	LESSON PLAN
	Department: CSE **Program: B.Tech** **Course: – WEB TECHNOLOGIES LAB – L184** **SEM: VI** **Academic Year: 2016-17**

1. Pre-requisites: C, C++, JAVA Languages

2. Course Educational Objectives (CEOs):

On completion of this course, a student will be familiar with client server architecture and able to develop a web application using java technologies. Students will gain the skills and project-based experience needed for entry into web application and development careers.

3. Course Outcomes (COs): At the end of the course, the student will be able to:

CO1: Design and implement static & dynamic websites.

CO2: Create reusable components by using Java Beans.

CO3: Design and implement data driven web applications.

4. Course Articulation Matrix:

Course Code	**COs**	**Programme Outcomes**												**PSOs**		
		1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**1**	**2**	**3**
L184	CO1	3	2	3		3					1		2	3	3	
	CO2	3	2	3		3					1		2	3	3	
	CO3	3	2	3		3					1		2	3	3	
1 = Slight (Low) **2 = Moderate (Medium)** **3-Substantial(High)**																

5. Schedule:

S.NO	Programs to be Covered	No.of Classes		Date	DM
		As per the Schedule	Taken		
1	Design the following static webpages required for an online book store website. • Homepage • Login Page • Catalogue Page	3			5
2	Design the following static webpages required for an online book store website. • Cart Page • Registration Page	3			5
3	Design a webpage using CSS which includes the following styles. Using different font, styles Set a back ground image for both page and single elements on the page Control the background repetition of image with background repeat property Define styles for link as visited, active, hover & link Work with layers Add a customized cursor	3			5
4	Write a JavaScript to validate the fields of a registration page.	3			5
5	Create an XML document for maintaining a CD catalogue. Display XML document data using HTML. Display XML data using XSL.	3			5
6	Write a program to create a Java Bean for user login management component	3			5
7	Write program to Install Apache Tomcat Web Server and deploy a static website & Access it. Install Apache Tomcat Server on port number 8080. Deploy html pages in a webserver Access static website from a webserver.	3			5
8	Write a program to create a Servlet to AUTHENTICATE user details.	3			5
9	Write a program to implement session management concept in Servlets.	3			5

10	Write a program to access a database using JDBC & Servlets.	3			5
11	Write a Program to print multiplication table for any number up to required level using JSP	3			5
12	Write a program to display user credentials using useBean tag of JSP	3			5
13	a) Write a swing application to create tabbed panes. b) Write a swing application to create a table.	3			5

Delivery Methods (DM):

1. Chalk & Talk 2. ICT Tools 3. Tutorial 4. Assignment/Test/Quiz
5. Laboratory/Field Visit 6. Web based learning.

	Course Instructor	**Course Coordinator**	**Module Coordinator**	**HOD**
Signature				
Name of the Faculty				

PRINCIPAL

	LESSON PLAN	
	Department: CSE	**Program: B.Tech**
	Course: – WEB TECHNOLOGIES – S425	
	SEM: VI	**Academic Year: 2016-17**

1. Pre-requisites: C, C++, JAVA Languages

2. Course Educational Objectives (CEOs):

On completion of this course, a student will be familiar with client server architecture and able to develop a web application using java technologies. Students will gain the skills and project-based experience needed for entry into web application and development careers

3. Course Outcomes (COs): At the end of the course, the student will be able to:

CO1: Design web pages with HTML & DHTML.

CO2: Apply basic concepts of XML, DOM & SAX and Java Beans to solve real world problems.

CO3: Design dynamic web pages using server side component Servlets.

CO4: Create real world web applications using JSP.

CO5: Apply Swings & Struts framework for application development.

4. Course Articulation Matrix:

Course Code	COs	Programme Outcomes												PSOs		
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
S425	CO1	2	2	2		3								3		
	CO2	3	2	3		3								3	3	
	CO3	3	2	3		3								3	3	
	CO4	3	2	3		3								3	3	
	CO5	3	2	3		3								3	3	
1 = Slight (Low) 2 = Moderate (Medium) 3-Substantial(High)																

5. Course Delivery Plan:

S.NO	TOPIC TO BE COVERED	No.of Classes		Date	DM
		As per the Schedule	Taken		
UNIT –I: HTML, CSS, JAVASCRIPT,DHTML					
1	Introduction & Fundamentals	1			1
2	Web Architecture – Basics	1			1
3	**Introduction to HTML**	1			1
4	HTML Tags – Basics	1			1,2
5	HTML Tags: Lists, Entity References Tags	1			1,2
6	Table Tags & Attributes, Examples	1			1,2
7	Image Tag & Attributes, Examples	1			1,2
8	Links- Internal & External – Framesets Introduction	1			1,2
9	Framesets - Nested Frames, Targets	1			1,2
10	Various Form Elements	1			1,2
11	**Cascading Style sheets-** Explanation, Importance, Basics	1			1,2
12	Cascading Style sheets- Types & Usage & Layers	1			1,2
13	Some Example Programs	1			1,2
14	**Introduction to Java Scripts**	1			1,2
15	Linking of javascripts with HTML	1			1,2
16	Explanation of Various functions and events in JavaScript	1			1,2
17	Sample programs of Various functions in JavaScript	1			1,2
18	Sample programs of Various events in JavaScript	1			1,2
19	Introduction to Objects in Java Script	1			1,2
20	Usage of Objects in Java Script	1			1,2
21	Validation with java script	1			1,2
22	Dynamic HTML with Java Script	1			1,2
23	Test -1	1			4
Number of classes		23			
UNIT –II: XML					
24	**XML Fundamentals**	1			1,2
25	Anatomy of Basic XML program	1			1,2
26	Presenting XML	1			1,2

27	Well-formed ness and Validity of an XML	1			1,2
28	Creation of XML programs	1			1,2
29	Sample programs on XML	1			1,2
30	Document type definition(DTD)	1			1,2
31	Test-2	1			4
32	XML Schemas	1			1,2
33	Document Object model (DOM)	1			1,2
34	Using XML Processors: DOM and SAX	1			1,2
35	**Java Beans : Introduction to Java Beans**	1			1,2
36	Advantages of Java Beans	1			1,2
37	Java Beans API	1			1,2
38	Introduction to EJB's	1			1,2
39	Types of EJB's	1			1,2
Number of classes		**16**			
UNIT –III: SERVLETS					
40	**Introduction to Web Servers and Servlets**	1			1,2
41	Introduction to Servlets, Lifecycle of a Servlet	1			1,2
42	JSDK, The Servlet API	1			1,2
43	The javax.servelet Package	1			1,2
44	Reading Servlet parameters	1			1,2
45	Reading Initialization parameters	1			1,2
46	SevletConfig, ServletContex concepts	1			1,2
47	RequestDispacher Interface usage	1			1,2
48	Database interaction through Servlet Pages	1			1,2
49	The javax.servelet HTTP package	1			1,2
50	Http Request & Responses	1			1,2
51	Http Request & Responses	1			1,2
52	Session Tracking : Cookies	1			1,2

