

C 15654

(Pages : 2)

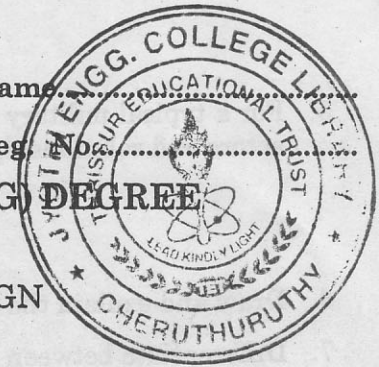
Name: .....

Reg. No. ....

**FOURTH SEMESTER B.TECH. (ENGINEERING) DEGREE  
EXAMINATION, JUNE 2011**

**IT 09 405—DATA MODELLING AND DESIGN**

(2009 admissions)



Time : Three Hours

Maximum : 70 Marks

**Part A**

1. Give the syntax for declaring and initializing an array in Java.
2. Mention the domains for which UML can effectively be used for.
3. Enumerate the four kinds of relationships in UML.
4. What are abstract classes ?
5. Mention the importance of developing a deployment model.

(5 × 2 = 10 marks)

**Part B**

1. Identify at least 10 different potential classes involved in an online voting system.
2. Distinguish between an Object and a Class.
3. Mention the significance of developing a use case diagram.
4. What are the basic elements of an activity diagram ?
5. Mention the types of inheritance that is allowed in Java.
6. Identify the "roles" involved in a project aimed at maintaining employee database.

(4 × 5 = 20 marks)

**Part C**

1. Write a specific java program, explain how java exhibits polymorphism. (10 marks)

Or

2. Explain the following features of java with an example program :—

(i) Exception handling. (5 marks)

(ii) Multi-threaded programming. (5 marks)

3. UML is a language for visualizing specifying, constructing and documenting. Substantiate the above statement.

(10 marks)

Or

4. Draw a class diagram for a online shopping software. Make your own assumptions and dependencies. Identify the potential classes and relationship between them.

(10 marks)

Turn over

5. For a typical military application software, make your own assumptions, identify the use cases, actors and relationship between them.

(10 marks)

Or

6. Draw and explain the state diagram of a gear transmission system of a car.

(10 marks)

7. Differentiate between :

- (i) Aggregation and generalization.
- (ii) Aggregation and association.
- (iii) Good design and Bad design.

(3 + 3 + 4 = 10 marks)

Or

8. Write short notes on :

- (i) Multiple inheritance support in java.
- (ii) Multiplicity and its types.
- (iii) Mapping of object classes and association to tables.

(4 + 3 + 3 = 10 marks)

[4 × 10 = 40 marks]