

**Time: 2½ hrs.**

**Marks:75**

- 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 FOUR) (20)**

- (a) What is Object Oriented Programming? Discuss the advantages of OOPs.
- (b) Explain the concept of type conversion with example.
- (c) Explain the concept of friend function with suitable example.
- (d) Define the following:  
a. Class b. Object c. Data abstraction d. Polymorphism e. Encapsulation
- (e) What is variable? Explain the rules for declaring a variable.
- (f) Explain the structure of C++ class.

**Q.2 Answer the following (any FOUR) (20)**

- (a) What is static data member & function? Explain its characteristics.
- (b) What is a constructors? Explain its characteristics. List various types of constructors?
- (c) What is function overloading? Explain with suitable example.
- (d) Explain in brief the concept of Accessor & Mutator.
- (e) Write a C++ program to overload binary(+) operator.
- (f) Write a C++ program to demonstrate the use of constructor and destructor.

**Q.3 Answer the following (any FOUR) (20)**

- (a) What is pure virtual function? Explain how it is implemented.
- (b) What is operator overloading? State the rules for operator overloading.
- (c) What is a this pointer? Write a program to illustrate its use.
- (d) Write a C++ Program to demonstrate function overriding.
- (e) Write a C++ Program to demonstrate multiple inheritance.
- (f) Write a short note on Abstract class.

**Q.4 Answer the following (any FIVE) (15)**

- (a) What do you mean by access specifiers? Explain its various types.
- (b) Difference between static and dynamic binding.
- (c) Differentiate between virtual functions and abstract class.
- (d) Explain the use of parameterized constructor with a suitable example.
- (e) Write a C++ program to implement the concept of single level inheritance.
- (f) Differentiate between overloading & overriding.

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