

Roll No .....

**MSE - 205****M.E./M.Tech., II Semester**

Examination, June 2013

**Object Oriented Analysis and Design***Time : Three Hours**Maximum Marks : 70*

**Note:** Attempt any five questions. All questions carry equal marks. Assume Data/value if required.

1. a) What is the meaning of 'Encapsulation' from the viewpoint of structured systems analysis and design? Explain its meaning from the viewpoint of object oriented analysis and design. **RGPVONLINE.COM**  
b) State and explain the various goals of the UML.
2. a) What is meant by the term 'design patterns'? Explain the term 'Framework'. Distinguish between pattern and frameworks. What are pattern languages and pattern catalogues?  
b) What are structural patterns? Formulate your own problems and explain how you will apply each of the patterns to solve them.
3. a) Explain the manner in which use cases can be used for the purpose of testing.  
b) What do you understand by 'Realization'?
4. The working of a college library has to be Automated. The Automated system has to perform multiple tasks and has the

following stakeholders, students, members of teaching/non-teaching staff, the attendant and the librarian. The proposed system is a multi-machine system, i.e. the attendant procurement officer and librarian work on their respective machines and have their own login ids and passwords.

With respect to this proposed system, write the following use cases terminally.

- a) Process Book Issue
- b) process Book Return
- c) Search Book
- d) Catalogue New Book
- e) Process Data about Periodicals.

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5. Draw a state transition diagram to depict the following : A simple digital watch has a display and two buttons 'A' and 'B'. The watch has two modes of operation 'Display Time' and 'Set Time'. In 'Display Time' mode, hours and minutes are displayed, separated by a flashing color. The 'Set Time' mode has two sub modes 'Set Hours' and 'Set Minutes'. The 'A' button is used to select modes. Each time it is pressed, the mode advances in sequence display time, set hours, set minutes, display time and so on. Within the sub-modes, the 'B' button is used to advance the hours or minutes once each time it is pressed.
6. a) What consistency checks should be applied to interaction diagrams?  
b) List twelve quality criteria for good design.
7. a) What is meant by OML and ODL?  
b) What are the three ways of mapping the classes in an inheritance hierarchy to tables?
8. Write short note on :  
i) Deployment Diagram ii) Case study : Telecom