[Total Marks: 100]

(3 Hours)

N.B.: 1) Question No.1 is **compulsory.**
　　　2) Attempt any **four** from the remaining **six** questions.

1. **(a)** Write a program to define a class to represent a bank account. Include the following **(10)** members: Name of the depositor, Account number, Type of account, Balance amount in the account Define the member functions **t**o assign initial values, to deposit an amount, to withdraw an amount after checking the balance, to display name and balance.
   (b) Define Object Oriented Programming. What are the features of OOP's? **(10)**

2. **(a)** What is Constructor? Explain Default Constructor, Parameterized Constructor and **(10)** Copy constructor with suitable example.
   (b) What is Inheritance? Explain the different forms of inheritance. **(10)**

3. **(a)** Write a program to overload binary '+' operator to demonstrate concatenation of one **(10)** string at the end of another.
   (b) Define Polymorphism? Explain how run time polymorphism is achieved with an **(10)** example. Add a note on Virtual Destructor.

4. **(a)** Explain with example data conversion in C++ : **(10)**
   　　i)　　basic to object type
   　　ii)　　object to basic type
   (b) What is dynamic memory management? Explain the use of new and delete keyword **(10)** with example.

5. **(a)** Explain exception handling mechanism in C++. Write a program to handle 'array out **(10)** of bound' exception.
   (b) What is container? Explain container types. **(10)**

6. **(a)** Explain the different file opening modes in C++. Create a class library with member's **(10)** bookid, book_name, author and price. Write a program to store the details of Library class and retrieve it from a binary file.
   (b) What are the components of Standard Template Library? **(10)**

7. **Write Short Notes on _any four_ :-** **(20)**
   1. this pointer
   2. inline keyword
   3. command line arguments
   4. Friend function
   5. function templates
   6. Manipulators with arguments

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