

BCA 2nd Semester Exam., 2021

**PROBLEM SOLVING TECHNIQUE
AND PROGRAMMING IN C**

Time : 3 hours

Full Marks : 60

Instructions :

- (i) The marks are indicated in the right-hand margin.*
- (ii) There are **SEVEN** questions in this paper.*
- (iii) Attempt **FIVE** questions in all.*
- (iv) Question Nos. 1 and 2 are compulsory.*

1. Answer/Choose the correct option of the following (any six) : 2×6=12

(a) perror() function used to

- (i) work same as printf()
- (ii) print the error message specified by the compiler
- (iii) print the garbage value assigned by the compiler
- (iv) None of the above

(b) Which operators are known as ternary operators?

(i) ::, ?

(ii) ?, :

(iii) ?, ;;

(iv) None of the above

(c) What is a pointer?

(d) What are the differences between malloc() and calloc()?

(e) Define recursion.

(f) Differentiate between local variables and global variables.

(g) What is the difference between strings and arrays?

(h) What are the different types of real data type in C?

(i) float, double

(ii) short int, double, long int

(iii) float, double, long double

(iv) double, long int, float

(i) The keyword used to transfer control from a function back to the calling function is

(i) switch

(ii) goto

(iii) go back

(iv) return

(j) What is the output of this C code?

```
#include<stdio.h>
int main()
{
    int i=0;
    for(;;)
        printf("In for loop\n");
        printf("After loop\n");
}
```

- (i) Compile time error
- (ii) Infinite loop
- (iii) After loop
- (iv) Undefined behavior

2. Answer any *three* of the following : $4 \times 3 = 12$

- (a) Write down an algorithm to find the largest data value of a set of given data values.
- (b) What are the key features in the C programming language?
- (c) What are the basic data types associated with C?
- (d) What is the description for syntax errors? What is the process to create increment and decrement statements in C? Give example.

(e) Describe wild pointers in C. Describe the difference between = and == symbols in C programming. What is the explanation for prototype function in C?

3. What is the difference between call by value and call by reference? Explain with example. Some coders debug their programs by placing comment symbols on some codes instead of deleting it. How does this aid in debugging? 12
4. What are header files and what are its uses in C programming? What is syntax error? 12
5. What are variables and in what way it is different from constants? Explain with example. What are preprocessor directives? 12
6. Differentiate between algorithm and flowchart. 12
7. Write a C program to check whether a number is palindrome or not. 12
