11. (a) What is the need for template function in C++ ? What are their advantages ? 7

(b) What is the need for exception handling ? 6

**OR**

12. (a) When do we need multiple catch blocks for a single Try block ? Give an example. 7

(b) Explain the function Template. 6

**Faculty of Engineering and Technology**

**Fifth Semester B.E. (Computer Science Engg.) (C.B.S.) Examination**

**OBJECT ORIENTED PROGRAMMING**

Time : Three Hours] [Maximum Marks : 80

**INSTRUCTIONS TO CANDIDATES**

(1) All questions carry marks as indicated.

(2) Solve **SIX** questions as follows :

Que. No. **1 OR** Que. No. **2**

Que. No. **3 OR** Que. No. **4**

Que. No. **5 OR** Que. No. **6**

Que. No. **7 OR** Que. No. **8**

Que. No. **9 OR** Que. No. **10**

Que. No. **11 OR** Que. No. **12**

(3) Due credit will be given to neatness and adequate dimensions.

(4) Illustrate the answers with necessary figures/drawings wherever necessary.

(5) Assume suitable data wherever necessary.

1. (a) Explain the basic concept of Object Oriented Programming. 8

   (b) What is the difference between a local variable and a Data member ? 6

**OR**

2. (a) Explain copy constructors with an example. 8

   (b) Write a C++ program that :

   (i) Calculates and prints the sum of the integers from 1 to 10.

   (ii) To calculate x raised to the power y. 6

3. (a) What is operator overloading ? Explain with example. 7

   (b) What are the difference between pointer to constant and constant to pointer ? 6

**OR**

4. (a) Explain the New and Delete operators in C++. 7

   (b) Explain Pitfalls of operator overloading. 6

5. (a) Explain different types of Inheritances. 8

   (b) Explain function overloading with an example. 6

**OR**

6. (a) Describe pure virtual function with an example. 8

   (b) Write a C++ program using this pointer. 6

7. (a) What is Static function and Dynamic type information ? 7

   (b) Explain Abstract class with an example. 6

**OR**

8. (a) What are the types of Polymorphism ? 7

   (b) Explain the concept of containership with example. 6

9. (a) What are streams ? Why they are useful ? 7

   (b) What is manipulator ? Differentiate between manipulator and lash functions. 6

**OR**

10. (a) Explain about formatted and unformatted IO with suitable example. 7

    (b) Explain the role of :

    (i) seekg ( )

    (ii) seekp ( )

    (iii) tellg ( )

    (iv) tellp ( ) function in the process of Random access in binary file. 6