

**GUJARAT TECHNOLOGICAL UNIVERSITY****M.C.A -III<sup>rd</sup> SEMESTER-EXAMINATION – MAY- 2012****Subject code: 630001****Date: 23/05/2012****Subject Name: Structured Object Oriented Analysis & Design Methodology****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.

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|------------|------------|--|-----------|
| <b>Q.1</b> | <b>(a)</b> | Mark True or False. Justify your answer.<br><ol style="list-style-type: none"> <li>1. Knowledge work system (KWS) supports data workers who analyze information.</li> <li>2. Strategic level takes semi structured decision.</li> <li>3. Identifying objective of a system is second step of SDLC.</li> <li>4. CASE tool is used to improve the routine work through the use of automated support.</li> <li>5. The objective of Structured English to develop algorithm correspondence to DFD.</li> <li>6. We use closed questionnaires when we want to survey large sample of people.</li> <li>7. UML diagram shows set of use cases and actors and their relationships.</li> </ol> | <b>07</b> |
|            | <b>(b)</b> | Fill in the blanks.<br><ol style="list-style-type: none"> <li>1. In SDLC, the problem can be identified by various external environment and internal environment. E.g. _____ are some of external environment.</li> <li>2. Purpose of DFD can be _____</li> <li>3. Anomalies occur when creating database tables _____, _____</li> <li>4. Abstract class means _____</li> <li>5. First step in analyzing requirement is to construct _____ model.</li> <li>6. A pattern is a proven solution to _____ problem.</li> <li>7. _____ System is a interactive system with tight time constraints on actions.</li> </ol>   | <b>07</b> |
| <b>Q.2</b> | <b>(a)</b> | i. Define the following :<br><ol style="list-style-type: none"> <li>1. Data warehouse</li> <li>2. Workarounds</li> <li>3. Block Sequence Code</li> </ol> ii. Discuss various Tests that ensures validity of Input Data.  | <b>03</b> |
|            | <b>(b)</b> | Write a Short note on the following:<br><ol style="list-style-type: none"> <li>1. Data Dictionary</li> <li>2. List all Fact Finding Techniques and discuss any two of it.</li> </ol>   | <b>04</b> |
|            |            | <b>OR</b>  |           |
|            | <b>(b)</b> | Write a Short note on the following:<br><ol style="list-style-type: none"> <li>1. Structured English</li> <li>2. Open Ended and Closed Ended Questionnaires.</li> </ol>  | <b>07</b> |
| <b>Q.3</b> | <b>(a)</b> | “The Readers Digest”, a monthly magazine published from New Delhi is send to subscriber by post. The subscription is accepted for one year or two  | <b>07</b> |

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|     |     | years, Three months before the expiry of subscription, remainder 1 is send. If there is no reply from subscriber, remainder 2 is send before one month of expiry of subscription. If no reply is received upto 10 days before expiry of subscription, name is removed from mailing list and subscriber is informed.<br>Draw Limited Entry Decision Table and Decision Tree for the above case.  |    |
|     | (b) | Attempt the following :<br>1. Give difference between Logical and Physical DFD.<br>2. Give guidelines for designing Web Form Design.  | 07 |
|     |     | <b>OR</b>   |    |
| Q.3 | (a) | “The College Library issues books( can be text book, magazines, journals ) to faculties. Faculties can take maximum 10 books. Faculties has to return the books within 6 months from the issue date.<br>One month before the return date, remainder 1 is send. If there is no reply from faculty till last date then, fine is calculated and informed to Head of the department(HOD). HOD has to informed to the faculties for returning of the books. It may be possible that a faculty itself is a HOD of the department. Faculty can have memberid, name, more than one skills, address and mobile no.<br>Books can be identified by isbnno, name, author, publisher, version.<br>State your assumptions( if any).<br>Draw Logical Data Flow diagram for the above case. | 07 |
|     | (b) | Attempt the following<br>1. Discuss various types of User Interface.<br>2. Discuss in detail the purpose of effective Coding.   | 07 |
|     |     |   |    |
| Q.4 | (a) | In Object Oriented Modeling concept, discuss aggregation and association concept giving example.  | 07 |
|     | (b) | Draw Use case diagram and Class diagram of ATM system with proper explanation of classes.   | 07 |
|     |     | <b>OR</b>   |    |
| Q.4 | (a) | Discuss the concept of modeling simple dependency, and simple inheritance.  | 07 |
|     | (b) | What do you mean by constraints? Discuss constraints on objects, generalization and on links.   | 07 |
|     |     |   |    |
| Q.5 | (a) | Discuss various criteria to discard incorrect classes.  | 07 |
|     | (b) | Discuss the concept of Forking, Joining, Swimlanes and Object flow in the Activity diagram giving example.  | 07 |
|     |     | <b>OR</b>   |    |
| Q.5 | (a) | Draw a sequence diagram showing complete interaction for filling railway reservation form for a passenger and getting conformed tickets from railway officer.   | 07 |
|     | (b) | Consider the following object class and prepare object diagrams including all necessary details and relationships.<br>CashAccount, Stock, Bond, Security, Property.   | 07 |

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