Total No. of Questions :4]

P2331

SEAT No. :

[Total No. of Pages :3

[4937]-12
M.Sc.
COMPUTER SCIENCE
CS-102: Object oriented Software Engineering
(2008 Pattern)   (Semester - I) (Part - I)

Time : 3 Hours]   *[Max. Marks :80*
Instructions to the candidates:

   1)   All questions are compulsory.

   2)   Figures to right indicate full marks.

   3)   Neat diagrams must be drawn wherever necessary.

   4)   Assume data, wherever necessary.

Q1) Attempt all of the following: **[16]**

   a)   What is a modeling?

   b)   Define:

      i)   Active Class

      ii)   Flow of Control

   c)   What is Unified Process?

   d)   Define:

      i)   Abstract Class

      ii)   Generalization

   e)   What is Forward Engineering.

   f)   Give the goals of UML.

   g)   Explain how sub-systems can be organized.

   h)   Explain the different types of actors?

P.T.O.

Q2) Attempt any four: **[16]**

a) Explain the components of state transition diagram.

b) Differentiate between aggregation and composition.

c) Explain the different phases of Unified process.

d) Explain the steps involved in OOAD.

e) Explain OO testing.

Q3) Attempt any four: **[32]**

a) Identify the different activities of Food Processor along with juicer and prepare an activity diagram for the functioning of Food Processor. Clearly mention the assumptions made.

b) 'Passport Office' has to computerize their system such that all offices distributed over different cities are connected by main office located in 'Pune' city. There are different customers enquiring for the passport. The customer has to fill a form where he mention his name, address, phone, date-of-birth, identity mark etc. The system should take care of new passport, renewal, cancellation etc. Mention all the assumptions made. Draw Class diagram and Use Case diagram for this system.

c) People use elevators to move from one floor to another. Draw a sequence diagram showing different events and event exchanges between objects.

d) Draw a Component and Deployment diagram for 'Satellite Communication System'.

e) Draw a Object diagram for AirLine Reservation System. The passenger is required to fill reservation form giving details of his journey. The counter clerk ensures whether the seats are available and prepares a booking statement.

Q4) Attempt any four: **[16]**

a)   Write a short note on task management component.

b)   Explain the benefits of iterative development.

c)   Analysis is the first step of OMT methodology. Comment.

d)   Prepare an object diagram showing at least 8 relationships among the following object classes include associations, aggregation and generalization. Show multiplicity. Add at least one attributes to each class window, shape, line, closed shape, scrolling window, canvas, panel, panel item, ellipse, polygon, event. clearly mention the assumptions made.

e)   Draw a collaboration diagram or class diagram for ATM system. A customer inserts the card in the ATM. He inserts his id and pin. If valid pin he can withdraw the amount from his account. At one time he can withdraw max Rs.20,000/-. Customer can perform different transactions like cash withdrawal, balance enquiry etc. Clearly mention the assumptions made.

ℰ ℰ ℰ