Assignment-1

1. What is the output with explanation of the program?

```c
# include <stdio.h>

# define scanf  "%s India is a great Nation "

int main()

{

  printf(scanf, scanf);

  return 0;

}
```

2. What is the output with explanation of the program?

```c
#include<stdio.h>

int main()

{

  int x,y;

  printf("Enter the value of x\n");

  y = scanf("%d", &x);

  printf("%d", y);

  return 0;

}
```

3. What is the output with explanation of the program?

```c
#include <stdio.h>

int main()

{

  int i;
```

```c
    i = (1, 2, 3);

    printf("i  = %d\n", i);

     return 0;

}
```

4. What is the output with explanation of the program?

```c
#include <stdio.h>

int main()

{

    int i;

    i = 1, 2, 3;

    printf("i = %d\n", i);

    return 0;

}
```

5. What is the output with explanation of the program?

```c
#include<stdio.h>

int main()

{

    int x, y = 2, z, a;

    if (x = y % 2)

       z = 2;

    a = 2;

    printf("%d %d ", z, x);

    return 0;

}
```

6. What is the output with explanation of the program?

```c
#include <stdio.h>

#define prod(a,b) a*b

int main()
{
    int x=3,y=4;
    printf("%d",prod(x+2,y-1));
    return 0;
}
```

7. What is the output with explanation of the program?

```c
#define a 10

#include<stdio.h>

int main()
{
    #define a 50
    printf("%d",a);
    return 0;
}
```

8. Which of the following is true for variable names in C?
a) They can contain alphanumeric characters as well as special characters
b) It is not an error to declare a variable to be one of the keywords(like goto, static)
c) Variable names cannot start with a digit
d) Variable can be of any length

9. Which keyword is used to prevent any changes in the variable within a C program?
a) immutable
b) mutable
c) const
d) volatile

10. Which of the following is NOT possible with any 2 operators in C?
a) Different precedence, same associativity
b) Different precedence, different associativity
c) Same precedence, different associativity
d) All of the mentioned

11. What is the sizeof(char) in a 32-bit C compiler?
a) 1 bit
b) 2 bits
c) 1 Byte
d) 2 Bytes

12. What is the output with explanation of the program?

#include <stdio.h>

```
   int main()

   {

      int main = 3;

      printf("%d", main);

      return 0;

   }
```

13. What is the output with explanation of the program?

#include <stdio.h>

```
   int main()

   {

      signed char chr;

      chr = 128;

      printf("%d\n", chr);

      return 0;

    }
```

14. What is the output with explanation of this C code?

```c
1. #include <stdio.h>
2.    int main()
3.    {
4.        float f = 0.1;
5.        if (f == 0.1)
6.            printf("True");
7.        else
8.            printf("False");
9.    }
```

15. What is the output with explanation of this C code?

```c
1.    #include <stdio.h>
2.    main()
3.    {
4.        int n = 0, m = 0;
5.        if (n > 0)
6.            if (m > 0)
7.                printf("True");
8.        else
9.            printf("False");
10.   }
```

16. Write a program in C that reads a forename, surname and year of birth and displays the names and the year one after another sequentially.

17. Write a program in C that takes minutes as input, and display the total number of hours and minutes.

18. Write a C program to read the roll no, name and marks of three subjects and calculate the total, percentage and division.
Test Data :
Input the Roll Number of the student :784
Input the Name of the Student :James
Input the marks of Physics, Chemistry and Computer Application : 70 80 90
Expected Output :
Roll No : 784
Name of Student : James
Marks in Physics : 70
Marks in Chemistry : 80
Marks in Computer Application : 90

Total Marks = 240
Percentage = 80.00
Division = First

19. Given a 4 digit integer number, write a program that displays the
number as follows:
First line :all digits
second line : all except the first digit

.

.

.

.

Last line: the last digit

20. You are given two integers, say M and N.

You must check whether M is an exact multiple of N, without using
loops.

21. Write a C program to enter a 4 digit number and check if it is a palindrome number or not.

22. Write a C program to check if a given year is a leap year or not.

23. Write a C program to read a floating-point number and display the rightmost digit of its
integral part.

24. What do you mean by operator precedence and associativity?

25. Describe the term Implicit Type Conversion and Explicit Conversion.