53	Session Tracking : Cookies	1			1,2
54	Security Issues	1			1,2
55	Test-3	1			4
Number of classes		16			
UNIT –IV: JSP					
56	**Introduction to JSP**	1			1,2
57	Generating Dynamic Content	1			1,2
58	Components of JSP	1			1,2
59	Scripting elements of JSP	1			1,2
60	Implicit JSP Objects	1			1,2
61	Implicit JSP Objects	1			1,2
62	Conditional Processing – Displaying Values	1			1,2
63	Expression to Set an Attribute	1			1,2
64	Declaring Variables and Methods	1			1,2
65	Error Handling and Debugging	1			1,2
66	Sharing Data Between JSP pages	1			1,2
67	JSP Directive elements	1			1,2
68	Requests, and Users Passing Control and Date between Pages	1			1,2
69	Action elements in JSP	1			1,2
70	Accessing Database through JSP pages, Simple JSP application	1			1,2
71	Test -4	1			4
Number of classes		16			
Unit – V (Swings & Struts Framework)					
72	**Introducing Swing**	1			1,2
73	key features of swings, limitations of AWT	1			1,2
74	Components & containers	1			1,2
75	Swing packages	1			1,2
76	JApplet , JFrame and JComponent	1			3
77	Labels, text fields, buttons	1			1,2
78	Tabbed Panes, Scroll Panes, Trees	1			1,2
79	Introduction to Struts	1			1,2
80	Overview of MVC Design Pattern	1			1,2
81	Struts Controller components	1			1,2
82	Struts Controller components	1			1,2
83	Test - 5	1			4
Number of classes		12			
Total Number of classes		**81**			

Delivery Methods (DM):

1. Chalk & Talk 2. ICT Tools 3. Tutorial 4. Assignment/Test/Quiz
5. Laboratory/Field Visit 6. Web based learning.

	Course Instructor	**Course Coordinator**	**Module Coordinator**	**HOD**
Signature				
Name of the Faculty				

PRINCIPAL

	LESSON PLAN	Date:
	Sub Code: L183 **Sub Name: UML DESIGN LAB** **Branch: CSE** **Year:III B.Tech** **Semester : VI (B-Sec)**	**27-12-2016** **To** **06-05-2017**

L183 – UML DESIGN LAB.

Lab : 3 Periods/week **Internal Marks : 25**

External Marks : 50

Credits : 2 **External Examination : 3 Hrs**

The student should take up the following case studies which are mentioned below, and Model it in different views i.e. Use case view, logical view, component view, Deployment view, Database design, forward and Reverse Engineering, and Generation of documentation of the project.

1. Unified Library application
2. Automatic Teller Machine(ATM)
3. Student Admission Procedure
4. Online Book Shopping
5. Hospital Management System
6. Cellular Network

Pre requisite: Object Oriented Programming concepts, Concepts of ER model.

Course Objectives:

To impart in depth knowledge so that the student will

1. Develop a problem statement.

2. Identify Use Cases and develop the Use Case model.

3. Identify the business activities and develop an UML Activity diagram.

4. Identity the conceptual classes and develop a domain model with UML Class diagram.

5. Be using the identified scenarios find the interaction between objects and represent those using UML

Interaction diagrams.

6. Draw the State Chart diagram.

7. Develop architecture diagram with UML package diagram notation.

8. Draw Component and Deployment diagrams.

Course Outcomes (CO's)

After undergoing this laboratory module, the student should be able to:

1. Analyze Software Requirements for the given Software Application.
2. Develop the UML Diagrams to view Software System in Static and Dynamic Aspects.
3. Describe the dynamic behaviour and structure of the design.

	Lakireddy Bali Reddy College of Engineering	
	Department of CSE	
	Outcome Based Lesson Plan	
	Academic year : 2016-17	**Course : UML DESIGN LAB**
	Programme : B.Tech	**Unit No. :**
	Year & Sem : III & II	**Section : B**

S. No	Teaching Learning Process (TLP)	Delivery Methods (DM)	Assessment Methods (AM)
1	Solving Real World Problem	Chalk & Talk	Assignments
2	Explaining Application before Theory	ICT tools	Quiz
3	Solving Problems	Group discussions	Tutorials
4	Designing of Experiments	Industrial visit	Surprise Tests
5	Problems on Environmental, Economics, Health & Safety	Field work	Mid Exams
6	Problems on Professional & Ethics	Case studies	Model Exam
7	Seminar	Mini Projects	QAs
8	Problems using software	Numerical treatment	
9	Self-study	Design / Exercises	

Session No	Topics to be covered (Week wise)	Date		TLP	DM	AM
		Tentative	Actual			
1	Introduction to Rational Software Getting Familiarity with UML Notation	02/01/17		2	9	5,7
2	Automatic Teller Machine(ATM)	09/01/17		8	9	5,7
3	Automatic Teller Machine(ATM)	23/01/17		8	9	5,7
4	Unified Library Application	30/01/17		8	9	5,7
5	Unified Library Application	06/02/17		8	9	5,7
6	Student Admission Procedure	13/02/17		8	9	5,7
7	Student Admission Procedure	20/02/17		8	9	5,7
8	Student Admission Procedure	27/02/17		8	9	5,7

9	Online Book Shopping	06/03/17		8	9	5,7
11	Online Book Shopping	13/03/17		8	9	5,7
12	Hospital Management System	20/03/17		8	9	5,7
13	Hospital Management System	27/03/17		8	9	5,7
14	Cellular Network	03/04/17		8	9	5,7
15	Cellular Network	10/04/17		8	9	5,7
16	Lab Internal Exam	17/04/17		8	9	5,7
17	Revision	24/04/17		8		5,7

ASSESSMENT SUMMARY:

Assessment Task	Weightage (Marks)	**Course Outcomes**				
		CO1	CO2	CO3	CO4	CO5
Assignments, Quiz, Tutorials etc.	05					
Mid Exams	20					
Model Exams	--					
End Exam	50					
Attendance	--					
Total	100					

MAPPING COURSE OUTCOMES WITH PROGRAMME OUTCOMES:

Course Code	Course Outcomes	Program Outcomes												Program Specific Outcomes		
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
L183	CO1				1	3				2	1		2	1		3

	CO2				1	3				2	1		2		1	3
	CO3				1	3				2	1		2	1		3

Signature			
	Name of the Faculty	**Name of Course Coordinator**	**HOD**
	D VEERAIAH	D VEERAIAH	Dr. N RAVI SHANKAR

	LESSON PLAN	Date:
	Subject : UML DESIGN **Branch : CSE** **Semester : VI** **Section : B**	**27-12-2016** **To** **06-05-2017**

S415 – UML DESIGN

Lecture : 4 Periods/week	**Internal Marks : 25 Marks**
Tutorial: 1	**External Marks : 75 Marks**
Credits : 4	**External Examination : 3 Hrs**

UNIT - I

Introduction to UML: Importance of modeling, Principles of Modeling, Object Oriented Modeling, Conceptual Model of the UML, Architecture, and Software Development Life Cycle.

UNIT - II

Basic Structural Modeling: Classes, Relationships, common Mechanisms, and diagrams.

Advanced Structural Modeling: Advanced classes, advanced relationships, Interfaces, Types and Roles, Packages.

UNIT - III

Class & Object Diagrams: Terms, concepts, modeling techniques for Class & Object Diagrams.

UNIT - IV

Basic Behavioral Modeling-I: Interactions, Interaction diagrams Use cases, Use case Diagrams, Activity Diagrams

UNIT - V

Advanced Behavioral Modeling: Events and signals, state machines, processes and Threads, time and space, state chart diagrams.

