utility of #define and #include statements.
- (D) Explain the usefulness of default statement in switch-case statement.

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- (E) Differentiate between function declaration and definition.
- (F) Differentiate between a character array and a string.
- (G) What is divide and conquer strategy ?
- (H) What is a Pointer to a Pointer ? Explain with an example.
- (I) What is a pseudo code ?

Section—B

(Long Answer Type Questions)

Note : Attempt any two questions. Each question carries 12 marks.

2. (a) Write a program snippet to show use of conditional operator in C.
- (b) What is the use of sizeof operator ? Explain with an example. <http://www.csjmuonline.com>
3. (a) Given the following declaration and statement. Show, how type conversion will take place :

char ch;

int i;

float f;

double d, r;

$$r = (ch + i) \times (f/i) + (d - f)$$

- (b) Write a program to count number of vowels in the input 200 characters.

- (a) List the logical operators available in C and draw truth table for each operator
- (b) Write a program in C to find longest of three numbers using **88** operator and function.
- (a) What is the purpose of Big Oh notation ? Explain through an example.
- (b) How does function call by reference useful ? Explain through an example and program.

Section—C

(Long Answer Type Questions)

Note : Attempt any *two* questions. Each question carries 12 marks.

- 6. (a) What is a recursive program ? Explain with an example and program.
- (b) Write a program in C that prints the reverse of a integer value entered by user integer can be of any length :
ex 875 - input
578 - output
- 7. (a) Explain the storage classes available in C. Also mention their use.
- (b) Write a program in C to find X^Y using recursion.
- 8. (a) Write a program in C using array to find largest integer value entered by user. User can enter maximum 25 integer values.

- (b) Write a program in C to find that given integer is a palindrome or not :
ex Input 171 is a palindrome
Input 6752 - is not a palindrome
- 9. (a) How is printf different from putchar and how is scanf different from getchar ? Explain.
- (b) In how many ways can you write a for loop ? Give example.

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