

GUJARAT TECHNOLOGICAL UNIVERSITY
MCA SEM-III Examination- Dec.-2011

Subject code: 630001**Date: 12/12/2011****Subject Name: Structured & Object Oriented Analysis & Design Methodology (SOOADM)****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 in Short: **14**
- (i) Differentiate between Management Information System and Decision Support System.
 - (ii) State the purpose for preparing data dictionary.
 - (iii) Define an Event. State various methods for generating events.
 - (iv) What do you mean by: multiplicity, cardinality.
 - (v) Differentiate between Requirement statement & Design statement.
 - (vi) State with importance various building blocks of UML.
 - (vii) How can we model a flow of control of interactions? State any four points.
- Q.2** (a) Explain various stages of System Development Life Cycle. (answer in approximately 200 words) **07**
- (b) Explain decision tables and decision trees with suitable example. (answer in approximately 150 words and example) **07**
- OR**
- (b) Write short note on: Guidelines for designing Dialogs. (answer in approximately 200 words) **07**
- Q.3** (a) What is a Data Warehouse? State any six differences between datawarehouse and traditional databases. (answer in approximately 150 words) **07**
- (b) Explain general guidelines for designing Web Sites. (answer in approximately 200 words) **07**
- OR**
- Q.3** (a) Explain Object Oriented Themes. (answer in approximately 200 words) **08**
- (b) Explain Object Oriented Software development process stages. (answer in approximately 200 words) **06**
- Q.4** (a) State the different ways to use class diagrams to model static design view of a system. (answer in approximately 100 words) **05**
- (b) Draw Context Level, 0-Level Data Flow Diagram (DFD) & Use Case Diagram for a Restaurant Management System. Make assumptions about the system by your own. **09**
- OR**
- Q.4** (a) Write short note on structural diagrams in UML. (answer in approximately 150 words) **07**

- (b) Categorize in to association, aggregation or generalization and show diagrammatically: **07**
- (i) A country has a capital,
 - (ii) A dining person uses a fork,
 - (iii) A file in a directory file,
 - (iv) A file containing a record,
 - (v) A polygon is a set of points,
 - (vi) Modems and Key boards are input and output devices,
 - (vii) A student takes a course from a professor
- Q.5 (a)** State the common steps for modeling workflows in UML using activity diagrams. (answer in approximately 100 words) **05**
- (b)** Write algorithm using Structured English for a process which generates first five multiples of the user entered number. **03**
- (c)** Identify various possible classes for Restaurant Management System and draw the class diagram. Describe important attributes and operations of the class and show respective relationships between classes. Make assumptions about the system by your own. **06**
- OR**
- Q.5 (a)** What is the purpose, properties, contents and common uses of Use Case diagrams? Explain in detail. (answer in approximately 150 words) **07**
- (b)** Draw an Activity diagram for a Customer visiting the Restaurant for either collecting the food by parcel or dining in the Restaurant. In later case, customer looks for empty table and sits for dining. In both the cases, the waiter takes the order, fulfils the order, provides a bill and collects the payment. If the item ordered by the customer is unavailable than customer does not give any order. **07**
