Or

What is DFD ? What are elements of DFD ? Explain the purpose of DFD with a suitable example. **11**

Subject Code—0397

M.C.A. (Fifth Year) EXAMINATION

(5 Years Integrated Course)

(For Batch 2009 Onwards) (Main & Re-appear)

OBJECT ORIENTED DESIGN AND

MODELING

MCA-503

Time : 3 *Hours*   *Maximum Marks :* 70

Section A

Note : Attempt any *Seven* questions.   **7×5=35**

1. What is Object Oriented Methodology ? What are the advantages of object oriented methodology ?

2. Describe the term reusability in object oriented design.

3. What is Class ? Discuss the relationships between class and object.

4. Explain the concept of multiple inheritances.

5. What is key ? Explain different types of keys with example.

6. Explain the following properties of an association by giving at least *two* examples of each :

   Link attribute, Role name, Ordering and Qualification.

7. What is dynamic model ? How is it represented ?

8. Explain Aggregation *versus* Composition.

9. What are concurrent regions ? How are they depicted in the state diagram ? Explain with example.

10. What is subsystem ? What are different types of relationships between subsystems ? Explain.

Section B

Note : Attempt all the questions.

11. Prepare a use-case diagram for an airline reservation system.

   Or

   List the steps to construct a domain state model. For an ATM bank system, prepare data dictionary for all modeling elements.　**12**

12. Explain the following with examples :
   (i)　Link and Associations
   (ii)　Association Class
   (iii)　Multiplicity
   (iv)　Qualified Association.

   Or

   Describe "Architectural patterns" and "Design patterns".　**12**

13. Write short note on Collaboration Diagram, Inheritance, Cohesion, Generalization.