

Total number of printed pages-4

BSc IT
1st sem

52 (1) CFPR IT-1.4/ITB-HC-1016

2021

(Held in 2022)

**COMPUTER FUNDAMENTALS
AND PROGRAMMING**

Paper : IT-1.4 & ITB (HC-1016)

(Old and New Syllabus)

Full Marks : 60

Time : Three hours

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

1. Fill in the blanks :

1×5=5

(i) Flow chart consists of short, readable and formally styled English language used for explaining an algorithm.

(ii) Flowchart is a diagrammatic representation of the logic for solving a task.

(iii) Cache memory is faster than main memory.

(iv) _____ and _____ are examples of structural programming language.

C, C++, Python, Java,

Contd.

11 x 83
m3241
(v) The set of instructions that instruct the computer about the way the task is to be performed is called a program.

2. Define the following terms :

1×5=5

(a) Syntax error

(b) Gray codes

(c) Bootstrapping is done in chain that is at each stage it is the work of simpler and smaller program to execute much larger program.

(d) Interpreter

(e) Main memory

3. Answer the following questions : (any five)

2×5=10

(a) What are cast and size of operator?

(b) Define a structure. How do we access the data of the structure?

(c) What are identifiers? Give example.

(d) What are arithmetic operators? Explain with example.

(e) What are different types of functions in C-programming?

(f) Which operator has the highest precedence?

Answer the following questions : **(any five)**
 $3 \times 5 = 15$

(a) What are control structures? Name the *three* types of control structures and write their purpose. *initialization*

(b) Define a program. Explain the characteristics of a good program.

(c) Write the algorithm, draw a flowchart and write pseudocode :
To find the sum of first 10 natural numbers.

(d) Define pointer. How do we declare a pointer? Explain with example.

(e) Define an array. What are different types of array? Give examples.

(f) What do you mean by call by value and call by reference? Explain with example.

5. Answer **any three** questions : $5 \times 3 = 15$

(a) Write a program to take a number as input and print it after reversing.

(b) Write a program to calculate sum of two matrix.

(c) Write a program to delete an element from the array.

(d) Write a program to copy a text file to another file.

(e) Write a program to find out minimum, maximum, sum and average of n numbers without using array.

6. (a) Change the following while loops to for loops : 2

```
x = 0 ;  
while (x < 10)
```

```
{  
    printf("%d", x) ;  
    x++ ;  
}
```

- (b) Change the following for loop to while loops : 2

```
for (int x = 1 ; x < 100 ; x++)  
    printf("%d\n", x) ;
```

- (c) What will be printed from the following code segment ? $2 \times 2 = 4$

(i) for (int x = 20 ; x >= 10 ; x--)
 printf("%d\n", x) ;

(ii) x = 12 ;
while (x > 7)
{
 printf("%d\n", x) ;
 x-- ;
}

- (d) Which of the following program segment has a logical error in it ? 2

```
int ** p ;  
int * q ;  
q = &p ;
```