Faculty of Engineering & 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) What do you mean by Object Oriented Programming ? Explain the features of OOP.

7

(b) Define a class student with following attributes :

Data Members : rollno, name, branch, marks

Member function : get_info( ), display( )

Write a C++ program to define above class. 6

OR

2. (a) What is constructor ? Why do we use it in OOP ?

6

(b) Write a C++ program to find greatest number among four numbers.

7

3. (a) What is operator overloading ? Explain overloading of unary and binary operators with suitable example.

10

(b) What are the pitfalls of operator overloading ?

3

OR

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

7
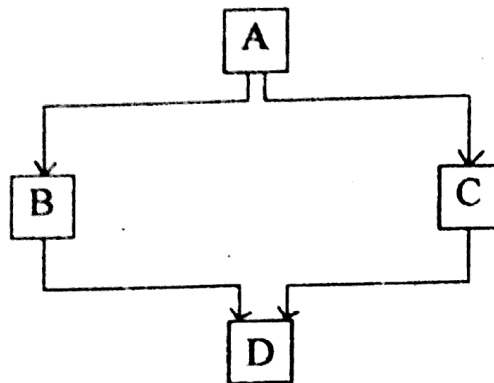
(b) Explain how to create pointers for objects in C++.

6

5. (a) Discuss the significance of inheritance in Object Oriented Programming paradigm with suitable examples.

7

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2

(Contd.)

(b) What is containership or classes within classes ? Explain with suitable example. 7

OR

6. Consider class 'A' as base class and 'B' and 'C' are the derived classes, publicly inherited from Class A.

Class 'D' is derived from Class 'B' and 'C' publicly. Assume suitable data members and member functions in all these classes. Write a C++ program to accomplish this inheritance. 14

7. (a) What is virtual function ? What is the role of virtual function in C++ ? 7

(b) Explain Abstract classes and pure virtual functions used in C++. 6

OR

8. (a) Explain the Friend function with its syntax in C++. 6

(b) State and explain 'this' pointer with suitable example. 7

9. (a) Explain the hierarchy of stream classes used in C++. 7

(b) What is manipulator ? State difference between manipulator and ios function. 6

OR

10. (a) Discuss formatted and unformatted I/O with suitable example. 6

(b) Explain the syntax of :
(i) seekg( )
(ii) width( )
(iii) precision( )
(iv) fill( ) 7

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

(b) Explain Exception handling with suitable example. 7

OR

12. Write short notes on (any **FOUR**) : 14
(i) Standard Template Library
(ii) Sequential containers
(iii) Iterates and specialized iterates
(iv) Associative containers
(v) Function objects
(vi) Multiple catch block.