Department of Information Technology

Object Oriented Modeling

I M.Tech-SE-I Sem

V.Krishna Reddyl
Assoc. Professor

J.B.Institute of Engg & Technology

Yenkapally, Moinabad(Mandal)
Himathnagar(post),Hyderabad

Results Target

Total Strength of the Class: 11

S. No	Class / Division	No. of Students
a.	**First Class with Distinction**	**06**
b.	**First Class**	**05**
c.	**Pass Class**	**NIL**

Method of Evaluation

a.	**Internal Examination**	**2**
b.	**Unit Wise Assignments**	**5**
e.	**Final Examination**	**1**

Course Objective

- xxxxxxxxxxxxxxxxxxxx

M.Tech (SE)-I st semester Subject plan
Subject:Object Oriented Modeling(OOM)

Lecture No.	Unit No.	Topic Covered	Text Book
1	1	Introduction to UML,The meaning of Object Orientation,Object identity	T1
2		Encapsulation ,Information hiding,Polymorphism .generosity	T1
3		Importance of modeling,principles of modeling	T1
4		Conceptual model of UML,Architecture	T1
5		Basic Structural modeling,:classes	T1
6		Relationships,common mechanisms	T1
7		Diagrams	T1
8		Class and object diagrams:Terms ,concepts,modeling techniques for class and object diagrams	T1
9		Collaboration diagrams:Terms ,concepts,depicting a a message Polymorphism in collaboration diagrams	T1
10		Iterated messages,use of self in messages	T1
11		Sequence diagrams:Terms ,concepts,depicting asynchronous messageswith/without priority	T1
12		Callback mechanism,broadcast messages	T1
13	2	Basic Behavioural modeling	T1
14		Use cases	T1
15		Use case diagrams	T1
16		Activity diagrams	T1
17		Advanced Behavioral modeling	T1
18		Events and signals,state machiines	T1
19		Processes and threads	T1
20		Time and space	T1
21		State chart diagrams	T1
22		Architectural modeling	T1
23		Component ,Deployment	T1
24		Component diagrams ,deployment diagrams	T1
25	3	The Unified Process:use case driven	T2
26		Architecture centric,iterative and incremental	T2
27		The four P's	T2
28		People ,project	T2
29		Product and process	T2
30		Use case driven process:why use case	T2
31		Capturing use cases,analysis	T2
32		Design and Implementation to to realize use cases	T2
33		Testing the use cases	T2
47		The archetypal iteration workflow	T2

48		Execute the core workflows,requirements to test	T2
49	5	Elaboration phase:Elaboration phase in brief	T2
50		Early in the elaboration phase	T2
51		The architectural elaboration iteration workflow	T2
52		Execute the core workflows-requirements to test	T2
53		Construction phase:early in the construction phase,	T2
54		The archetypal construction iteration workflow	T2
55		Execute the core workflow	T2
56		Transition phase:	T2
57		Early in the transition phase	T2
58		Activities in the transition phase	T2
59		Case studies:Automation of a Library	T2
60		Software simulator application(2-fllor elevator)	T2

Text Books:

Text Book 1:TI:The unified Modeling Language user guide By
Grady Booch
James Rumbaugh
Ivar Jacobson

Text Book 2:T2:Unified Software Development Process By
Ivar Jacobson
Brady Booch
James Rumbaugh

Guidelines to Students

Where will this subject help?

This subject will help in the whole project life cycle for a student in Software career or research.It will be helpful in the design phase in drawing UML diagrams and understanding the whole project.

Topic wise Coverage:

UNIT I:

LECTURE PLAN:
Total no_ of classes: 12

S.No	Name of the Topic	Reference book code	No. of classes required
1	Introduction to UML,The meaning of Object Orientation,Object identity, Encapsulation ,Information hiding,Polymorphism .generosity	T1	2
2	Importance of modeling,principles of modeling, Conceptual model of UML,Architecture	T1	2
3	Basic Structural modeling,:classes, Relationships,common mechanisms, Diagrams	T1	2
4	Class and object diagrams:Terms ,concepts,modeling techniques for class and object diagrams	T1	2
5	Collaboration diagrams:Terms ,concepts,depicting a a message Polymorphism in collaboration diagrams, Iterated messages,use of self in messages	T1	2
6	Sequence diagrams:Terms ,concepts,depicting asynchronous messageswith/without priority, Callback mechanism,broadcast messages	T1	2

Descriptive Questions:

1)Describe the meaning of Object Orientation and Object Identity?
2)What do you mean by Encapsulation and Information hiding.

3)Describe classes and relationships.
4)Describe Common Mechanisms.
5)Describe the diagrams in UML.

