

3E2074

Roll No. _____

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**B.Tech. IIIrd Semester (Main/Back) Scheme Examination, Feb. - 2011
Computer Engineering & Information Technology
3IT4 & 3CS4 Object Oriented Programming**

Time : 3 Hours

Maximum Marks : 80

Min. Passing Marks : 24

Instructions to Candidates:

*Attempt overall **five** questions, selecting **one** question from **each** unit. All questions carry **equal** marks. (Schematic diagrams must be shown wherever necessary. Any data you feel missing may suitably be assumed and stated clearly. Units of quantities used/calculated must be stated clearly).*

Unit - I

- 1. a) Write down the syntax for accessing members of structure using structure variables with suitable example. **(8)**
- b) Explain pointer to structure with suitable example. **(8)**

OR

- 2. a) What is the difference between Structured Programming and Object-Oriented Programming. **(6)**
- b) Explain syntax of passing structure to functions. Also implement structures as user defined data types. **(10)**

Unit - II

- 3. a) Distinguish between the following terms :-
 - i) Objects and Classes
 - ii) Data abstraction and data encapsulation.
 - iii) Inheritance and Polymorphism
 - iv) Dynamic binding and message passing. **(2×4=8)**
- b) Write a simple program to access and manipulate data members in C++. **(8)**

OR

4. a) Explain constructors with suitable example. Also describe the role of destructors in C++ language. (8)
- b) What is Friend Function? Write a program that implements Friend Function concept. (8)

Unit - III

5. a) What is operator overloading? Why is it necessary to overload an operator? What is an operator function? Describe the syntax of an operator function. (8)
- b) Explain overloading Stream Function with suitable. Example. (8)

OR

6. a) What is a Conversion Function? How is it created? Explain its syntax with suitable example. (8)
- b) Differentiate between unary and binary operators. Also explain overloading binary operators using Friend Function. (8)

Unit - IV

7. What is inheritance? Explain different kind of inheritance with suitable example. (16)

OR

8. a) What is polymorphism? Explain function overloading with suitable example. (8)
- b) What is Virtual Function? Explain function overriding or run time polymorphism with suitable example. (8)

Unit - V

9. Write short note on (any two) :- (8×2=16)
- a) Exception Handling
- b) Templates
- c) Multiple Inheritance

OR

10. a) Explain Virtual Base Class with suitable example. (8)
- b) Describe pointers to classes and class members in details. (8)