Architectural Modeling: Component, Deployment, Component diagrams and Deployment diagrams.

TEXT BOOK

Grady Booch, James Rumbaugh, Ivar Jacobson: The Unified Modeling Language User Guide, Pearson Education.

REFERENCES

1. Meilir Page-Jones: Fundamentals of Object Oriented Design in UML, Pearson Education.
2. Pascal Roques: Modeling Software Systems Using UML2, WILEY- Dreamtech India Pvt. Ltd.
3. Atul Kahate: Object Oriented Analysis & Design, The McGraw-Hil Companies.
4. Appling UML and Patterns: An introduction to Object – Oriented Analysis and Design and Unified Process, Craig Larman, Pearson Education.

PRE-REQUISITE:

- Basic knowledge of object oriented methods, Software Engineering Concepts.

COURSE EDUCATIONAL OBJECTIVES:

- The main objective is the students become familiar with all phases of OOAD.
- Master the main features of the UML.
- Master the main concepts of Object Technologies and how to apply them at work and develop the ability to analyze and solve challenging problem in various domains.
- Learn the Object design Principles and understand how to apply them towards implementation.

COURSE OUTCOMES:

After the completion of the course, students should be able to:

1. Select the basic elements of modeling such as Things, Relationships and Diagrams depending on the views of UML Architecture and SDLC.

2. Apply basic and Advanced Structural Modeling Concepts for designing real time applications.
3. Design Class and Object Diagrams that represent Static Aspects of a Software System.
4. Analyze Dynamic Aspects of a Software System using Use Case, Interaction and Activity Diagrams.
5. Apply techniques of State Chart Diagrams and Implementation Diagrams to model behavioral aspects and Runtime environment of Software Systems**.**

	Lakireddy Bali Reddy College of Engineering	
	Department of CSE	
	Outcome Based Lesson Plan	
	Academic year : 2016-17	**Course : UML DESIGN**
	Programme : B.Tech	**Unit No. : 1 to 5**
	Year & Sem : III & II	**Section : B**

S. No	Teaching Learning Process (TLP)	Delivery Methods (DM)	Assessment Methods (AM)
1	Solving Real World Problem	Chalk & Talk	Assignments
2	Explaining Application before Theory	ICT tools	Quiz
3	Solving Problems	Group discussions	Tutorials
4	Designing of Experiments	Industrial visit	Surprise Tests
5	Problems on Environmental, Economics, Health & Safety	Field work	Mid Exams
6	Problems on Professional & Ethics	Case studies	Model Exam
7	Seminar	Mini Projects	QAs
8	Problems using software	Numerical treatment	
9	Self-study	Design / Exercises	

Detailed Lesson Plan:

S.NO	TOPIC TO BE COVERED	Date		TLP	DM	AM
		Tentative	Actual			
UNIT – I						
1	History of Modeling	27/12/16		2	1	1, 2, 5
2	Why Modeling?	28/12/16		2	1	
3	Importance of Modelling	29/12/16		2	1	
4	Principles of modelling	30/12/16		2	1	
5	Object Oriented modelling	31/12/16		2	1	
6	Conceptual model of the UML – Start	3/1/17		2	1	
7	Building Blocks: Things – Part 1	4/1/17		2,4	1,9	

8	Things – Part 2	5/1/17		2,4	1,9	
9	Relationships with Examples	6/1/17		2,4	1,9	
10	UML Diagrams	7/1/17		2,4	1,9	
11	Rules of UML	10/1/17		2	1	
12	Common Mechanisms in UML	11/1/17		2	1	
13	UML Architecture	12/1/17		2	1	
14	Software Development Life Cycle	17/1/17		2	1	
15	**Tutorial – 1**	18/1/17				3
16	**TEST – 1**	19/1/17				4
UNIT - II						
17	**Basic Behavioral Modeling**	20/1/17		2	1	
18	Classes with Examples	21/1/17		2,4	1,9	1, 2, 5
19	Relationships in Class Diagrams	24/1/17		2,4	1,9	
20	Common Mechanisms of Class Diagram	25/1/17		2	1	
21	Different Class Diagrams	27/1/17		2,4	1,9	
22	**Advanced Structural Modeling**	28/1/17		2	1	
23	Advanced Classes	31/1/17		2	1	
24	Advanced Relationships in Advanced Classes	1/2/17		2,4	1,9	
25	Interfaces	2/2/17		2	1	
26	Types in Advanced Classes	3/2/17		2	1	1, 2, 5
27	Roles in Advanced Classes	4/2/17		2	1	
28	Packages with Examples	7/2/17		2	1	
29	Case Study - 1	8/2/17		1	6	
30	Case Study – 2	9/2/17		1	6	
31	Case Study – 3	10/2/17		1	6	
32	Case Study – 4	14/2/17		1	6	
33	Case Study – 5	15/2/17		1	6	
34	**Tutorial – 2**	16/2/17				3
35	**TEST – 2**	17/2/17				4

36	**REVISION FOR MID – I**	18/2/17		3		7
37	**MID – I Exams**	**21/2/17 – 25/2/17**				5
38						
39						
40						
UNIT – III						
41	Class and Object Diagrams: Basics	28/2/17		2	1	1, 2,5
42	Terms in Classes	1/3/17		2	1	
43	Concepts of Class Diagram	2/3/17		2	1	
44	Modeling Techniques for Class Diagram	3/3/17		2,4	1,9	
45	Case Study – 1	4/3/17		1	6	
46	Case Study – 2	7/3/17		1	6	
47	Case Study – 3	8/3/17		1	6	
48	Terms in Objects	9/3/17		2	1	
49	Concepts of Object Diagram	10/3/17		2	1	
50	Modeling Techniques for Object Diagram	14/3/17		2,4	1,9	
51	Case Study – 1	15/3/17		1	6	
52	Case Study – 2	16/3/17		1	6	
53	Case Study – 3	17/3/17		1	6	
54	**Tutorial – 3**	18/3/17				3
55	**TEST – 3**	21/3/17				4
UNIT - IV						
56	**Basic Behavioral Modeling - 1**	22/3/17		2	1	1, 2,5
57	Interactions	23/3/17		2	1	
58	Interaction Diagrams – Part 1	24/3/17		2,4	1,9	
59	Interaction Diagrams – Part 2	25/3/17		2,4	1,9	
60	Use Cases	29/3/17		2	1	
61	Use Case Diagrams	30/3/17		2,4	1,9	
62	Activity, Fork, Join	31/3/17		2	1	

63	Activity Diagram	1/4/17		2,4	1,9	
64	Case Study	4/4/17		1	6	
65	**Tutorial – 4**	5/4/17				3
66	**TEST – 4**	6/4/17				4
UNIT - V						
67	**Advanced Behavioral Modeling:** Events and Signals	7/4/17		2	1	
68	State Machines	11/4/17		2,4	1,9	
69	Processes	12/4/17		2	1	
70	Threads	13/4/17		2	1	
71	Time and Space	15/4/17		2	1	
72	State chart Diagrams	18/4/17		2,4	1,9	1, 2, 5
73	**Architectural Modeling:** Component and Deployment	19/4/17		2	1	
74	Component Diagrams	20/4/17		2,4	1,9	
75	Deployment Diagrams	21/4/17		2,4	1,9	
76	Case Study - 1	22/4/17		1	6	
77	Case Study – 2	25/4/17		1	6	
78	Case Study – 3	26/4/17		1	6	
79	**Tutorial – 5**	27/4/17				3
80	**TEST – 5**	28/4/17				4
81	**REVISION FOR MID - II**	29/4/17		3		7
82	**MID – II Exams**	**2/5/17 – 6/5/17**				5
83						
84						
85						
86						

RESOURCES USED:

TEXT BOOK

- Grady Booch, James Rumbaugh, Ivar Jacobson: The Unified Modeling Language User Guide, Pearson Education.
- Meilir Page-Jones: Fundamentals of Object Oriented Design in UML, Pearson Education.
- Pascal Roques: Modeling Software Systems Using UML2, WILEY- Dreamtech India Pvt. Ltd.
- Atul Kahate: Object Oriented Analysis & Design, The McGraw-Hil Companies.
- Appling UML and Patterns: An introduction to Object – Oriented Analysis and Design and Unified Process, Craig Larman, Pearson Education.