Assignment Questions.

1)Describe polylorphism.
2)Describe Architecture of the UML.
3)Describe Collaboration diagrams in UML.
4)Describe sequence diagrams in UML.

LECTURE PLAN:
UNIT-2
Total No_ of Classes: 12

S.No	Name of the Topic	Reference book code	No. of classes required
1	Basic Behavioural modeling, Use cases, Use case diagrams, Activity diagrams	T1	03
2.	Advanced Behavioral modeling Events and signals,state machines,	T1	03
3.	Processes and threads, Time and space, State chart diagrams	T1	03
4.	ArchitecturalModeling,Component ,Deployment, Component diagrams ,deployment diagrams	T1	03

Descriptive Questions:
1)Describe Use case diagrams.
2)Describe Activity diagrams.
3)Describe Events and Signals.
4)Briefly describe state machines.

Assignment Questions.
1)Describe processes and threads.
2)Describe Time and space in UML.
3)Describe Component diagrams and Deployment diagrams.

UNIT-III :

LECTURE PLAN:
Total No_ of Classes: 12

S.No	Name of the Topic	Reference book code	No. of classes required
1.	The Unified Process:use case driven,	T2	03

	Architecture centric,iterative and incremental		
2.	The four P's, People ,project, Product and process	T2	03
3.	Use case driven process:why use case, Capturing use cases,analysis, Design and Implementation to to realize use cases, Testing the use cases	T2	03
4.	Architecture centric process:architecture in brief, Why we need architecture,use case and architecture, The steps to architecture,an architecture description	T2	03

Descriptive Questions:

1)Briefly describe use case driven process.
2)Describe the four P's.
3)Why is the use case driven process required.
4)Briefly describe testing the use cases.

Assignment questions:

1)Briefly describe Architecture centric process.
2)Briefly describe iterative and incremental process.
3)Describe Architecture centric process.
4)Why do we need Architecture.

UNIT-IV:

LECTURE PLAN:
Total No_ of Classes: 12

S.No	Name of the Topic	Reference book code	No. of classes required
1.	Iterative Incremental process: iterative incremental in brief, Why iterative incremental development? The iterative approach is risk driven	T2	04
2.	The generic iteration workflow, phases are the first division workflow, Planning precedes doing,risks effecting project planning, Use case prioritization,resourse needed , Assess the iteration and phases	T2	04
3.	Inception phase: Early in the inception phase, The archetypal iteration	T2	04

	workflow, Execute the core workflows,requirements to test		

Descriptive Questions:

1)Describe iterative incremental in brief.
2)Describe generic iteration.
3)Descirbe the first division workflow.
4)what are the risks effecting the project planning.

Assignment Questions.

1)Describe Inception phase.
2)Describe the core workflows in the inception phase.
3)Describe use case prioritization.
4)Describe the resources needed.

UNIT-V:

LECTURE PLAN:
Total No_ of Classes: 12

S.No	Name of the Topic	Reference book code	No. of classes required
1.	Elaboration phase:Elaboration phase in brief, Early in the elaboration phase, The architectural elaboration iteration workflow, Execute the core workflows-requirements to test	T2	03
2.	Construction phase:early in the construction phase, The archetypal construction iteration workflow,execute the core workflows	T2	03
3.	Transition phase:early in the transition phase,activities in the tramnsition phase	T2	03
4.	Case studies:Automation of a Library,Software Simulator application (2-floor elevator simulator)	T2	03

Descriptive Questions:

1)Describe Elaboration phase.
2)Describe architectural elaboration iteration workflow in brief.
3)Describe construction phase.
4)Describe the core workflows in the construction phase.

Assignment Questions:
1)Describe the transition phase.
2)Draw trhe UML diagrams in the Library Application.
3)Describe the activities in the transition phase.
4)Draw the diagrams in the Software Simulator Application.

DEPARTMENT OF INFORMATION TECHNOLOGY

INDIVIDUAL TIME TABLE

NAME OF THE FACULTY: Dr. Smriti Agrawal

Period	1	2	3	4		5	6	7	8
Day/Time	9.00-9:45	9.45-10.30	10.30-11.15	11.15-12.00	LUNCH	12.30-1.15	1.15-2.00	2.00-2.45	2.45-3.30
Mon									
Tue									
Wed			OOM	OOM					
Thu								OOM	OOM
Fri									
Sat									

Object Oriented Modeling(OOM):

Total no of theory classes : 04

Total no of practical classes : 00

Total no of classes : 04

Marks for Internal Theory Examination

ROLL.NO	NAME OF THE STUDENT	I MID (Des+Obj+Assign))	II MID Des+Obj+Assign))