

2024

BCA

BCA First Semester End Examination - 2024

PAPER - SEC-101T

Full Marks : 40

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.

Illustrate the answers wherever necessary.

Group-A

Answer any 5 questions.

5×2=10.

1. a) What do you mean by Ternary Operator?

b) Find the output of following

```
main()
{
char a[ ] = "Cricket";
int x=1,y;
y= x++ + ++x;
print f ("%c", a[++y]);
}
```

(Turn Over)

(2)

- c) What is the difference between break and continue statement?
- d) What is recursion? Give an example.
- e) What is the advantage of function in C?
- f) What is sizeof () operator?
- g) Find the output of the following :

```
main()
{
    int k=5;
    print("%d\n",k);
    main();
}
```
- h) State the function of "strcpy()" in C language.

Group-B

Answer any 4 questions.

4×5=20

- 2. a) What is an algorithm? Write an algorithm to find the highest of three numbers.
- b) Why switch statement is better than if-else statement? Justify with an example.

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(Continued)

(3)

- c) What is pointer variable? What is the difference between call-by-value and call-by-address?
- d) Write a program in C to check whether a number is Prime or not.
- e) What is null statement? What are the differences between array and structure?
- f) Define O("Big Oh") notation of complexity analysis. Find the time complexity of bubble sort algorithm.
- g) Compare "do-while" with "while" loop. Write a function to check an Armstrong number. (For example, 153 is an Armstrong number as $153=1^3+5^3+3^3$)

Group-C

Answer any one questions.

1×10=10

- 3. a) What do you mean by function prototype? What is the difference between actual parameter and formal parameter?
- b) Define static variable and global variable. 2+3+5
- 4. a) What is dynamic allocation? What is the difference between malloc() and calloc()?
- b) Write a program to check whether a string is Palindrome or not. 2+3+5

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(Turn Over)