**Problem Solving Through Programming – 18ESCCS01**

**Question Bank**

**Module – 1**
**INTRODUCTION**

1. Explain the generations of computer. – 7 marks
2. Discuss the concept of Number system.
3. Explain the concept of stored program using Von-Neumann architecture with a neat diagram. – 5 marks
4. List out the differences between RAM and ROM – 6 marks
5. Write a flow chart to find the area of sphere – 3 marks
6. With a flowchart, explain the steps involved in execution of a C Program. – 7 marks
7. Draw a flow chart to find the largest of 3 numbers. – 4 marks
8. Briefly explain the different components of a flowchart. – 5 marks
9. Elaborate on the classification of computers based on the size and computing power.
10. Discuss the differences in the different types of Primary memories. – 6 marks
11. List out the differences between Primary and Secondary memory devices – 5 marks
12. Write a short note on different types of ROMs. – 6 marks
13. List out the differences between an SRAM and a DRAM – 6 marks
14. With a neat diagram explain the different parts of the computer. – 5 marks
15. Explain the stored program concept with necessary diagrams – 4 marks
16. Convert the following – 8 marks
    i. $(1011\ 01101)_2 = (\quad)_{10}$
    ii. $(275)_{10} = (\quad)_2$
    iii. $(0.625)_{10} = (\quad)_2$
    iv. $(110.101)_2 = (\quad)_{10}$

Explain the features of C Programming - 5 marks
With an example, explain the structure of a C program. – 4 marks

**Module – 2**
**C PROGRAMMING BASICS**

1. What are C tokens? Explain the different types of C tokens with example? – 6 marks
2.What are variables? Explain the rules to be followed while choosing variables? – 6 marls
3.Briefly explain the basic data types available in C programming with examples? – 5 marks
4.Which are valid and invalid variables? – 4 marks
    i. 1_kamla
    ii. @Apple
    iii. INT
    iv. Jgi_2020
    v. abc#2020
    vi. school1
    vii. int
    viii. float

5.Explain any 5 data types in c with their range values? – 5 marks
6.What are operators? Explain the relational and logical operator in C. – 6 marks
7. Write a C program to compute simple interest. – 5 marks
8.Write a note on symbolic constants and its usage, explain with an example. – 4 marks
9.Write a program to convert given fahrenheit value to celsius. – 5 marks
Using a formula c=(f-32)*(5/9).
10.List the different bitwise operators in C and illustrate the working of each bitwise operator by considering an example. – 6 marks
11. Mention the basic data types available in c Language and explain. – 4 marks
12. With an example, explain the scope of a variable. – 5 marks
13. Evaluate the following expression and find the value of k.- 2 marks
i) k=3/2*4+3/8+3; ii) k= 1*4+0+3
14. Design an algorithm to compare the marks of three students in a class and find out who got the highest marks. – 4 marks
15.Explain the following operator in C with an example. – 6 marks
i) sizeof operator
ii)Conditional operator.
16.Write a program to check whether the entered number isa prime or not. – 5 marks
17.Determine the output for the following program - 3 marks

```
#include<stdio.h>
void main()
{
        int i;
        i=3;
        i=i+2*i++;
        printf("i is now %d\n",i);
}
```

18. Discuss about type casting and give an example program which demonstrates type casting. – 7 marks
19.List the different types of operators available in C. – 5 marks
20. Explain the syntax of – 8 marks
a.If statement
b.If else statement
c.Nested if else statement
d.For loop
21.Differentiate between while and do-while with the help of a program. - 7 marks
22.Write a C program to reverse a number and check whether it is palindrome or not. – 7 marks
23.Explain the usage of the following with an example. – 6 marks
i. Switch statement.
ii.If_else_if statement
24.Write the output of the following code snippet. – 3 marks

```
for(i=1;i<20;i++)
{
```

```
if(i%3==0)continue;
printf("%d\n",i);
}
```

25.Write a program to check whether the entered character is vowel or consonant. – 4 marks

26. Write a program to find the largest of 5 numbers using if-else. – 6 marks

27. Write a Program to find the sum of digits of a number. – 5 marks

28.Write a Program to search an element in a list using linear search method. – 7 marks

29.Draw a flowchart and write a program to find the sum of first 50 natural numbers. – 8 marks

30.Differentiate between break and continue with example code. – 4 marks

31.Write the output of the following code snippet. – 4 marks

```
i=1;
label1: if(i%4==0)
printf("%d\n",i);
if(i<=40)
{
i++;
goto label1;
}
```

32. Discuss the syntax of for looping construct available in C with a suitable example. - 4 marks

33.Write a Program to demonstrate the usage of goto. – 3 marks

34.Write a program to perform the following operations between two variables using switch statement; the operations are 1-addition, 2- subtraction, 3-multiplication, 4-division and print error message in default case. – 8 marks

35.Write a C Program to find the GCD two number using recursion. – 8 marks

36. Write a C Program to find the average height of n people where n is entered by user. – 5 marks