1. Describe about different types of operators in C in detail.
2. Differentiate between:
    - While and do-while loop
    - Switch and else-if statement
    - Macro and function
    - Recursion and iteration
    - Structure and Union
    - Call by value and call by reference
    - Break and continue statement
3. What do you mean by control statement? Explain with its types.
4. Describe about different components of a function with example.
5. Can a function return multiple values in single time? Justify your answer with example.
6. Program to generate Fibonacci series up to n terms starting from 2 by using recursion.
7. Draw a flowchart to check whether a number is prime or not.
8. Write an algorithm to find out the real, equal, and imaginary roots of a quadratic equation.
9. Write short notes on:
    - Pre-processor directives
    - Storage classes
    - Chain of pointers
    - Self-referential structure
    - File opening modes in C
10. Describe about pointer arithmetic in detail.
11. Array is a disguised form of pointer. Explain this statement with example.
12. Describe about different string handling functions.
13. Write a program to check whether a string is palindrome or not without using string handling functions.
14. Program to sort n numbers in ascending order by using selection sort, function, and pointer.
15. Program to perform matrix multiplication by using DMA and function.
16. Create a structure called ‘Football’ with name of the player, number of goals, name of the country and date of joining. Input the information of n students and display the information of those players whose country is Nepal and who joined in January 2021.
17. Create a structure called ‘College’ with name, affiliated university, and date of establishment. Input the information for 500 colleges and write it to the file ‘College.dat’. Then, display the information of those colleges that are affiliated to Pokhara university.

18. Write a program that displays the following menu and performs the actions as per the user's requirement:
    1. check whether a number is odd or even

    2.display the equivalent graphical character for a ASCII value.

    3. check whether a number is prime or not.

    4. display the factorial of a number

    5. exit from the program.

19. Trace the following:

```
#include<stdio.h>
        int a=100,b=200;

        int funct1(int c);

        main()
        {
            int count,c;
            for(count=1;count<=10;++count)
               {
                  c=4*count;
                  printf("%d\t",funct1(c));
               }
        }
        funct1(int x)
        {
            int c;
            c=(x<30)?(a-x):(b+x);
            return (c);
       }
```

20. Write a program to print the following:
    a.
    ```
    N
    N   E
    N   E   P
    N   E   P   A
    N   E   P   A   L
    ```

    b. sum of the digits of a number using recursion

    c. y= x-x3/3! + x5/5! - x7/7! + … (calculate the sum of given series using recursion)