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44 (1) INCP/BCA-HC-1016

2021

(Held in 2022)

INTRODUCTION TO C PROGRAMMING

Paper : BCA-HC-1016

Full Marks : 80/60

Time : Three hours

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

For CBCS students ***only two*** questions are to be answered from Q. No. **6**.

1. Write the following terms with suitable example. ***(any five)*** 2×5=10

~~(a)~~ Syntax of declaring and accessing elements of an array.

~~(b)~~ Function definition, function call and function prototype.

~~(c)~~ Pointer Declaration and Definition.

~~(d)~~ Syntax of for-loop.

~~(e)~~ Syntax of structure definition and accessing structure variable through data operator.

~~(f)~~ Opening and closing a file.

Contd.

2. Differentiate the following with suitable example : 2×5=10

- ~~(a)~~ While and do-while loop.
- ~~(b)~~ Call by reference and call by value.
- ~~(c)~~ Recursive and non-recursive functions.
- ~~(d)~~ Arrays and structures.
- ~~(e)~~ Binary file and Text file.

3. What will be the output of the following program segment? (Assuming no syntax error) 2×5=10

~~(a)~~ If $x = 3$, $y = 0$ and $z = -4$, what is the value of the following expression?

(i) $x \& \& y \parallel z$

(ii) $x \parallel y \& \& z$

~~(b)~~

```
for (int x = 1; x <= 20; x++)  
    printf ( " % d /_n " , x );
```

~~(c)~~

```
for (int x = 1; x <= 20; x++)  
{  
    for (int y = 1; y <= 5; y++)  
        printf ( " % d " , x );  
    printf ( " /_n " );  
}
```


(d) Given the following declaration:

int a = 5;

int b = 7;

int *p = &a;

int *q = &b;

what is the value of each of the following expression?

(i) ++a (ii) ++(*p)

(e) for (int x = 12; x < 7; x--)
printf ("%d\n", X);

4. Answer the following: **(any three)** 4×3=12

(a) What do you mean by two dimensional array? State some situations that can easily be represented by these.

(b) Distinguish between variables and keywords.

(c) Write a program in C to generate factorial of a number.

(d) What do you mean by precedence of operators in C? Explain with example.

5. Print out the errors, if any in the following C statements. Also give proper justification.

(a) int x = 10;

(b) printf (a);

1×8=8

int a, b, c

pair

(c) int a, b;

scanf ("%f %f", &a, &b);

a = b

b = c

c = a

(d) int a, p;

p = &a;

Print & (+ve value)

(e) $X = (a + b) \div (a - b);$

$ax^2 + bx + c$

that, a, b, c, d.

(f) while (z ≥ 0)

sum + z = z;

(g) int sum (int x, y);

(h) fun (void);

6. Write C program for the following:

$5 \times 6 = 30$

(i) Write a program to sort elements of an array.

(ii) Write a program to check whether a number is perfect or not.

(iii) Write a program to add a 2×2 matrix.

(iv) Write a program to swap two numbers using function.

(v) Write a program to find the roots of a quadratic equations.

(vi) Write a program to read a string and count the number of vowels present in the string.