ASSESSMENT SUMMARY:

Assessment Task	Weightage (Marks)	**Course Outcomes**				
		CO1	CO2	CO3	CO4	CO5
Assignments, Quiz, Tutorials etc.	05					
Mid Exams	20					
Model Exams	--					
End Exam	75					
Attendance	--					
Total	100					

MAPPING COURSE OUTCOMES WITH PROGRAMME OUTCOMES:

Course Code	Unit	Course Outcomes					Program Outcomes											Program Specific Outcomes		
		1	2	3	4	5	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
S415	I	×						1											1		3
	II		×						1										1		3

	III			×					2	1	2									3
	IV				×				2	1	2									3
	V					×			2	1	2									3

Name	Faculty	Course Coordinator	Head of the Department
	D Veeraiah	D. Veeraiah	Dr. N. Ravi Shankar
Signature			

	LESSON PLAN	
	SUBJECT NAME:ARTIFICIAL INTELLIGENCE **BRANCH: CSESEM& SECTION: VII &B**	

CS7064 – ARTIFICIAL INTELLIGENCE

Lecture : 5 Periods/week **Internal Marks : 25**

Tutorial: **External Marks : 75**

Credits : 3 **External Examinations: 3 Hrs**

UNIT - I

Introduction: Overview of Artificial intelligence- Problems of AI, AI technique, Tic-Tac-Toe problem.

Intelligent Agents: Agents & environment, nature of environment, structure of agents, goal based agents, utility based agents, learning agents. Problem Solving: Problems, Problem Space &search: Defining the problem as state space search, production system, problem characteristics, and issues in the design of search programs.

UNIT – II

Search techniques: Solving problems by searching: problem solving agents, searching forsolutions; uniform search strategies: breadth first search, depth first search, depth limitedsearch, bi-directional search, comparing uniform search strategies.

Heuristic search strategies: Greedy best-first search, A* search, memory bounded heuristic search, local search algorithms &optimization problems, Hill climbing search, simulated annealing search, local beam search, genetic algorithms, constraint satisfaction problems, local search for constraint satisfaction problems.

UNIT – III

Knowledge: Knowledge representation issues, representation & mapping, approaches to knowledge representation, issues in knowledge representation.

Using predicate logic: Representing simple fact in logic, representing instant & ISA relationship, computable functions &predicates, resolution, natural deduction.

UNIT - IV

Representing knowledge using rules: Procedural verses declarative knowledge, logic programming, forward verses backward reasoning, matching, control knowledge.

UNIT - V

Reasoning: Probabilistic reasoning: Representing knowledge in an uncertain domain, the semantics of Bayesian networks, Dempster-Shafertheory, Fuzzy sets & fuzzy logics.

TEXT BOOK

Artificial Intelligence, Ritch & Knight, TMH

REFERENCES

1. Artificial Intelligence a Modern Approach, Stuart Russell & Peter Norvig Pearson
2. Introduction to Artificial Intelligence & Expert Systems, Patterson, PHI
3. Artificial Intelligence A new Synthesis, Neil J. Nilsson, Morgan Kaufman
4. Artificial Intelligence, John. F. Lugar, Pearson Ed.
5. Artificial Intelligence, Winston, Pearson Ed.

Pre requisite:Student should possess the knowledge of Theory of Computation, Probability statistics, Design Analysis of Algorithms, inference rules, logic programming, fuzzy sets & fuzzy logics, basic mathematics.

Course Educational Objectives:

1. Different types of AI techniques and their implementation.
2. Types of agents and activities of agents.
3. Different problem solving techniques and problem characteristics.
4. Various searching strategies and their implementations.
5. Representation of knowledge using predicate logic.
6. Representation of knowledge using prepositional logic.
7. Knowledge rules using reasoning.
8. Knowledge rules using matching.
9. Reasoning using fuzzy sets and fuzzy logics.

Course Outcomes: After completion of this course a student can able to

CO1: Understand about AI techniques and different ways to implement them as well as types of AI agents and their structures in order to solve the problems.

CO2:Know various AI search algorithms (uninformed, informed, heuristic, constraint satisfaction, genetic algorithms) to solve the real world problems.

CO3: Understand the fundamentals of knowledge representation (logic-based, frame-based, semantic nets), inference and theorem proving.

CO4: Know how to build simple knowledge-based systems by using logic programming (PROLOG), various reasoning techniques to solve the given problems.

CO5: Understand the working knowledge of reasoning in the presence of incomplete and/or uncertain information, present efficient techniques to remove uncertainty in knowledge domain.

	Lakireddy Bali Reddy College of Engineering	
	Department of CSE	
	Outcome based lesson plan	
	Academic year: 2016-17	Course: Artificial Intelligence
	Programme: B.Tech	Unit No: 1 to 5
	Year & Sem: IV & VII Sem	Section: B

S.No	Teaching Learning Process (TLP)	Delivery Methods (DM)	Assessment Methods (AM)
1	Solving Real world problem	Chalk & Talk	Assignments
2	Explaining application before theory	ICT tools	Quiz
3	Solving problems	Group discussions	Tutorials
4	Designing of experiments	Industrial visit	Surprise Tests
5	Problems on environmental, economics, health & safety	Field work	Mid Exams
6	Problems on professional & ethics	Case studies	Model Exam
7	Seminar	Mini Projects	QAs
8	Problems using software	Numerical treatment	
9	Self study	Design / Exercises	

Detailed Lesson Plan

S.NO	TOPIC TO BE COVERED	Date		TLP	DM	AM
		Tentative	Actual			
UNIT I: Introduction to Artificial Intelligence						
1	Introduction to Artificial Intelligence			2	1	1,3,5,7
2	Overview of Artificial Intelligence			2	1	
3	Problems of AI			2, 3	1	
4	AI Techniques			2, 3	1	
5	Tic-Tac-Toe Problem			2, 3	1	
6	Introduction to Agents, Agents & Environment			2	1	
7	Nature of Environment, Structure of Agents			2	1	
8	Reflex agents, Goal based agents			2	1	
9	Utility based agents, Learning agents			2	1	

