1.

1. Classify Programming Language. Explain the most common programming language translator.
2. Why is C general purpose language? Explain the importance of C.
3. Write down the important features of C programming. Explain briefly.
4. Write down the basic difference between structured programming and object-oriented programming. Define the terms: object, class, data abstraction and encapsulation, inheritance, and polymorphism.
5. Differentiate between structured programming and object-oriented programming.
6. What are the special advantages of C++ over C?
7. What is Machine Language? How does it differ from high-level languages?
8. What do you mean by dynamic binding? How is it useful in OPP?

2. **Distinguish between the following pairs:**

1. Global and Local Variable
2. Automated and Static Variable
3. getchar and scanf functions
4. %s and %c specifications for reading
5. (V) %g and %f specifications for printing
6. (\*m)[5] and m[5]

3.

1. Write a general form of for statement, while statement and do while statement.
2. Draw the flowchart of the selection process of switch statement.
3. Mention five rules for the switch statement.
4. Differentiate between/basic difference Entry and exit control loop with relevant examples.
5. Explain about dangling else problem.

4.

1. Make a comparison between arrays and structures.
2. Why do we need a terminating null character in an array? Discuss with examples.

5.

1. Define pointer and variable. Mention some benefits of using pointer.
2. How do variable names and symbolic names differ? Illustrate with examples.

6.

1. Explain different types of error in numerical computing.
2. Show that at any stage the subsequent error is proportional to the square of the previous error.

7. What are trigraph characters? How are they useful?

8. Differentiate between interpreter and compiler.

9. Describe the process of the call by reference. What is the purpose of using it in a program?

10. Define friend and virtual function. Explain the significance of friend and virtual function.

11. Differentiate between analog and digital computing. Explain the characteristics of numerical computing.

12. Explain the geometrical interpretation of Newton's Raphson method.

13. What is mouse? Distinguish between mechanical mouse and optical mouse.

Write down the main benefits of mouse.

14. Briefly describe the construction and important features of dark disks.

15. Briefly explain - how does a CD-ROM drive read data from the surface of a compact disk?

Why CD ROM drives are slow compared to hard disk drives?

16. Describe the working procedure of floppy disks.

17. Define the operating system and mention its function. Explain the single user/multitasking operating system.

18. Briefly describe the important features of Hard-Disks.

19. Differentiate between CD-ROM and DVD-ROM

20. Write short note on:

* Master circuit board of computer
* Flash Memory
* ROM
* RAM
* Mainframe computer
* Supercomputer
* Workstations
* Real-time operating system
* Magnetic Ink Character Reader (MICR)

21. Describe the **Four Basic Number Systems**.

* Decimal to binary: 653.625
* Decimal to binary: 109.7825
* Binary to Hexadecimal: 11100.1011011011
* Binary to Hexadecimal: 101101101110.1000110
* Hexadecimal to decimal: 7385.88
* Hexadecimal to decimal: 129A.B86