

2022

(Held in 2023)

BACHELOR OF COMPUTER APPLICATION

Paper : BCAHC1026

(Introduction to C Programming)

Full Marks : 60

Pass Marks : 24

Time : 3 hours

*The figures in the margin indicate full marks
for the questions*

1. Choose the correct answer of the following :

1×5=5

(a) In C, _____ function is used to calculate the size that a data type occupies in computer's memory.

(i) sizeof()

(ii) sizeof()

(iii) size()

(iv) size_of()

(b) C is a/an _____ programming language.

(i) object-oriented

(ii) procedural

(iii) functional

(iv) scripting

(c) The parameters used at the time of function definition are called

(i) formal parameters

(ii) actual parameters

(iii) real parameters

(iv) complex parameters

(d) Which of the following is not a return type in C?

(i) void

(ii) int*

(iii) pointer

(iv) None of the above

(e) What will be the output of the following code?

```
main()
{
    int i=1;
    while(i<=100)
    {
        printf("%d", i);
    }
}
```

(i) It will print from 1 to 100

(ii) Syntax error

(iii) Infinite loop

(iv) None of the above

2. Answer the following questions :

2×5=10

(a) Briefly explain why loop is used in programming.

(b) Briefly explain scope of a variable.

(c) How and why *typedef* is used in C programming?

(d) How does runtime error differ from syntax error?

(e) How does *malloc()* differ from *calloc()*?

3. Answer any *five* of the following questions : (3)
5×5=25

- (a) What is array? Write two advantages and disadvantages of using array in C program.
- (b) What are the different portions of a for loop? Explain each portion with a suitable example in C.
- (c) Explain call by value and call by reference with suitable example in C.
- (d) What is a file? What are the different file opening modes available in C? Why are fgets() and fputs() used in file handling in C? 1+2+2
- (e) Why are operators used in a program? Explain the categories of operators based on the number of operands with example.
- (f) What is pointer? How can pointer be used to access elements of an array? Give example.
- (g) Explain the anatomy of a C function.

4. Answer any *two* of the following questions :
10×2=20

- (a) Write a C program to store and display the *name, roll no, class and department* of *n* numbers of students. (Hint : Use *structure*)
- (b) Write a C program to store *n* elements and find the sum of all the even elements. (Use *dynamic memory allocation*)
- (c) Write a C program to take a number as input and perform the following tasks as per users' choice :
 - (i) Factorial of the number
 - (ii) Check whether the number is odd or even
 (Hint : Use *switch case*)