10	Problem solving, Problem Space & search			2, 3	1	
11	Define Problem as state space search, Water Jug problem			2, 3	1	
12	Production system, Problem characteristics			2	1	
13	Issues in the design of search programs			2	1	
14	**Tutorial-1**					
UNIT II: Search Techniques						
15	Solving problems by searching			2, 3	1	1,3,5,7
16	Uninformed searching strategies, BFS (Breadth first search)			2, 3	1	
17	Depth first search(DFS)			2, 3	1	
18	Depth Limited Search(DLS)			2, 3	1	
19	Bi-directional Search, comparing uninform search strategies			2, 3	1	
20	Introduction to Heuristic search strategies			2, 3	1	
21	Greedy best-first search			2, 3	1	
22	A* search			1, 2, 3	1	
23	**Tutorial - 2**					
24	Memory bounded heuristic search			2, 3	1	
25	Local search algorithms & optimization problems			2, 3	1	
26	Hill climbing search, simulated annealing search			2, 3	1	
27	Local beam search, Genetic algorithms			2, 3	1	
28	Constraint satisfaction problems			2, 3	1	
29	Local search for constraint satisfaction problems			2, 3	1	
30	**MID – I EXAMS**					
31						
32						
33						
34						
35						

UNIT- III Knowledge using Predicate Logic						
36	Introduction to Knowledge			2	1	
37	Knowledge representation issues			2	1	
38	Representation & Mapping			2	1	
39	Approaches to Knowledge representation			2	1	
40	Issues in Knowledge representation			2	1	
41	Introduction to Predicate Logic			2	1	
42	Representing simple fact in logic			2	1, 2	1,3,5,7
43	Representing instant			2	1, 2	
44	ISA relationship			2	1, 2	
45	Computable functions & predicates			2	1, 2	
46	Resolution, natural deduction			2, 3	1, 2	
47	Revision			2	1, 2	
48	**Tutorial - 3**			2	1, 2	
UNIT –IV: Representing Knowledge using Rules						
49	Introduction to knowledge			2	1,2	
50	Representing knowledge using rules			2	1,2	
51	Procedural vs. declarative knowledge			2	1, 2	
52	Logic programming			2	1, 2	
53	Forward reasoning			2, 3	1, 2	1,3,5,7
54	Backward reasoning			2, 3	1, 2	
55	Matching			2	1,2	
56	Control knowledge			2	2	
57	**Tutorial - 4**			2	2	
UNIT –V: Reasoning						
58	Introduction to reasoning			2	1,2	
59	Probabilistic reasoning			2, 3	1,2	
60	Introduction to uncertain domain			2, 3	1,2	
61	Representing knowledge in an uncertain domain			2, 3	1,2	1,3,5,7
62	The semantics of Bayesian networks			2, 3	1,2	
63	The semantics of Bayesian networks			2, 3	1,2	

64	Dempster-Shafertheory example			2, 3	1,2	
65	Introduction to Fuzzy sets			2	1,2	
66	Fuzzy set examples			2	1,2	
67	Introduction to Fuzzy Logics			2	1,2	
68	Revision			2	1,2	
69	Revision			2	1,2	
70	Previous question papers discussion			2	1,2	
71	Revision			2	1,2	
72	Revision			2	1,2	
73	**Tutorial – 5**					
74	**II MID EXAMS**					
76						
77						
78						
79						
80						

Resources Used:

TEXT BOOK

1. The essential guide to user interface design, Wilbert O Galitz, Wiley DreamaTech.

REFERENCES

2. Designing the user interface. 3rd Edition Ben Shneidermann, Pearson Education Asia.
3. Human – Computer Interaction. ALAN DIX, JANET FINCAY, GRE GORYD, ABOWD, RUSSELL BEALG, PEARSON.

Assessment Summary:

Assessment Task	Weight age (Marks)	**Course Outcomes**				
		CO1	CO2	CO3	CO4	CO5

Assignments	--					
Quizzes	--					
Tutorials	--					
Surprise Tests	--					
Mid Exams	20					
Model Exams	--					
End Exam	75					
Attendance	05					
Total	100					

Mapping Course Outcomes with Programme Outcomes:

Course Code	Unit	Course Outcomes					Programme Outcomes										
		1	2	3	4	5	a	b	c	d	e	f	g	h	i	j	k
T214	I	×						×	×		×				×		×
	II		×					×	×		×				×		×
	III			×				×	×		×				×		×
	IV				×			×	×		×				×		×
	V					×		×	×		×				×		×

	Instructor	**Course Coordinator**	**Module Coordinator**	**HOD**
Name	N. SrinivasaRao	D. SrinivasaRao		Dr. N. Ravi Shankar
Sign with Date				

	LESSON PLAN	Date:
	Sub. Name : COMPILER DESIGN	27/12/2016
	Branch: CSE, Semester & Sections: VI & A	To 06/05/2017
	Ac.Year: 2016-17	

S163 – COMPILER DESIGN

Lecture : 4 Periods/week	**Internal Marks : 25**
Tutorial: 1 Period/Week	**External Marks : 75**
Credits : 3	**External Examination : 3 Hrs**

UNIT – I

Overview of Compilation: Phases of Compilation – Lexical Analysis, pass and Phases of translation, interpretation, bootstrapping, data structures in compilation – LEX lexical analyzer generator

UNIT – II

Context Free grammars: Context free grammars, derivation, parse trees, ambiguity grammars

Top down Parsing: Top down parsing – Backtracking, LL (1), recursive descent parsing, Predictive parsing, Preprocessing steps required for predictive parsing.

UNIT – III

Bottom up parsing: Shift Reduce parsing, LR and LALR parsing, Error recovery in parsing , handling ambiguous grammar, YACC – automatic parser generator .

UNIT – IV

Semantic analysis: Syntax directed translation, S-attributed and L-attributed grammars, Type checker. Intermediate code – abstract syntax tree, polish notation and three address codes , translation of simple statements and control flow statements

Run time storage: Storage organization, storage allocation strategies scope access to now local names, parameters, language facilities for dynamics storage allocation.

UNIT – V

Code optimization: Consideration for Optimization, Scope of Optimization, local optimization, loop optimization, frequency reduction, folding, DAG representation.

Code generation: Machine dependent code generation, object code forms, generic code generation algorithm, Register allocation and assignment. Using DAG representation of Block.

TEXT BOOK

Compilers Principles, Techniques and Tools Aho, Ullman, Ravisethi, Pearson Education.

REFERENCES

1. Modern Compiler Construction in C , Andrew W.Appel Cambridge University Press.
2. Compiler Construction, LOUDEN, Thomson.

Pre requisite: knowledge in Theory of Computation.

Course Educational Objectives:

- To introduce the major concept areas of language translation and compiler design.
- To enrich the knowledge in various phases of compiler ant its use, code optimization techniques, machine code generation, and use of symbol table.
- To extend the knowledge of parser by parsing LL parser and LR parser.
- To provide practical programming skills necessary for constructing a compiler.

Course Outcomes: After completion of this course a student can able to

CO1: Understand the functioning of a Compiler & design a Scanner using Finite Automata and LEX.

CO2: Understand Context free grammar concepts & design a Parser for a given grammar using Top-down parsing.

CO3: Design a Parser for a given grammar using Bottom-up parsing & YACC.

