

GUJARAT TECHNOLOGICAL UNIVERSITY

M. E. Sem. – IInd - Examination – June/July- 2011

Subject Code: 1720105

Subject Name : Object Oriented Methodology & Design

Date:27/06/2011

Time: 10:30 am – 01:00 pm

Total Marks: 70

Instructions:

- (i) Figure to RIGHT indicates FULL marks
- (ii) Assume data whenever and wherever necessary
- (iii) Use Standard Conventions for symbols be used in examples in text

- Q.1 Attempt any two 14**
- (i) Explain in brief Key Concepts of Object Oriented Design and Themes with Sample Example Model.
 - (ii) Differentiate Object Model, Dynamic Model and Functional Model
 - (iii) Develop Sample Object Model for Course Registration for University and show Aggregation, generalization, Associations and Links in it
 - (iv) Explain the Generalization as Extension and Restriction and What are Advantages Generalization and Inheritance , explain with Example
- Q.2 (A) Draw a State Diagram for A Student Registers for Course, studies Course and Does Assignment as Notification by Teachers and Internal Exams and External Final Exam for Course and then Grad Given for a Course by Teachers 9**
- (B) Draw a Sample Event Trace Diagram for Dialing a telephone call to your Freind 5**
- OR
- Q.2 (A) Discuss the Activity Diagram and How it is used to show work flow within Software Flow, Show and Sample example for sorting 10 numbers 9**
- (B) How Does Functional Model is different from Flow diagrams and discuss various constraints 5**
- Q.3 Attempt any TWO 14**
- (i) Define Collection Classes and Explain the Collection Classes in Java , a java.util.* package
 - (ii) Discuss Basic language features of Java and Compare it with Any Other Object Oriented Implementation Language
 - (iii) Develop a Use case Transaction Operations for a Book Return in Library and Draw a Sequence Diagram for it
- Q.4 (A) Show the Object model for Object Adapter structure for Adapter Design Pattern along with when to use it and it's advantage 7**
- (B) What is Iterator design Pattern and How does it use for any Software Application , develop Sample Java application using it 7**
- OR
- Q.4 (A) Compare and Contrast the interfaces Enumeration and Iterator in Java.util 7**
- (B) What is Clone Object and what is clone() method, where they are used and How does it affect the integrity of the System? 7**

Q.5 Attempt any FOUR.

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- (i) How requirements are gathered for problem domain and Design the Conceptual Classes and relationships for Sample Students section functionality for any engineering college
- (ii) Explain the Concepts of Design and How does OOD is different from structured Design methodology
- (iii) What is Finite state machine and How do you model FSM and using State design pattern , show the solution of Any State based sample example
- (iv) Discuss the MVC based Architecture and its associated MVC design pattern and Develop sample fragment for Drawing Example using Standard design pattern
- (v) How does Java remote Method is different from Conventional two tier Client Server Systems
