CS 171105

Roll No. of candidate

2022

B.Tech. 1st Semester End-Term Examination

INTRODUCTION TO COMPUTING

New Regulation & New Syllabus (w.e.f. 2017-18)

Full Marks – 70   Time – Three hours

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

Answer question No. 1 and any *four* from the rest.

1. Answer the following :   (10 × 1 = 10)

   (i)   Write the syntax to declare a structure.

   (ii)   What is the difference between assignment operator and equality operator?

   (iii) Write the name of two compilers?

   (iv)   What is stdio.h?

   (v)   What is a pointer?

   (vi)   Draw the flowchart of switch case.

   (vii) What are the symbols used in flowchart?

   (viii) What is the meaning of :-

          int add( );

   (ix)   What are the different decision making statements?

   (x)   Write the syntax to declare a 2 D array.

2. Answer the following :

   (a)   Write a program to find the factorial of a number.   (5)

   (b)   Draw the flowchart and write algorithm.   (5)

   (c)   Write a program to subtract two 2 × 2 matrices.   (5)

[Turn over

3. Answer the following :

(a) What is the output of the program? Justify. (5)

```
main()
{
    int x = 10, a;
    {
        a = x++ + 20;
        printf("%d", a);
    }
}
```

(b) Write a program to show an infinite loop. (5)

(c) Write a program to display the figure below. (5)

```
1
1    2
1    2    3
```

4. Answer the following :

(a) Perform insertion sort in the below data. (5)

23 43 2 54 99 21 3 49

(b) Explain the different types of data types? (5)

(c) What is the difference between strcat( ) and strncat( ). (5)

5. Answer the following :

(a) Write a program to find the smallest element in an array and display its position. (5)

(b) Write a program to find the greatest of two numbers using conditional operator. (5)

(c) Explain the compilation and execution process of a C program? (5)

6. Write notes on the following (any three) : (3 × 5 = 15)

(a) Binary search

(b) Pointers

(c) Preprocessor directives

(d) Syntax errors and logical errors

(e) Header files

7. Answer the following :

(a) Write a program to read and display roll no and name of 50 students in a structure. (5)

(b) Explain the difference between a variable and an array variable with the help of diagram. (5)

(c) Write a program to display the following : (5)

   (i) Print first division if marks entered is above 80.

   (ii) Print second division if marks entered is between 60 to 80.

   (iii) Print third division if marks entered is between 40 to 60.

   (iv) Print fail if marks entered is less than 40.

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