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NMAM INSTITUTE OF TECHNOLOGY, NITTE

(An Autonomous Institution affiliated to VTU, Belagavi)

VII Sem B.E. (CSE) Mid Semester Examinations - I, September 2016

13CS701 - OBJECT ORIENTED MODELING AND DESIGN

on: 1 Hour

Max. Marks: 20

*Note: Answer any **One** full question from **each Unit.***

		Marks	BT*
	Unit – I		
)	Differentiate the following concepts with examples: i. Links and Association. ii. Bags and Sequence. iii. Qualified Association and Association end names.	6	L*4
)	Construct a class diagram for course registration for the department. There are 6 departments and a department offers 8 subjects. Subjects have the code and name. A student need to take minimum 5 subjects to enroll into a course. The department has faculty who teaches at-most 2 subjects. Each department should have minimum 10 students registered to each subject.	4	L3
)	Design a class model of rotating electrical machines described below, with a neat diagram. Electrical machines may be categorized into AC and DC current. AC machines may be induction or synchronous. Some machines will run on AC, some on DC and some on both. Some examples of electrical motors are large synchronous motors, small induction motors, universal motors and permanent magnet motors. Most motors at home are induction or universal. Universal motors are used in places where high speed is required such as blenders or vacuum cleaners. They either run on AC or DC. Permanent magnet motors are used in toys and work only in DC mode.	6	L6
)	Discuss the steps involved in Object Oriented Development.	4	L2
	Unit – II		
a)	Construct the state diagram for working of telephone line showing activities	6	L2
)	Discuss the types of events supported in state diagrams, with examples for each.	4	L6
a)	Design a state model for programmable thermostat with a neat diagram.	6	L6
)	Explain an aggregation concurrency with example.	4	L1

Bloom's Taxonomy, L* Level

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NMAM INSTITUTE OF TECHNOLOGY, NITTE

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VII Sem B.E. (CSE) Mid Semester Examinations - I, September 2017

14CS701 - OBJECT ORIENTED MODELING AND DESIGN

Duration: 1 Hour

Max. Marks: 20

*Note: Answer any **One** full question from **each Unit.***

			Marks	BT*
		Unit – I		
1.	a)	Explain object oriented design concept along with suitable examples	5	L*1
	b)	Show the object oriented features of 'abstraction' and 'generalization' with suitable examples.	5	L1
2	a)	Illustrate various steps to be done in creating a dynamic model with suitable examples.	5	L1
	b)	Explain multiple inheritances? Discuss Multiple classification and Metadata	5	L1
		Unit – II		
3.	a)	Explain the modelling of ATM system using object oriented analysis techniques in detail.	5	L2
	b)	Demonstrate state and event by taking state diagram for a telephone line system	5	L2
4	a)	Explain nested states and nested state diagrams, with example	5	L2
	b)	Write a note on following a) Aggregation b) Enumerations c) Association ends	5	L2

BT* Bloom's Taxonomy, L* Level

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NMAM INSTITUTE OF TECHNOLOGY, NITTE

(An Autonomous Institution affiliated to VTU, Belagavi)

VII Sem B.E. (CSE) Mid Semester Examinations - I, September 2015

12CS701 – OBJECT ORIENTED MODELING AND DESIGN

Duration: 1 Hour | Max. Marks: 20

*Note: Answer any **One** full question from **each Unit.***

			Marks	BT*
		Unit – I		
1.	a)	Expalin the following terminologies A) Multiplicity B) Association end names C) N-ary associations D) Qualified association	6	L*2
	b)	Design a class model of a workstation window management system.	4	L6
2.	a)	Compare structured approach v/s object oriented approach for development of a system	3	L4
	b)	Design a class model for an air transportation system.	4	L6
	c)	Explain in brief the different stages of OO Methodology	3	L2
		Unit – II		
3.	a)	Describe Modeling? Why we need to model? Explain the reasons.	4	L2
	b)	Explain the following with examples A) States B) Events C) Transitions D) Actions	4	L2
	c)	Design simple state diagram for a washing machine.	2	L6
4.	a)	Compare aggregation, association and composition.	4	L4
	b)	Design simple state diagram for ATM machine.	3	L6
	c)	Briefly discuss about object, dynamic and functional models in OMT.	3	L2

