

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER-IV EXAMINATION – WINTER 2015

Subject Code: 140703

Date: 30/12/2015

Subject Name: Object Oriented Analysis Design and UML

Time: 02:30pm to 05:00pm

Total Marks: 70

Instructions:

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

- Q.1** (a) Explain Object Oriented Model, Dynamic Model, Functional Model. **07**
(b) Briefly explain following characteristics and themes of object oriented systems: **07**
Classification, identity, inheritance, encapsulation, polymorphism, sharing, synergy.

- Q.2** (a) What is concurrency? Explain following concept with example. **07**
i) Aggregation concurrency
ii) Concurrency within object
(b) Describe guidelines for use case Models. **07**

OR

- (b) Define the purpose of following terms with suitable example and UML notations with respect to class model. (i) Qualified association
(ii) Association class (iii) Aggregation (iv) Multiplicity (v) Constraint **07**
- Q.3** (a) List and explain the steps of constructing application interaction model. **07**
(b) List and explain the steps of constructing domain class model. **07**

OR

- Q.3** (a) Differentiate state and event. List and explain different types of events. **07**
(b) Explain „ordered“, „bags“, „sequences“ in class diagram with example each. **07**

- Q.4** (a) Mention the importance of analysis and design stages in software development process. Differentiate following with respect to analysis and design stages: **07**
i) Domain analysis vs. Application analysis
ii) System design vs. Class design
(b) Explain following concepts with reference to system design: **07**
i) Reusable components and their use
ii) Methods of breaking system into subsystems

OR

- Q.4** (a) What do you mean by object-orientation? Briefly discuss the characteristics of OO approach. **07**
(b) Explain the tasks involved in design optimization. **07**

- Q.5** (a) Explain how to choose a Software Control Strategy. **07**
(b) Explain the following terms in relation to class design. **07**
a. Refactoring b. Reification

OR

- Q.5** **(a)** Why software architecture is so important in system design? Enlist and briefly explain different architectural styles. **07**
- (b)** What is the importance of adjustment of inheritance? Discuss the steps of doing it. **07**
