

GUJARAT TECHNOLOGICAL UNIVERSITY**M.E Sem-II Examination July 2010****Subject code: 720105****Subject Name: Object Oriented Methodology & Design****Date: 07 /07 /2010****Time: 11.00am – 1.30pm****Total Marks: 60****Instructions:**

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

- Q.1 (a)** Decide Which Model's (Object, Dynamic or functional) are relevant for following aspects of a Computer Chess Player. The board and pieces will be displayed graphically on a VDU. Human moves via cursor controlled by mouse (more than one category can apply in some cases) **06**
- (i) User Interface which displays computer moves and accepts human moves
 - (ii) Representation of Configuration of pieces on the board
 - (iii) Consideration of a sequence of possible legal moves
 - (iv) Validation of a move request by the human player
 - (v) Current turn of Player when check mate challenged by Computer
 - (vi) Computer Player selection by Human
- (b)** Define Following **06**
 Module (ii) Sheet (iii) multi-level inheritance (iv) Qualifier (v) delegation using aggregation (vi) Workarounds
- Q.2 (a)** Network Place contains information about Workgroup, Domain and Computers, shares and printers in corresponding workgroup and domains. Prepare Object Diagrams which models groups and computers and shares and devices in network. Use qualifiers for FQDN of any computer or network devices **06**
- (b)** Prepare a portion of an object diagram for a library book checkout system that shows the date of a book is due and the late charges for an overdue book as derived object **06**
- OR**
- (b)** A motor can be off or on, while motor is on it can be in starting or running condition or it can get hot. Draw a partially completed state diagram fro motor control. **06**
- Q.3 (a)** Draw a Data flow Diagram for windowed graphics display where icons can be represented as vector graphical elements and vector itself can be represented as clipped pixel buffers. Full screen buffers is represented as screen buffer and window can be represented by clip vectors **06**
- (b)** Prepare a data flow diagram for computing the volume and surface area of cylinders. Inputs are height and radius of cylinders. **06**
- OR**
- Q.3 (a)** Discuss the Types of UML structure diagrams and also compare the various UML interaction diagrams by taking specific Example scenario **06**
- (b)** Develop a Java Interface for CustomerList where customer can be added, deleted and printed. And develop CustomerLinkedListCollection implementing CustomerList Java Interface **06**
- Q.4 (a)** Using java Refection class called java Class object develop the runtime Identification for Given any java Object name and show identifying whether it is a class or interface **06**

(b) Develop a Adapter Pattern Example in java for any case example where there are gap in abstraction in two different inheritance family of Object model 06

OR

Q.4 (a) Draw the Sequence Diagram for Adding a member in Member List object in Library 06

(b) Explain the Inheritance hierarchy through Refectory(ing) and show the factoring responsibilities across the inheritance 06

Q.5 (a) Implement a Simple Factory using any Standard factory design pattern 06

(b) Explain the Standard Swing Object Model and show the LookAndFeel Object in Swing Object model with it's associated Swing Object 06

OR

Q.5 (a) Show the Basic model of MVC architecture and also an alternate view of MVC architecture and implement the Observable and Observer pattern using MVC 06

(b) Represent various states of microwave oven using MicrowaveContext design State Pattern object and show the segment of Microwave hierarchy using java Object an dcorresponding Object Model 06
