Code No: R05212101 **R05** **Set No. 2**

**II B.Tech I Semester Examinations,December 2011**
**OBJECT ORIENTED ANALYSIS AND DESIGN THROUGH UML**
**Aeronautical Engineering**

**Time: 3 hours** **Max Marks: 80**

**Answer any FIVE Questions**
**All Questions carry equal marks**

⋆ ⋆ ⋆ ⋆ ⋆

1. (a) Consider an automated soda machine that gives cool drinks. Draw a use case model of the soda machine.
   (b) Draw an extended use case diagram for the soda machine example depicting the'extend', 'include' and generalization relationships. [8+8]

2. (a) Why is it necessary to have a variety of diagrams in a model of a system?
   (b) Which UML diagrams give a static view and which give a dynamic view of a system?
   (c) Consider a computer-based system that plays chess with a user. Which UML diagrams would be helpful in designing the system? Why?
   (d) Contrast the following:
      i. Actors Vs. Stakeholders
      ii. Usecase Vs. Algorithm. [4x4=16]

3. (a) Enumerate the steps to reverse engineer class diagrams and to reverse engineer object diagrams.
   (b) What are the properties of a well-structured object diagram? [9+7]

4. (a) Explain forward engineering and reverse engineering in respect of interaction diagrams.
   (b) Distinguish sequence diagrams from collaboration diagrams.
   (c) What is meant by semantic equivalence between the two kinds of intersection diagrams? [8+6+2]

5. (a) What are the properties of a well-structured component diagram?
   (b) What are the contents, common properties and common uses of component diagrams? Explain briefly. [4+12]

6. Explain the eight stereotypes that apply to dependency relationships among classes and objects in class diagrams. [16]

7. Explain the following advanced features of states and transitions.
   (a) entry and exit actions
   (b) internal transitions
   (c) activities

(d) deferred events

(e) substates, nested states, composite state

(f) concurrent substates

(g) sequential substates

(h) history states. [16]

8. (a) Draw a sequence diagram for the Add title use case

(b) Draw the use case diagram for the library system and explain the relationships.

(c) Draw a class diagram of business objects in the design model and explain [4+6+6]

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Code No: R05212101 **R05** **Set No. 4**

**II B.Tech I Semester Examinations,December 2011**
**OBJECT ORIENTED ANALYSIS AND DESIGN THROUGH UML**
**Aeronautical Engineering**

**Time: 3 hours** **Max Marks: 80**

**Answer any FIVE Questions**
**All Questions carry equal marks**

⋆ ⋆ ⋆ ⋆ ⋆

1. (a) Consider an automated soda machine that gives cool drinks. Draw a use case model of the soda machine.
   (b) Draw an extended use case diagram for the soda machine example depicting the'extend', 'include' and generalization relationships. [8+8]
2. (a) What are the properties of a well-structured component diagram?
   (b) What are the contents, common properties and common uses of component diagrams? Explain briefly. [4+12]
3. (a) Why is it necessary to have a variety of diagrams in a model of a system?
   (b) Which UML diagrams give a static view and which give a dynamic view of a system?
   (c) Consider a computer-based system that plays chess with a user. Which UML diagrams would be helpful in designing the system? Why?
   (d) Contrast the following:
      i. Actors Vs. Stakeholders
      ii. Usecase Vs. Algorithm. [4x4=16]
4. (a) Enumerate the steps to reverse engineer class diagrams and to reverse engineer object diagrams.
   (b) What are the properties of a well-structured object diagram? [9+7]
5. (a) Draw a sequence diagram for the Add title use case
   (b) Draw the use case diagram for the library system and explain the relationships.
   (c) Draw a class diagram of business objects in the design model and explain [4+6+6]
6. (a) Explain forward engineering and reverse engineering in respect of interaction diagrams.
   (b) Distinguish sequence diagrams from collaboration diagrams.
   (c) What is meant by semantic equivalence between the two kinds of intersection diagrams? [8+6+2]
7. Explain the eight stereotypes that apply to dependency relationships among classes and objects in class diagrams. [16]

8. Explain the following advanced features of states and transitions.
   (a) entry and exit actions
   (b) internal transitions
   (c) activities
   (d) deferred events
   (e) substates, nested states, composite state
   (f) concurrent substates
   (g) sequential substates
   (h) history states. [16]