CO4: Understand storage organization concepts and design a framework for translation of statements, type checking and generating Intermediate code**.**

CO5: Understand and apply various Optimization techniques, Code generation techniques on given Intermediate code**.**

	Lakireddy Bali Reddy College of Engineering	
	Department of CSE	
	Outcome based lesson plan	
	Academic year: 2016-17	Course: Compiler Design
	Programme: B.Tech	Unit No: 1 to 5
	Year & Sem: III & II (VI sem)	Section: B

S.No	Teaching Learning Process (TLP)	Delivery Methods (DM)	Assessment Methods (AM)
1	Solving Real world problem	Chalk & Talk	Assignments
2	Explaining application before theory	ICT tools	Quiz
3	Solving problems	Group discussions	Tutorials
4	Designing of experiments	Industrial visit	Surprise Tests
5	Problems on environmental, economics, health & safety	Field work	Mid Exams
6	Problems on professional & ethics	Case studies	Model Exam
7	Seminar	Mini Projects	QAs
8	Problems using software	Numerical treatment	
9	Self study	Design / Exercises	

Detailed Lesson Plan

S.NO	TOPIC TO BE COVERED	Date		TLP	DM	AM
		Tentative	Actual			
UNIT –I: OVERVIEW OF COMPILATION						
1	Introduction to compiler	27/12/16		2	1	1,2,3,5,7
2	Phases of Compilation	28/12/16		2	1	
3	Approaches to Compilation	29/12/16		2	1	
4	Lexical Analysis	30/12/16		2	1	
5	Lexical Analysis – input buffering	02/01/17		2	1	
6	Lexical Analysis – Finite Automata	03/01/17		2	1,9	
7	Lexical Analysis – Finite Automata	04/01/17		2	1,9	
8	Lexical Analysis – Regular expressions	05/01/17		2	1,9	
9	Pass & Phase	06/01/17		2	1	
10	Interpretation, Bootstrapping	09/01/17		2	1	

11	Data Structures in Compilation	10/01/17		2	1	
12	LEX	11/01/17		2	1,9	
13	**Tutorial - I**	16/01/17				
UNIT –II: Context Free Grammars & Top down Parsing						
14	Role of parser, Context Free Grammars	17/01/17		2	1	
15	Derivation & Parse Trees	18/01/17		2	1,9	
16	Ambiguity	19/01/17		2	1,9	
17	Elimination of Ambiguity	20/01/17		2	1,9	
18	Top down Parsing	23/01/17		2	1	
19	Back Tracking	24/01/17		2	1	
20	Recursive Descent Parsing	25/01/17		2	1	1,3,5,7
21	Pre processing Steps required for PP	27/01/17		2	1	
22	First & Follow	30/01/17		2	1,9	
23	First & Follow	31/01/17		2	1,9	
24	Predictive Parsing	01/02/17		2	1	
25	LL(1)	02/02/17		2	1,9	
26	LL(1)	03/02/17		2	1,9	
27	**Tutorial - II**	06/02/17				
29	MID – I EXAMS	20/02/17				
30		21/02/17				
31		22/02/17				
32		23/02/17				
33		25/02/17				
34		27/02/17				
UNIT –III: Bottom up Parsing						
35	Introduction	09/02/17		2	1	
36	Shift Reduce Parsing	10/02/17		2	1	
37	Shift Reduce Parsing	13/02/17		2	1,9	1,3,5,7
38	LR parsing	15/02/17		2	1	
39	SLR	28/02/17		2,3	1	
40	SLR	01/03/17		2,3	1,9	

41	Examples on parsers	02/03/17		2,3		
42	CLR	03/03/17		2,3	1	
43	CLR	06/03/17		2,3	1,9	
44	LALR	07/03/17		2,3	1	
45	Error recovery in parsing	08/03/17		2	1	
46	Handling Ambiguous grammar	09/03/17		2	1,9	
47	YACC	10/03/17		2	1	
48	**Tutorial - III**	13/03/17				
UNIT –IV: Semantic Analysis & Run time Storage						
49	Syntax directed Translation	14/03/17		2	1,2	
50	S-attributed and L-attributed grammars	15/03/17		2	1,2	
51	S-attributed and L-attributed grammars	16/03/17		2	1,2	
52	Type checker	17/03/17		2	1,2	
53	Type checker	20/03/17		2	1,2	
54	Intermediate code – abstract syntax tree, polish notation, Three address codes	21/03/17		2	1,2	
55	Three address codes	22/03/17		2	1,2	
56	Translation of simple statements and control flow statements	23/03/17		2	1,2	1,3,5,7
57	Boolean expressions, Statements	24/03/17		2		
	Run time storage: Storage Organization	27/03/17		2	1,2	
58	Storage Organization	29/03/17				
59	Storage allocation strategies	30/03/17		2	1,2	
60	Scope access to local names, parameters	31/03/17		2	1,2	
61	Language facilities for dynamics storage allocation	03/04/17		2	1,2	
62	**Tutorial - IV**	04/04/17		2	1,2	
UNIT –V: Code Optimization & Code Generation						
63	Code Optimization: Introduction	05/04/17		2	1,2	
64	Principle sources of optimization	06/04/17		2	1,2	
65	Scope, Local & Loop optimization	10/04/17		2	1,2	1,3,5,7
66	Frequency reduction, Folding	11/04/17		2	1,2	
67	DAG representation	12/04/17		2	1,2	

68	Code generation: Introduction	13/04/17		2	1,2	
69	Machine dependent code generation	17/04/17		2	1,2	
70	Machine dependent code generation	18/04/17		2	1,2	
71	Object code forms	19/04/17		2	1,2	
72	Types of Object code forms	20/04/17		2	1,2	
73	Generic code generation algorithm	21/04/17		2	1,2	
74	Register allocation & assignment	24/04/17		2,3	1,2	
75	DAG representation of basic block	25/04/17		2,3	1,2	
76	Peephole optimization	26/04/17		2	1,2	
77	Code generation using DAG	27/04/17		2	1,2	
78	**Tutorial – V**	28/04/17				
79	II MID EXAMS	01/05/17				
80		02/05/17				
81		03/05/17				
82		04/05/17				

Resources Used:

Text Book:

Compilers Principles, Techniques and Tools Aho, Ullman, Ravisethi, Pearson Education.

References:

1. Modern Compiler Construction in C, Andrew W.Appel Cambridge University Press.
2. Compiler Construction, LOUDEN, Thomson.

Assessment Summary:

Assessment Task	Weightage (Marks)	**Course Outcomes**				
		CO1	CO2	CO3	CO4	CO5
Assignments	05					
Quizzes						
Tutorials	--					
Surprise Tests	--					

Mid Exams	20					
Model Exams	--					
End Exam	75					
Attendance	--					
Total	100					

Mapping Course Outcomes with Program Outcomes and Program Specific Outcomes:

Course Code	Unit	Course Outcomes					Program Outcomes											Program Specific Outcomes					
		1	2	3	4	5	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6
T141	I	×					3	3			1								**2**		3	1		**2**
	II		×				3	3											**2**		3	1		**2**
	III			×			3	3			**2**								**2**		3	1		**2**
	IV				×		3	3											**2**		3	1		**2**
	V					×	3	3											**2**		3	1		**2**

	Instructor	Course Coordinator	Module Coordinator	HOD
Name	G.V.Rajya Lakshmi			Dr. N. Ravi Shankar
Sign with Date	28/12/16			

	LESSON PLAN	Date:
	Sub. Name : COMPILER DESIGN	27/12/2016
	Branch: CSE, Semester & Sections: VI & B	To 06/05/2017

S163 – COMPILER DESIGN

Lecture : 4 Periods/week	**Internal Marks : 25**
Tutorial: 1 Period/Week	**External Marks : 75**
Credits : 3	**External Examination : 3 Hrs**

UNIT – I

Overview of Compilation: Phases of Compilation – Lexical Analysis, pass and Phases of translation, interpretation, bootstrapping, data structures in compilation – LEX lexical analyzer generator

UNIT – II

Context Free grammars: Context free grammars, derivation, parse trees, ambiguity grammars

Top down Parsing: Top down parsing – Backtracking, LL (1), recursive descent parsing, Predictive parsing, Preprocessing steps required for predictive parsing.