T* Bloom's Taxonomy, L* Level

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NMAM INSTITUTE OF TECHNOLOGY, NITTE

(An Autonomous Institution affiliated to VTU, Belgaum)

VII Sem B.E. (CSE) Mid Semester Examinations – I, September 2014

CS701 – OBJECT ORIENTED MODELING AND DESIGN

ion: 1 Hour Max. Marks: 20

*Note: Answer any **One** full question from **each Unit.***

Unit – I

a) Define the following
i)Link and association ii)Multiplicity iii) Association end name iv) Ordering and sequence
v) Qualified association 5

b) Consider generalization for equipment. Each piece of equipment contains a pump, heat exchanger and tank. There are different types of tanks and pumps. Draw a multilevel inheritance hierarchy with the help of above instances 5

a) Draw class modeling for windowing system 5

b) Explain various stages of OO methodology 5

Unit – II

a) Define state and events. What are the common types of event? explain 5

b) Draw state diagram for telephone line 5

a) Define Meta Data, Constrains and Derived data with example 6

b) Explain N-ray association with example 4

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NMAM INSTITUTE OF TECHNOLOGY, NITTE

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VII Sem B.E. (CSE) Mid Semester Examinations – I, September 2013

CS701 – OBJECT ORIENTED MODELING AND DESIGN

uration: 1 Hour

Max. Marks: 20

*Note: Answer any **One** full question from **each Unit.***

Unit – I

1. a) With a neat diagram, explain the class model of a workstation window management system — 8

   b) Draw diagram for qualified association and explain — 2

2. a) What are stages of OO Methodology? Explain — 5

   b) Define the following with example i)Ordering ii)Bags & Sequence iii) N-ary association — 5

Unit – II

3. a) A simple digital watch has a display and two buttons, A & B to set it. The watch has two modes of operation, display time and set time. In the display time mode, the watch displays hours and minutes, separated by a flashing color. The set time mode has two set mode, set hours and set minutes. The A button selects mode. Each time it is pressed, the mode advances in the sequence: display set hours, set minutes, display etc. Within the sub mode the B button advances the hour or minutes once each time it is pressed. Button must be released before they can generate another event. Prepare a state diagram for the watch — 4

   b) Consider shopping in a physical book store of a super market:

      i) List 3 actors that are involved in the design of a checkout system. Explain the relevance of each actor

      ii) Take the perspective of a customer and list two usecases. Summarize the purpose of each usecases within a sentence. — 6

      iii) Prepare a usecase diagram for a physical book store checkout system. — 6

4. a) Explain state diagram and write state model for telephone line, with activities — 4

   b) Prepare activity diagram that elaborates the details of logging in to an email system

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NMAM INSTITUTE OF TECHNOLOGY, NITTE

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VII Sem B.E. (CSE) Mid Semester Examinations – I September 2012

CS701 – OBJECT ORIENTED MODELING & DESIGN

Duration: 1 Hour | Max. Marks: 20

*Note: Answer any **One** full question from **each Unit.***

Unit – I

1. a) Explain the stages of OO Methodology — 5
   b) Discuss the purposes of developing model — 5

2. a) Construct a simple class model for windowing system. — 5
   b) Explain the following terms with example
      i. Values & attributes
      ii. Bags & sequences

Unit – II

3. a) Define the following terms
      i)Aggregation
      ii)metadata
      iii)Derived data
      iv)Packages — 2 x 4=8
   b) What are the advantage and disadvantages of multiple inheritance — 2

4. a) Consider a computer email system .List three actors and four use case — 2
   b) Prepare a normal scenario for any one use case — 2
   c) Prepare a sequence diagram for getting mail and setting option — 4
   d) Consider processing of a stock trade. Draw the activity diagram for stock trade processing — 2

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