(please write your Exam Roll No.) *Exam Roll No. ……*

END TERM EXAMINATION

FORTH SEMESTER [MCA] MAY-JUNE 2012

Paper code: MCA 208	**Subject: Object Oriented Analysis & Design**
Time : 3 Hours	**Maximum Marks : 60**

Note: Attempt five questions including Q.no. 1 which is compulsory. Select one question from each unit.

Q1 (a) Attempt any five of the following:- (2x5=10)

(i) Define Negative Test with example.
(ii) What is Association Class? Give example.
(iii) Differentiate Message and Signal with example.
(iv) Define Probe in Sequential Diagram with example.
(v) Define Homogenization with example.
(vi) What is a CRC card? How it helps in the development of Object Oriented System?
(vii) Discuss system development as a part of large activity.

(b) Differentiate the following with exmaple:- (2.5x4=10)

(i) Extend vs Include relationship in usecase diagram.
(ii) Object Oriented Analysis (OOA) and Object Oriented Design (OOD).
(iii) Sequence Diagram vs. Collaboration Diagram.
(iv) Full Scale Test vs. Overload Test.

UNIT-I

Q2 (a) For each of the following collections of objects, describe how they could be distinguished:- (6)

(i) All telephones in the world for making telephone call.
(ii) All persons in the world for the purpose of criminal investigation.
(iii) All persons in the world for the purpose of sending mail.
(iv) All customers with safe deposit boxes in a given bank.
(v) All electronic mail addresses throughout the world.
(vi) All employees of a company to restrict access for security reasons.

(b) How you will support the Object-Oriented Analysis and Design paradigm over the structure

Oriented Analysis and Design paradigm? (4)

Q3 (a) Discuss OOSAD lifecycle model. What are the potential benefits and drawback of it? (4)

(b) Discuss and compare OMT, OOD and OOSE object oriented methodologies. (6)

UNIT-II

Q4 (a) Discuss the constitute of a Rationale Enterprise Philosophy. Provid the Software industry direct analogies with Rational Enterprise. (5)

(b) Describe the system development process with model building. (5)

Q5 Many people invest their money in a number of secutities (shares). Generally, an investor has multiple portfolios of investments, each portfolio having investments in many securities. From time to time an investor sells or buys some securities and gets dividends for the securities. There is a current value of each security-many sites give this current value. It is proposed to build a personal investment management system(PIMS) to help investors keep track of their investments as well as on the overall portfolios. The system should also allow an investor to determine the net-worth of the portfolios.

(a) Develop a usecase diagram and write description for each usecase. (6)
(b) Identify the different types of anlysis objects and draw Analysis Model. (4)

UNIT-III

Q6 (a) How you will generate block design from sequential diagram? Discuss with example. (5)

(b) Differentiate the following with example:- (2.5x2=5)

(i) Synchronous vs Asynchronous message.

(ii) Stimulus Controlled Object vs. State Contolled Object.

Q7 (a) What the reasons for having construction phase in object oriented software engineering? Explain the procedure of converting anlaysis model into construction model. (5)

(b) Describe state-based testing with example. (5)

(P.T.O)

UNIT-IV

Q8 (a) Prepare a class diagram for the dining philosoher problem. There are 5 philosophers and 5 forks around a circular table. Each philosopher has access to 2 forks, one on either side. Each fork is shared by 2 philosophers. Each fork may be either on the table or in use by one philosopher. A philosopher must have 2 forks to eat. (5)

(b) Discuss State Transition diagram. Draw the state tansition diagram for a stack. (5)

Q9 (a) Draw an activity for the use case given below:

When an order is received each line item on the order is checked to see if there are goods in stock. If so the goods are assigned to the order. If this assignment sends the quantity of those goods in stock below the reorder level the goods are reordered. While doing this the payments is checked whether it is OK. If the payment is OK and there are goods in stock in stock the order is dispatched. If the payments are OK but there are not goods, the order is left waiting. If the payments are not OK the order is cancelled. (5)

(b) Describe 4+1 view architecture of UML. (5)

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