Roll No. ....

CS/EI/IT–305

B. E. (Third Semester) EXAMINATION, June, 2009

(Common for CS, EI & IT Engg.)

OBJECT ORIENTED PROGRAMMING METHODOLOGY

Time : Three Hours

Maximum Marks : 100

Minimum Pass Marks : 35

Note : Attempt any *five* questions. All questions carry equal marks.

1. (a) Discuss the fundamental idea behind object-oriented languages. How do you read a data item in an object ?

    10

   (b) Discuss how object oriented languages differ from procedural languages.

    10

Or

2. (a) Explain the advantages of OOPs with examples.   10

   (b) Give an example of interactive object system.   10

3. (a) Why do we use OOPs concepts ? What is its advantage ?   10

   (b) Create a class called cake with attributes height, weight, shape and message, with a default constructor. Overload the constructor with arguments. Create methods to display details and increase the height by

P. T. O.

2 cms and weight by 0·5 kg. Finally display the details again.   10

Or

(a) What is encapsulation ? Explain with suitable example.   10

(b) Differentiate between data encapsulation and abstraction.   10

5. (a) Write a class declaration that creates a class called leverage with one private data member, crowbar, of type int and one public function whose declaration is void pry ( ).   10

(b) The body of the class contains two unfamiliar key words : Private and public. What is their purpose ? 10

Or

6. (a) What are member functions ? Explain with example.   10

(b) Discuss the technical difference between structures and classes in C + +. Give example.   10

7. How does a recursive association connect a single class type serving in one role to itself (serving in another role) ? Explain the recursive association concept in the given situation. In most companies each employee (except the CEO) is supervised by one manager. Not all employees are managers. Give the correct recursi associative model.   20

Or

8. Give examples of multiple object declarations, variable declarations and constant declarations.   20

9. Write short notes on any *two* of the following :   20

(i) Abstract base classes

(ii) Multiple inheritance

(iii) Private operations

Or

10. Imagine a publishing company that markets both book and audio cassette versions of its works. Create a class publication that stores the title (a string) and price (type float). From this class drive two classes book, which adds a page count (type int); and tape which adds a playing time in minutes (type float). Each of these three classes should have a getdata ( ) function to get its data from the user at the keyboard and a putdata ( ) function to display its data. Write a main ( ) program to test the book and tape classes by creating instances of them, asking the user to fill in data with getdata ( ) and then displaying the data with putdata ( ). 20