

**BACHELOR OF COMPUTER APPLICATION**  
**First Semester**  
**Programming Methodology and C Programming**  
**(BCA - 03)**

**Duration: 3Hrs.**

**Full Marks: 70**

**Part-A (Objective) =20**  
**Part-B (Descriptive)=50**

**(PART-B: Descriptive)**

**Duration: 2 hrs. 40 mins.**

**Marks: 50**

**1. Answer the following questions (any five):**

**2×5 =10**

- a) What do you mean by Algorithm?
- b) What is Modular approach?
- c) What is C token? List the different types of C tokens.
- d) What would be the value of 'a' after the execution of the following expressions. Assume the initial values of a=5
  - i. `a+=(a++)+(++a)`
  - ii. `a - =(- -a) - (a - -)`
- e) Give the Output of the following program segment:

```
int x=3,y=4,z=4;
printf("answer=%d",(z>=y && y>=x?1:0));
```
- f) Give the Output of the following program segment:

```
void main()
{
void func();
int i;
for(i=1;i<=4;i++)
func();
getch();
}
void fnc()
{
static int num=3;
printf("%d",num*num);
num++;
}
```
- g) Give the limitations of arrays.

**2. Answer the following questions (any five):**

**3×5 =15**

- a) Explain the following string handling functions with syntax
  - i) `strrev ()`
  - ii) `strcmp()`
  - iii) `strcat()`
- b) What is an array? Mention the advantages of array?
- c) What are the difference between array and Structure?
- d) How do while loop differ from while loop?
- e) Is there any difference or similarity between Union and structure? Justify your answer.
- f) What do you mean by **call by value** and **call by reference**?
- g) Explain the different types of operator in C language.

**3. Answer the following questions (any five):**

**5×5 =25**

- a) What do you mean by Recursion? Write a C program to find out the factorial of a given number.
- b) Write a C program to read an Employee record using a structure and Print it.
- c) Write down the function of the following with syntax
  - i) `scanf`
  - ii) `getch ()`
  - iii) `getchar ()`
  - iv) `stdio.h`
  - v) `puts ()`
- d) Write a C program to Concatenation of two string without using library functions.
- e) Grade in an examination having five subjects of 100 marks each is given on the following basis:  
Mimimum pass marks in each subject are 35 so that any grade can be awarded. The grade are given as below:

Average	Grade
80 or above	A
70 or above but <80	B
60 or above but <70	C
50 or above but <60	D
40 or above but <50	E
otherwise	F

Write a C program to find the grade of a student.

f) What do you mean by data type? Explain the data types available in C language.

g) Write a C program to verify whether the given number is a Palindrome or not.

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

**Duration: 20 minutes**

**Marks – 20**

**PART A- Objective Type**

**Choose the correct answer:**

**1×20=20**

1. Which is the flowchart symbol used to indicate the start and stop of the program?

- a. Process symbol
- b. Input/Output
- c. Terminal symbol
- d. None of the above

2. Who developed the C language?

- a. Ken Thompson
- b. Bjarne stroustrup
- c. Abdul Kalam
- d. Dennis Ritchie

3. Statement terminator is represented by

- a. :
- b. Blank
- c. ;
- d. \n

4. Which is not a keyword in C?

- a. Const
- b. main
- c. sizeof
- d. Void

5. Which operator (s) is/are used for accessing the members of a structure?

- a. Dot
- b. ->
- c. Both a and b
- d. None of the above

6. A union in C can store

- a. all of its members at a time
- b. Only one of its members at a time
- c. Both a and b
- d. None of the above

7. What will be the maximum length of the string that would be store in array char name [30]

- a. 30                      b. 29                      c. 31                      d. 0

8. The number of elements in the declaration int a[10][15] is

- a. 2                      b. 15                      c.50                      d. 5

9. Recursive function call in C result when

- a. a function calls itself  
b. a function calls another function, which in turn calls some other function  
c. a function calls many functions  
d. None of the above

10. Which of the following is an unconditional control structure?

- a. goto                      b. Switch case                      c. Do while                      d. If

11. The break statement is used in

- a. Selection control structures                      b. Loop control structure  
c. Both a and b                      d. None of the above

12. The operator % can be applied only to

- a. float values                      b. Double values                      c. Both a and b                      d. Integral values

13. What is the output of the following program?

```
Main()
{
int a[]={10,20,30,40,50}
int j;
for (j=0;j<5;j++)
{
printf(“\n %d”,a);
a++;
}
}
```

- a. 10                      b.10, 20,30,40,50                      c.syntax error                      d. 10,20,30,40

14. Let x be an array, which of the following operations are illegal?

- a. ++x                      b.x+1                      c.x++                      d. X\*2

```
(a) int i,j;
    i=10;

    j=i++;

    printf("%d%d",i,j);
```

15. What is the output?

- a. 11, 10                      b.10, 11                      c.10, 10                      d.11, 11

16. Which of the following statements are correct about an array?

- 1: The array *int num [26]*; can store 26 elements.
- 2: The expression *num [1]* designates the very first element in the array.
- 3: It is necessary to initialize the array at the time of declaration.
- 4: The declaration *num [SIZE]* is allowed if SIZE is a macro.

- a.1                              b.1, 4                              c.2, 3                              d. 2, 4

17. How many times the program will print "India"?

```
#include<stdio.h>

int main()
{
printf("India");
main();
return 0;
}
```

- a. Infinite                      b. 32767 times                      c. 65535                      d. Till stack overflows

18. Which of the following special symbol allowed in a variable name?

- a.\*(asterisk)                      b. |(pipeline)                      c. -(hyphen)                      d. \_(undrscore)

19. How would you round off a value from 1.66 to 2.0?

- a. ceil(1.66)                      b. Floor(1.66)                      c. Roundup(1.66)                      d.roundto(1.66)

20. Which of the following is not logical operator?

- a. &                              b. &&                              c.||                              d.!

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