UNIT – III

Bottom up parsing: Shift Reduce parsing, LR and LALR parsing, Error recovery in parsing , handling ambiguous grammar, YACC – automatic parser generator .

UNIT – IV

Semantic analysis: Syntax directed translation, S-attributed and L-attributed grammars, Type checker. Intermediate code – abstract syntax tree, polish notation and three address codes , translation of simple statements and control flow statements

Run time storage: Storage organization, storage allocation strategies scope access to now local names, parameters, language facilities for dynamics storage allocation.

UNIT – V

Code optimization: Consideration for Optimization, Scope of Optimization, local optimization, loop optimization, frequency reduction, folding, DAG representation.

Code generation: Machine dependent code generation, object code forms, generic code generation algorithm, Register allocation and assignment. Using DAG representation of Block.

TEXT BOOK

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Pre requisite: knowledge in Theory of Computation.

Course Educational Objectives:

- To introduce the major concept areas of language translation and compiler design.
- To enrich the knowledge in various phases of compiler ant its use, code optimization techniques, machine code generation, and use of symbol table.
- To extend the knowledge of parser by parsing LL parser and LR parser.
- To provide practical programming skills necessary for constructing a compiler.

Course Outcomes: After completion of this course a student can able to

CO1: Understand the functioning of a Compiler & design a Scanner using Finite Automata and LEX.

CO2: Understand Context free grammar concepts & design a Parser for a given grammar using Top-down parsing.

CO3: Design a Parser for a given grammar using Bottom-up parsing & YACC.

CO4: Understand storage organization concepts and design a framework for translation of statements, type checking and generating Intermediate code**.**

CO5: Understand and apply various Optimization techniques, Code generation techniques on given Intermediate code**.**

	Lakireddy Bali Reddy College of Engineering	
	Department of CSE	
	Outcome based lesson plan	
	Academic year: 2016-17	Course: Compiler Design
	Programme: B.Tech	Unit No: 1 to 5
	Year & Sem: III & II (VI sem)	Section: B

S.No	Teaching Learning Process (TLP)	Delivery Methods (DM)	Assessment Methods (AM)
1	Solving Real world problem	Chalk & Talk	Assignments
2	Explaining application before theory	ICT tools	Quiz
3	Solving problems	Group discussions	Tutorials
4	Designing of experiments	Industrial visit	Surprise Tests
5	Problems on environmental, economics, health & safety	Field work	Mid Exams
6	Problems on professional & ethics	Case studies	Model Exam
7	Seminar	Mini Projects	QAs
8	Problems using software	Numerical treatment	
9	Self study	Design / Exercises	

Detailed Lesson Plan

S.NO	TOPIC TO BE COVERED	Date		TLP	DM	AM
		Tentative	Actual			
UNIT –I: OVERVIEW OF COMPILATION						
1	Introduction to compiler	26/12/16		2	1	1,2,3,5,7
2	Phases of Compilation	28/12/16		2	1	
3	Approaches to Compilation	29/12/16		2	1	
4	Lexical Analysis	30/12/16		2	1	
5	Lexical Analysis – input buffering	02/01/17		2	1	
6	Lexical Analysis – Finite Automata	04/01/17		2	1,9	
7	Lexical Analysis – Finite Automata	05/01/17		2	1,9	
8	Lexical Analysis – Regular expressions	06/01/17		2	1,9	
9	Pass & Phase	07/01/17		2	1	
10	Interpretation, Bootstrapping	09/01/17		2	1	

11	Data Structures in Compilation	11/01/17		2	1	
12	LEX	16/01/17		2	1,9	
13	**Tutorial - I**	17/01/17				
UNIT –II: Context Free Grammars & Top down Parsing						
14	Role of parser, Context Free Grammars	17/01/17		2	1	1,3,5,7
15	Derivation & Parse Trees	18/01/17		2	1,9	
16	Ambiguity	19/01/17		2	1,9	
17	Elimination of Ambiguity	20/01/17		2	1,9	
18	Top down Parsing	23/01/17		2	1	
19	Back Tracking	25/01/17		2	1	
20	Recursive Descent Parsing	27/01/17		2	1	
21	Pre processing Steps required for PP	28/01/17		2	1	
22	First & Follow	30/01/17		2	1,9	
23	First & Follow	31/01/17		2	1,9	
24	Predictive Parsing	01/02/17		2	1	
25	LL(1)	02/02/17		2	1,9	
26	LL(1)	03/02/17		2	1,9	
27	**Tutorial - II**	06/02/17				
29	MID – I EXAMS	20/02/17				
30		21/02/17				
31		22/02/17				
32		23/02/17				
33		25/02/17				
34		27/02/17				
UNIT –III: Bottom up Parsing						
35	Introduction	09/02/17		2	1	1,3,5,7
36	Shift Reduce Parsing	10/02/17		2	1	
37	Shift Reduce Parsing	13/02/17		2	1,9	
38	LR parsing	15/02/17		2	1	
39	SLR	28/02/17		2,3	1	
40	SLR	01/03/17		2,3	1,9	

41	Examples on parsers	02/03/17		2,3		
42	CLR	03/03/17		2,3	1	
43	CLR	06/03/17		2,3	1,9	
44	LALR	07/03/17		2,3	1	
45	Error recovery in parsing	08/03/17		2	1	
46	Handling Ambiguous grammar	09/03/17		2	1,9	
47	YACC	10/03/17		2	1	
48	**Tutorial - III**	13/03/17				
UNIT –IV: Semantic Analysis & Run time Storage						
49	Syntax directed Translation	14/03/17		2	1,2	
50	S-attributed and L-attributed grammars	15/03/17		2	1,2	
51	S-attributed and L-attributed grammars	16/03/17		2	1,2	
52	Type checker	17/03/17		2	1,2	
53	Type checker	20/03/17		2	1,2	
54	Intermediate code – abstract syntax tree, polish notation, Three address codes	21/03/17		2	1,2	
55	Three address codes	22/03/17		2	1,2	
56	Translation of simple statements and control flow statements	23/03/17		2	1,2	1,3,5,7
57	Boolean expressions, Statements	24/03/17		2		
	Run time storage: Storage Organization	27/03/17		2	1,2	
58	Storage Organization	29/03/17				
59	Storage allocation strategies	30/03/17		2	1,2	
60	Scope access to local names, parameters	31/03/17		2	1,2	
61	Language facilities for dynamics storage allocation	03/04/17		2	1,2	
62	**Tutorial - IV**	04/04/17		2	1,2	
UNIT –V: Code Optimization & Code Generation						
63	Code Optimization: Introduction	05/04/17		2	1,2	
64	Principle sources of optimization	06/04/17		2	1,2	
65	Scope, Local & Loop optimization	10/04/17		2	1,2	1,3,5,7
66	Frequency reduction, Folding	11/04/17		2	1,2	
67	DAG representation	12/04/17		2	1,2	

