

- Note:
1. All questions are compulsory with internal choice.
 2. Draw neat diagrams wherever necessary.
 3. Figures to the right indicate full marks.

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- Q.1 Answer the following (any THREE) (15)**
- (a) Explain the characteristics of OOP.
 - (b) Write a note on data types used in C++.
 - (c) Explain relational and logical operators used in C++.
 - (d) Write a C++ program to find the greatest number among three.
 - (e) Write a C++ program to print sum of 1 to 10 numbers using loop.
 - (f) Explain if-else statement with suitable example used in C++.
- Q.2 Answer the following (any THREE) (15)**
- (a) Explain the two types of array with suitable example.
 - (b) What is class? Explain with its syntax and example.
 - (c) How the member function defined outside the class?
 - (d) Write a C++ program to print the details of person(name,age) using class and member functions.
 - (e) Write a note on static function with suitable example.
 - (f) Write a C++ program to demonstrate friend function.
- Q.3 Answer the following (any THREE) (15)**
- (a) What is inheritance? Explain its types.
 - (b) Write a program using pointer object.
 - (c) Explain the types of binding.
 - (d) Write a C++ Program to design a circle class and define pi=3.142 using constructor.
 - (e) Explain virtual function with suitable example.
 - (f) Explain the types of constructor.
- Q.4 Answer the following (any THREE) (15)**
- (a) Which classes are used for the file manipulation?
 - (b) Explain the functions used for file management.
 - (c) What is template? Write its syntax.
 - (d) Write a C++ program to read and write data in file.
 - (e) How command line arguments is suitable for run time input data?
 - (f) Explain binary file with suitable example.
- Q.5 Answer the following (any THREE) (15)**
- (a) Which are the standard template libraries?
 - (b) Explain the design patterns used.
 - (c) Write a note on Linked List.
 - (d) Which are the collection classes used?
 - (e) Write a C++ program for manipulation of string objects.
 - (f) Which are the new data types of ANSI C++.