F 3499

(Pages 2)

Reg. No.....

Name.....

B.TECH. DEGREE EXAMINATION, NOVEMBER 2008

Fourth Semester

Branch : Computer Science and Engineering

OBJECT ORIENTED PROGRAMMING (R)

(Improvement/Supplementary)

ime : Three Hours

Maximum : 100 Marks

Part A

Answer **all** *questions briefly.*
Each question carries 4 marks.

1. Define class and object. What is the relation of objects to classes ? Explain with an example.
2. What are the benefits of object oriented programming.
3. Briefly explain any *four* forms of inheritance.
4. What are the differences between a friend function and a member function ?
5. State the four steps involved in overloading an operator.
6. Define and explain polymorphism in OOP.
7. What is a generic function ? Explain with an example.
8. Explain the use of templates.
9. What are the advantages of Java bean ?
10. Explain, how inline functions differ from ordinary function ?

(10 × 4 = 40 marks)

Part B

Answer **either** *A* **or** *B from each module.*
Each queston carries 12 *marks.*

MODULE I

1. (a) With the help of examples, distinguish between virtual destructors and virtual base classes.

(12 marks)

Or

(b) Create a class "MAT" of size mxn. Define the addition subtraction and multiplication operations for "MAT" type objects.

(12 marks)

Turn over

MODULE II

12. (a) Explain, with an example, why member functions of a class are declared "public". What are its advantages and applications ? (12 marks

Or

(b) Explain clearly hierarchical inheritance with a program example. (12 mark

MODULE III

13 (a) Explain operator overloading with a program which uses '+' to concatenate two string objec (12 mar

Or

(b) List and explain the operators that can be overloaded and the operators that canno overloaded. (12 m

MODULE IV

14. (a) Write a program to define a function template to interchange the values of two data Use this function to interchange the value of two integer numbers and two real numb (12

Or

(b) (i) Explain template class specialisation. (6

(ii) Explain the principle and applications of name spaces. (

MODULE V

15. (a) Giving suitable examples, describe the object oriented features of Java. (

Or

(b) Explain the different types of inheritance used in C++. (5 × 12 =