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B.E. (Computer Science Engineering) Fifth Semester (C.B.S.)

Object Oriented Programming

P. Pages : 2 **NIR/KW/18/3434**

Time : Three Hours * 1 8 6 7 * Max. Marks : 80

Notes :
1. All questions carry marks as indicated.
2. Solve Question 1 OR Questions No. 2.
3. Solve Question 3 OR Questions No. 4.
4. Solve Question 5 OR Questions No. 6.
5. Solve Question 7 OR Questions No. 8.
6. Solve Question 9 OR Questions No. 10.
7. Solve Question 11 OR Questions No. 12.
8. Due credit will be given to neatness and adequate dimensions.
9. Assume suitable data whenever necessary.
10. Illustrate your answers whenever necessary with the help of neat sketches.

1. a) Differentiate between object oriented programming and function oriented programming. **7**

b) Explain the use of scope resolution operator with example. **6**

OR

2. a) Explain how static member variable and static functions are access with suitable example. **7**

b) Write a C++ program to perform addition of 1 to 1500 numbers without using loop concept. Use appropriate formula to perform the addition. **6**

3. a) Explain binary operator overloading using friend function. **7**

b) Explain pointer and function with suitable example. **6**

OR

4. a) What is operator overloading ? Explain unary operator overloading using member function. **7**

b) Explain new and delete operator in C++ with suitable example. **6**

5. a) What is inheritance in C++ ? What are the different types of inheritance ? Explain with example. **8**

b) What is containership ? Explain with example. **6**

OR

6. a) Explain visibility labels in C++ with neat diagram ? Also provide detail example of every visibility label. **7**

b) What is private inheritance ? Illustrate a situation where private inheritance can be used. **7**

7. a) What is abstract class ? Why abstract class is needed ? Explain with example. **7**

b) What is virtual function ? Explain role of virtual function with example. **7**

OR

8. a) Explain virtual base class with suitable example. **7**

b) What is friend function ? Explain how friend function can acts as a bridge between two incompatible classes. **7**

9. a) What is stream ? Explain hierarchy of stream classes. **7**

b) Explain the file modes ? Describe every file mode with suitable example. **6**

OR

10. a) What is file pointer ? Also explain the functions of file pointer. **7**

b) Write a program that read a text file and count the no. of lines, no of words and number of characters. **6**

11. a) What is exception ? Explain the need of exception handing with suitable example. **7**

b) Explain user defined exception in C++ with suitable example. **6**

OR

12. a) What is STL ? Explain container, algorithms and iterators in detail. **7**

b) What are templates ? Explain functions template with suitable example. **6**

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The best time to plant a tree was 20 years ago. The second best time is now.

~ Chinese Proverb