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Code No: R05212101 **R05** **Set No. 1**

**II B.Tech I Semester Examinations,December 2011**
**OBJECT ORIENTED ANALYSIS AND DESIGN THROUGH UML**
**Aeronautical Engineering**

**Time: 3 hours** **Max Marks: 80**

**Answer any FIVE Questions**
**All Questions carry equal marks**

⋆ ⋆ ⋆ ⋆ ⋆

1. (a) What are the properties of a well-structured component diagram?
   (b) What are the contents, common properties and common uses of component diagrams? Explain briefly. [4+12]

2. (a) Consider an automated soda machine that gives cool drinks. Draw a use case model of the soda machine.
   (b) Draw an extended use case diagram for the soda machine example depicting the'extend', 'include' and generalization relationships. [8+8]

3. (a) Why is it necessary to have a variety of diagrams in a model of a system?
   (b) Which UML diagrams give a static view and which give a dynamic view of a system?
   (c) Consider a computer-based system that plays chess with a user. Which UML diagrams would be helpful in designing the system? Why?
   (d) Contrast the following:
      i. Actors Vs. Stakeholders
      ii. Usecase Vs. Algorithm. [4x4=16]

4. (a) Explain forward engineering and reverse engineering in respect of interaction diagrams.
   (b) Distinguish sequence diagrams from collaboration diagrams.
   (c) What is meant by semantic equivalence between the two kinds of intersection diagrams? [8+6+2]

5. (a) Draw a sequence diagram for the Add title use case
   (b) Draw the use case diagram for the library system and explain the relationships.
   (c) Draw a class diagram of business objects in the design model and explain [4+6+6]

6. Explain the following advanced features of states and transitions.
   (a) entry and exit actions
   (b) internal transitions
   (c) activities
   (d) deferred events

(e) substates, nested states, composite state

(f) concurrent substates

(g) sequential substates

(h) history states. [16]

7. (a) Enumerate the steps to reverse engineer class diagrams and to reverse engineer object diagrams.

(b) What are the properties of a well-structured object diagram? [9+7]

8. Explain the eight stereotypes that apply to dependency relationships among classes and objects in class diagrams. [16]

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Code No: R05212101 **R05** **Set No. 3**

**II B.Tech I Semester Examinations,December 2011**
**OBJECT ORIENTED ANALYSIS AND DESIGN THROUGH UML**
**Aeronautical Engineering**

**Time: 3 hours** **Max Marks: 80**

**Answer any FIVE Questions**
**All Questions carry equal marks**

⋆ ⋆ ⋆ ⋆ ⋆

1. (a) Consider an automated soda machine that gives cool drinks. Draw a use case model of the soda machine.
   (b) Draw an extended use case diagram for the soda machine example depicting the'extend', 'include' and generalization relationships. [8+8]

2. (a) Explain forward engineering and reverse engineering in respect of interaction diagrams.
   (b) Distinguish sequence diagrams from collaboration diagrams.
   (c) What is meant by semantic equivalence between the two kinds of intersection diagrams? [8+6+2]

3. (a) Draw a sequence diagram for the Add title use case
   (b) Draw the use case diagram for the library system and explain the relationships.
   (c) Draw a class diagram of business objects in the design model and explain [4+6+6]

4. Explain the following advanced features of states and transitions.
   (a) entry and exit actions
   (b) internal transitions
   (c) activities
   (d) deferred events
   (e) substates, nested states, composite state
   (f) concurrent substates
   (g) sequential substates
   (h) history states. [16]

5. Explain the eight stereotypes that apply to dependency relationships among classes and objects in class diagrams. [16]

6. (a) Enumerate the steps to reverse engineer class diagrams and to reverse engineer object diagrams.
   (b) What are the properties of a well-structured object diagram? [9+7]

7. (a) Why is it necessary to have a variety of diagrams in a model of a system?

(b) Which UML diagrams give a static view and which give a dynamic view of a system?

(c) Consider a computer-based system that plays chess with a user. Which UML diagrams would be helpful in designing the system? Why?

(d) Contrast the following:

i. Actors Vs. Stakeholders

ii. Usecase Vs. Algorithm. [4x4=16]

8. (a) What are the properties of a well-structured component diagram?

(b) What are the contents, common properties and common uses of component diagrams? Explain briefly. [4+12]

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