Assignment

1. What is programming language? Explain different types of programming language.
2. Explain spiral model of software development with its advantages and disadvantages.
3. What is language translator? Differentiate between compiler and interpreter.
4. Explain different types of programming errors with example.
5. Briefly explain the phases of software development lifecycle.
6. How top down approach is different from bottom up approach?
7. Differentiate between cohesion and coupling.
8. How iteration is differ from recursion? Explain.
9. Explain the features of C programming language.
10. Why C is called structured programming language? Write an algorithm and draw a flowchart to find the greatest number among any three numbers.
11. Write an algorithm and draw the flowchart to find the entered number is positive or negative.
12. Explain Deterministic and Non-Deterministic algorithm design techniques.
13. Define variables and constants. Explain about variables types (data types) and operator in C (Any five)
14. What are the rules for naming variables? Explain different types of constant with examples.
15. Explain typecasting and typeconversion with example.
16. Describe any 5 input/output functions of C programming.
17. Differentiate between break and continue statements with suitable example.
18. An electric power distribution company charges its domestic consumers as follows:

Consumption Units	Rate of charges
2-200	Rs. 0.50 per unit
201-400	Rs. 100 plus Rs. 0.50 per unit excess of 200
401-600	Rs. 230 plus Rs.0.80 per unit excess of 400
600-above	Rs. 390 plus Rs.1.00 per unit excess of 600

    WAP to read costumer number and power consumed in units and print amount to be paid by the customer.
19. What is control statement? Differentiate entry-controlled loop and exit-controlled loop.
20. Explain switch statement with example.
21. Write a program to display the Fibonacci series of N terms.
22. What is the use of nested loop? Write a program to print Armstrong numbers from 100 to 999.
23. Write a program to read n numbers and display those numbers in reverse of ascending order and also find smallest and largest number among them.
24. Write a program to input any 3×2 matrix and find the transpose of it.
25. Write a program to print sum of diagonal elements of any given 4 by 4 matrix.
26. What is string? Explain any five string handling functions along with suitable program.
27. Write a program to read n students names and display names on alphabetical order.

28. Create a menu driven program that has the following options:

a. Calculate the sum of first 20 odd numbers
b. Change the case of a string to lowercase.
c. Compute multiplication table of a number.
d. Exit.

29. Write a program to read a line of string and count no of vowels, consonants, digits and spaces.
30. What are the advantages of using functions? Write a program to find the sum of any number using function.
31. Write a program to find the multiplication table of any number using function.
32. What is recursion? Write a recursive program to find factorial of n number using recursion function.

33. What are storage classes in C? Describe each of them with their scope and lifetime.
34. Define macro. Write a macro code to display area of circle.
35. What are pointers? Which arithmetic operations are possible with pointers? Explain with example.
36. What is the difference between pass by value and pass by reference with example?
37. "Returning Multiple values from Function" Explain this statement with suitable example.

38. What do you mean by nested type structure? Give an appropriate example to demonstrate the use of nested structure.
39. What is structure? Define a structure having member id, name, address and write program to input information about sixty students and display name of those students whose address is "chitwan".
40. Differentiate structure and union showing suitable example.
41. Write a program to input the name, program & CGPA of 200 students and store the information into a file. Finally, print the name, programme and CGPA of those students whose CGPA is greater or equal to 3.0.
42. Write a program to open a file named "student.dat" to keep the records of students (s_id, s_name, s_address) in a write mode and perform the following operations:
    i. Insert records into that file.
    ii. Display all those records for which s_id is greater than 2000
43. What is FILE pointer? Explain the various files opening modes in C programming.
44. Differentiate between binary file and text file.
45. List any 5 names of graphics functions. Write a program to draw rectangle.