

GUJARAT TECHNOLOGICAL UNIVERSITY**M. E. - SEMESTER – II • EXAMINATION – WINTER • 2014****Subject code: 1720105****Date: 04-12-2014****Subject Name: Object Oriented Methodology and Design****Time: 02:30 pm - 05:00 pm****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** Answer the following questions. **14**
- (a) What are the different OMT phases ?
 - (b) Define Conceptual Classes? What are Three Strategies to Find Conceptual Classes?
 - (c) What are Attributes? What About Attributes in Code?
 - (d) What is Generalization? What is Aggregation? What is Composition?
- Q.2** (a) Draw and explain the Use case and Activity diagram for Automatic Teller Machine Operations. **07**
- (b) List the components that decide the template of pattern with reasoning. **07**
- OR**
- (b) What are patterns? Explain Façade pattern. **07**
- Q.3** (a) Describe the different types of relationships among classes with examples. **07**
- (b) Draw and explain the Sequence and State diagram for Cell Phone scenario. **07**
- OR**
- Q.3** (a) Explain in detail the object oriented design process with suitable example. **07**
- (b) Implement a Simple Factory using any Standard factory design pattern. **07**
- Q.4** (a) Explain the techniques followed in designing interface object with suitable java code. **07**
- (b) Show the Basic model of MVC architecture and also an alternate view of MVC architecture and implement the Observable and Observer pattern using MVC. **07**
- OR**
- Q.4** (a) Define Following terms **07**
- (i) State (ii) Sheet (iii) multi-level inheritance (iv) Qualifier (v) delegation using aggregation (vi) actors
- (b) Explain Singleton pattern with a diagram. **07**
- Q.5** (a) Draw the class diagram and use case diagram of Railway reservation system. **07**
- (b) What do you mean by long term storage of objects? Explain storage and retrieval of objects with example. **07**
- OR**
- Q.5** (a) Draw the class hierarchy for the following items : Man, Cat, Tiger, Crow, table, fan, computer hardware . **07**
- (b) What is the significance of Iterator design pattern? Explain with suitable example. **07**
