U.G. 1st Semester Examination - 2021

BCA

Course Code : BBCACCHC102

Course Title : Introduction to C Programming

Full Marks : 30   Time : 2 Hours

The figures in the right-hand margin indicate marks.

Candidates are required to give their answers in their own words as far as practicable.

1. Answer any **ten** questions: 1×10=10

   a) Give an example of argumented macro.

   b) What is union?

   c) What is the output of the following code?
   ```
   main ()
   {
       struct student
       {
           chart name [50];
           int roll;
           int marks;
       };
       int x;
       x=size of(struct student);
       printf{"%d",x);
   }
   ```

   d) What is dangling else problem?

   e) What is the use of register type storage class?

   f) Give an example of 'pointer to pointer'.

   g) What is use of '=' and '= ='?

   h) Give any two unconditional control statement in C.

   i) Define file pointer in C.

   j) What is recursion?

   k) Why we don't use the '&' symbol, while reading a String through scanf()?

   l) What is type casting?

   m) What do you mean by integer mode arithmetic in C?

   n) What is the difference between 'c' and"c"?

   o) Are C pointers integer?

2. Answer any **five** questions: 2×5=10

   a) Explain the concept and use of void statement.

   b) What is the purpose of r+ and w+ mode of file operation?

   c) Consider the following code
   ```
   int n=10;
   ```

int *p=&n;

What is the purpose of '*' and '&' operator with respect to above line?

d) What do you mean by function prototyping?

e) How structure and union is different from each other?

f) Write the following conditions using ternary operator -

$$salary = \begin{cases} 4x + 100 & \text{f or } x < 40 \\ 300 & \text{f or } x \end{cases}$$

g) Is it better to use a macro instead of a function? Justify your answer.

h) Give example of Nested Structure.

3. Answer any **two** questions: 5×2=10

a) i) Write a C program to print the following pattern, if input is "PURULIA".

```
P
PU
PUR
PURU
PURUL
PURULI
PURULIA
```

ii) Write a code to allocate memory dynamically for ten float type variables. 3+2

b) i) What are the main elements of an array declaration?

ii) Write a C program to find transpose of square matrix without using another matrix. 1+4

c) i) What is file pointer?

ii) Create a file, which contains a series of integer numbers. Search all odd numbers and save it to file called odd.txt. Search all even numbers and save it to a file called even.txt. 1+4

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