## -: C# & SQL Basic : -

C#

- 1- Basic programming fundaments
  - a. What is programming
  - b. Why programming
  - c. Type of programming
  - d. Advantage of using Object Oriented Programming.
- 2- Introduction to C#
  - a. History
  - b. Versions
  - c. Syntax and programming environment.
- 3- Datatype
  - a. Value type
  - b. Reference type
- 4- Variable & operators
- 5- Typecasting & boxing unboxing
- 6- Control flow statements
  - a. If else, else if, nested if
  - b. Switch case
  - c. Loop- for loop, while loop, do while, foreach.
- 7- Array
  - a. Array advantage
  - b. Declaration and manipulations
  - c. Type of array.
- 8- Functions
  - a. Pre-define function
    - i. String & string builder
    - ii. Math function
    - iii. Character handling
    - iv. Date & time function.
- 9- Object oriented Programming.
  - a. What is object oriented programing basics and advantages
  - b. Pillar of OOP.
  - c. Class & objects
    - i. Constructor & destructor
    - ii. Property
    - iii. Methods
    - iv. Static member
    - v. Indexer
  - d. Inheritance
    - i. Type of inheritance
    - ii. Sealed & base keyword
  - e. Polymorphism

- i. Overloading
- ii. Overriding
- iii. Virtual and new keyword advantages.
- f. Abstraction
- g. Encapsulation
- h. Interface
- 10. namespace
- 11. collection-
  - 1. non-generic collection
    - 1. ArrayList
    - 2. Stack
    - 3. Queue
    - 4. SortedList
    - 5. HashTable
  - 2. Generic collection
    - a. List
    - b. Stack
    - c. Queue
    - d. SortedList
- 12. Exception & Exception Handling
- 13. File Handling

## **SQL SERVER**

- 1. What is SQL
- 2. Type of DBMS
- 3. SQL VS MS-SQL
- 4. Data Definition Language(DDL)
  - I. Create
  - II. Alter
  - III. Drop
  - IV. Truncate
  - V. Sp\_rename
- 5. Data manipulation Language:
  - i. Insert
  - ii. Update
  - iii. Delete
  - iv. Select
- 6. SQL built-in function
  - i. String
  - ii. Math

- iii. Date time
- iv. Convert function
- 7. Clauses
  - i. Where
  - ii. Order by
  - iii. Group by
  - iv. Top
  - v. Having
- 8. Operators
  - i. Arithmetic
  - ii. Logical- and, or, not, like, not like, between, not between, in etc.
  - iii. Set operator
    - 1. Union
    - 2. Union all
    - 3. Intersect
    - 4. Except
- 9. Join
  - I. Inner join
  - II. Outer join
  - III. Left outer join
  - IV. Right outer join
  - V. Full outer join
  - VI. Self & cross join
- 10. View
- 11. T/SQL
  - i. Stored Procedure
  - ii. Stored function
- 12. Temporary Table
- 13. CTE Table
- 14. Trigger
- 15. Index