Chapter No-1

Short

1. What is data structure?
2. What are the techniques to check the efficiency of algorithm?
3. Why time complexity is important?
4. Write the examples of linear data structure

Long

1. How to calculate the space complexity?
2. What is the use of data structure?
3. Explain the compound data structure

Chapter No-2

Short

1. What is the time complexity of binary search?
2. What do you mean by array?
3. What is string?
4. What do you mean by pointer?
5. What is dynamic memory allocation?

Long

1. Explain the 2-D array with example
2. Explain the malloc function
3. Which data structure is used for recursion
4. Why binary search is better than linear search?
5. Explain the character string

Chapter No-3

Short

1. What is sorting?
2. What is stable sorting?
3. What is in-place sorting?
4. What is the run time of worst case analysis for quick sort
5. What is the worst case for quick sort

Long

1. Explain the merge sort

2. Which is best sorting technique and why?
3. Explain the quick sort
4. Write the difference between selection and insertion sort
5. What is difference between stable and unstable sorting

Chapter No-4

Short

1. Define the stack
2. Define the queue
3. What is push operation?
4. What is pop operation?

Long

1. Write the applications of stack
2. Explain the operations of stack
3. Explain the circular queue
4. What is De queue?

Chapter No -5

Short

1. Define the linked list
2. What is header linked list?
3. Which is better array or linked list?
4. Define the circular linked list

Long

1. Explain the double linked list
2. Write the difference between single and double linked list
3. Which type of memory allocation is used in linked list
4. What is the use of linked list

Chapter No-6

Very Short

1. What are tokens?
2. What are keywords?
3. What are identifiers?
4. What are constants?

5. What is difference between structure and union

Short
1. Write the classification of data structure
2. What is enumerated data type?
3. What is reference type?

Long
1. Write the steps to compile and linking process of C++ program by operating system
2. Explain the implicit and explicit type casting

Chapter No-7

Very Short
1. Define the precedence of operator
2. Define the associability of operator
3. What are the different types of control statements
4. What is expression?

Short
1. Write the use of scope resolution operator
2. Write the use of new and delete operator
3. Explain the selection statements used in C++

Long
1. Explain the different types of expressions
2. Explain the different types of looping statements

Chapter No-8

Very Short
1. What is function?
2. What is operator overloading?
3. What is inline function

Short
1. What is function prototype?
2. What is difference between call by value and call by reference?
3. What are the advantages of function?

Long
1. Write a program to swap two numbers using call by reference method
2. Write a program to calculate the area of circle using function overloading

Chapter No-9

Very Short
1. What is class?
2. What is object?
3. What is friend class?

Short
1. Write the difference between private and public access modifier?
2. What are the features of static data member?
3. What are the features of static member functions?

Long
1. What is friend function? Explain
2. Write a program in C++ to input two complex numbers and then display the addition and subtraction of complex numbers
3. Write a program to swap the data members of two classes using friend function

Chapter No-10

Very Short
1. What is constructor?
2. What are parameterized constructors?
3. What is constructor overloading?

Short
1. Write the characteristics of constructor
2. What is destructor? Write the characteristics of destructor
3. Write the uses of destructors?

Long

1. Explain the constructor with default arguments

Chapter No-11

Very Short

1. What is operator overloading?
2. Write the syntax of operator function
3. Write the names of operators that can't be overloaded

Short

1. Write the difference between operator as member function and operator as friend function \

Long

1. Write a program to make an object or class negative using friend function using operator overloading
2. Write a program to add two strings using binary + operator overloading

Chapter No-12

Very Short

1. What is inheritance?
2. What is single level inheritance?
3. What is multi level inheritance?
4. What is multiple inheritances?
5. What is hierarchical inheritance?
6. What is hybrid inheritance?
7. What is abstract class?

Short

1. Write the impact of visibility modes on inheritance?
2. What is concept of virtual base class?

Long

1. Write a program in C++ to create a class shape which is used to calculate the area of circle, rectangle, triangle etc.

Chapter No-13

Very Short

1. What is DBMS?
2. Define the record?
3. Name the different types of data redundancy
4. Define the database schema
5. What is the use of index in DBMS
6. What is query language?
7. Write the difference between procedural and non procedural DML
8. What is difference between schema and instances?
9. Write the steps to design the database
10. What is entity?

Short

1. What do you mean by atomicity?
2. What is difference between physical and logical data independence
3. What is weak entity? Draw it in E-R diagram
4. Define the primary and composite primary key
5. What is bad database?

Long

1. What are the different parts of DBMS
2. What is data model? How relational data model is different than network data model
3. Explain the different types of attributes and relationship in ER diagram
4. Draw a ER diagram which runs classes from 1 to 10
5. Explain the normalization process

Chapter No-14

Very Short

1. What is SQL?
2. Explain the from clause in SQL select statement
3. What is the importance of select clause
4. Write the two types of SQL

5. Write the difference between unique and primary key constraints
6. Define the database instance
7. Define the order by clause in SQL
8. What is NULL in SQL?
9. What do you mean by aggregate function?
10. What is the use of grant command

Short
1. What is structure of SQL
2. Explain the different types of DML commands with syntax
3. What is foreign key? How to create foreign key in table
4. Explain the group by clause in SQL
5. What is difference between Cartesian and natural join

Long
1. Explain the different types of join in SQL with tables
2. Explain the aggregate function in SQL with example
3. Explain the where, group by, having options in SQL statement
4. Students(Roll_no, Age, Phone, Address, Class)
   Classes(Class_name, CRoomNo, CStrength)
   Answer the following query-
   (i) Display the name and address of students sitting in room no F-12 and class=5th
   (ii) Total number of students of 10th class living in Ajmer city
5. What is sub query? Explain the Sub Query with example.

Chapter No-15
Very Short
1. What is PL/SQL?
2. How many parts are there in PL/SQL block?
3. What is the use of Declare in PL/SQL
4. What is the use of & in PL/SQL
5. How can we declare variable in PL/SQL
6. How can we use select statement in PL/SQL
7. What is the use of Exception block in PL/SQL
8. What is trigger?
9. Explain the types of variable in PL/SQL
10. How can we use triggers?

Short
1. Write difference between %TYPE and %ROWTYPE attributes
2. What is the use of Exit in PL/SQL
3. What is before trigger?
4. What is difference between implicit and explicit cursor?
5. Write the syntax of For..Loop

Long
1. What is cursor? What is the use of cursor? Explain the explicit cursor
2. Explain the database triggers with example
3. What is exception? Explain its types
4. Explain the different types of loops in PL/SQL
5. What is function? How it is different than procedure? Write the syntax to function and procedure.