00942

ADCA/MCA (III Yr)

Term-End Examination

June, 2010

CS-16 : OBJECT ORIENTED SYSTEMS

Time : 3 hours *Maximum Marks : 75*

Note : *Question number **1** is **compulsory**. Answer **any three** questions from the rest.*

1. (a) Draw a class diagram with two classes, ***Student*** and ***Course***. Add atleast 4 attributes and 2 operations for both the classes. Explain the classes and associations, if any. Assume that a student can enrol in many courses, and that a course can enrol many students. Further, assume that a course can enrol a minimum of zero and a maximum of many students, but a student must enrol in atleast one, but possibly many courses. **10**

   (b) Explain the following terms, with an example of each : **9**

   (i) State Diagrams

   (ii) Generalization

   (iii) Abstract Classes

(c) What is Data flow ? What is control flow ? Write any 5 differences between them. **11**

2. (a) What is Recursive aggregate ? Explain with an example. **5**

(b) What is Polymorphism ? Explain the different types of polymorphism with an example of each. **10**

3. (a) For each of the following systems, identify the relative importance of the three aspects of modelling, namely, Object, Dynamic and Functional Modelling : **10**

(i) Interpreter

(ii) Word Processing Software

(b) Define a Scenario. Give an example of a scenario. Also, define an Event trace and give an example of it. **5**

4. (a) Draw an E-R diagram and show the relationships between various entities like Student, College, Teacher, Hostel, Library of a "University Information System". The diagram should also include attributes. Make assumptions, wherever necessary. **10**

(b) What is aggregation ? Describe with an example. **5**

5. (a) What is meant by an internal action and automatic transition ? Explain with the help of an example. **5**

(b) Explain the process of identifying concurrency in objects. **5**

(c) Differentiate between activity and action with the help of an example. **5**