68	Code generation: Introduction	13/04/17		2	1,2	
69	Machine dependent code generation	17/04/17		2	1,2	
70	Machine dependent code generation	18/04/17		2	1,2	
71	Object code forms	19/04/17		2	1,2	
72	Types of Object code forms	20/04/17		2	1,2	
73	Generic code generation algorithm	21/04/17		2	1,2	
74	Register allocation & assignment	24/04/17		2,3	1,2	
75	DAG representation of basic block	25/04/17		2,3	1,2	
76	Peephole optimization	26/04/17		2	1,2	
77	Code generation using DAG	27/04/17		2	1,2	
78	**Tutorial – V**	28/04/17				
79	II MID EXAMS	01/05/17				
80		02/05/17				
81		03/05/17				
82		04/05/17				

Resources Used:

Text Book:

Compilers Principles, Techniques and Tools Aho, Ullman, Ravisethi, Pearson Education.

References:

1. Modern Compiler Construction in C, Andrew W.Appel Cambridge University Press.
2. Compiler Construction, LOUDEN, Thomson.

Assessment Summary:

Assessment Task	Weightage (Marks)	**Course Outcomes**				
		CO1	CO2	CO3	CO4	CO5
Assignments	05					
Quizzes						
Tutorials	--					
Surprise Tests	--					

Mid Exams	20					
Model Exams	--					
End Exam	75					
Attendance	--					
Total	100					

Mapping Course Outcomes with Program Outcomes and Program Specific Outcomes:

Course Code	Unit	Course Outcomes					Program Outcomes											Program Specific Outcomes					
		1	2	3	4	5	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6
T141	I	×					3	3			1								**2**		3	1		**2**
	II		×				3	3											**2**		3	1		**2**
	III			×			3	3			**2**								**2**		3	1		**2**
	IV				×		3	3											**2**		3	1		**2**
	V					×	3	3											**2**		3	1		**2**

	Instructor	Course Coordinator	Module Coordinator	HOD
Name	Dr. N. Ravi Shankar	Dr. N. Ravi Shankar	Dr. Ch. Venkata Narayana	Dr. N. Ravi Shankar
Sign with Date	28/12/16			

	LESSON PLAN
	Department: CSE **Program: B.Tech** **Course:** – Distributed Operating Systems **SEM: VI** **Academic Year: 201-17**

1. Pre-requisites: Knowledge in operating system concepts

2. Course Educational Objectives (CEOs):

This course provides a comprehensive introduction to understand the underlying principles, techniques and approaches which constitute a coherent body of knowledge in operating systems. In particular, the course will consider inherent functionality and processing of program execution. The emphasis of the course will be placed on understanding how the various elements that underlie operating system interact and provides services for execution of application software.

3. Course Outcomes (COs): At the end of the course, the student will be able to:

CO1: Identify the hardware and software concepts to design the communication model in Distributed System.

CO2: Evaluate the implementation of process, thread, file systems and processors in Distributed system.

CO3: Analyze Clock Synchronization protocols in Distributed system as well as Deadlock handling mechanism.

CO4: Compare Shared memory Multiprocessors used in Distributed System.

CO5: Examine the case study of CHROUS, MACH distributed operating systems.

4. Course Articulation Matrix:

Course Code	**COs**	**Programme Outcomes**												**PSOs**		
		1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**1**	**2**	**3**
T170	CO1			2												1
	CO2		1	2												
	CO3			2												
	CO4				2										1	
	CO5	1	1	2												
1 = Slight (Low) **2 = Moderate (Medium)** **3-Substantial(High)**																

5. Course Delivery Plan:

S.NO	TOPIC TO BE COVERED	No.of Classes		Date	DM
		As per the	Taken		
Unit-1 Introduction to Distributed Systems and Communication Distributed Systems					
1	Distributed systems Introduction	1			1
2	Its goals	1			1,2
3	hardware concepts	1			1
4	software concepts	1			1,2
5	design issues	1			1,2
6	design issues	1			1,2
7	Layered protocols	1			1,2
8	ATM Networks	1			1,2
9	Client Server model	1			1,2
10	RPC	1			1,2
11	Group communication	1			1,2
12	Tutorial-1	1			1,2
13	Class Test-1	1			3
		1			4
Number of classes		13			
Unit-II Process and Processors and Distributed File Systems					
14	Threads, system models	1			1,2
15	processor allocation	1			1,2
16	Scheduling	1			1,2
17	Fault Tolerance	1			1,2
18	Real Time Distributed Systems.	1			1,2
19	File system design	1			1,2
20	File system implementation	1			1,2
21	Trends in Distributed File Systems	1			1,2
22	Tutorial-2	1			3
23	Class Test-2	1			4
Number of classes		**10**			
Unit –III Clock synchronization					

24	Clock synchronization Introduction	1			1,2
25	Mutual Exclusion	1			1,2
26	Mutual Exclusion	1			1,2
27	Election Algorithms	1			1,2
28	Election Algorithms	1			1,2
29	Atomic Transactions	1			1,2
30	Deadlocks.	1			1,2
31	Tutorial-3	1			3
32	Class Test-3	1			4
Number of classes		9			
Unit – IV Distributed Shared Memory					
33	Introduction to Distributed Shared Memory	1			1,2
34	Bus based multiprocessors	1			1,2
35	Ring based multiprocessors	1			1,2
36	Switched multiprocessors	1			1,2
37	NUMA multiprocessors	1			1,2
38	Comparison of Shared Memory	1			1,2
39	Tutorial-4	1			3
40	Class Test-4	1			4
Number of classes		8			
Unit – V CASE Studies					
41	MACH OS Introduction	1			1,2
42	Internal topics of MACH OS	1			1,2
43	Internal topics of MACH OS	1			1,2
44	CHORUS OS Introduction	1			1,2
45	Internal topics of CHORUS OS	1			1,2
46	Internal topics of CHORUS OS				1,2
47	Tutorial-5	1			3
48	Class Test-5	1			4
Number of classes		8			
Total Number of classes		**48**			

Delivery Methods (DM):

1. Chalk & Talk 2. ICT Tools 3. Tutorial 4. Assignment/Test/Quiz
5. Laboratory/Field Visit 6. Web based learning.

	Course Instructor	**Course Coordinator**	**Module Coordinator**	**HOD**
Signature				
Name of the Faculty				

LESSON PLAN

Department: CSE - A/S **Program:** B.Tech
Course: –Information Security (S272) **Academic Year: 2016-17**
SEM: VI SEM

1. **Pre-requisites:** Knowledge of security issues in using a network

2. **Course Educational Objectives (CEOs):**

In this course, students will understands the basic concept of Cryptography and Network Security, their mathematical models.Various types ciphers, DES, AES, Message Authentication, digital Signature,providing security for email,different threats and firewalls.

3. **Course Outcomes (COs):** At the end of the course, the student will be able to :

CO1:	Demonstrate the use of encryption algorithm for acheiving data confidentiality
CO2:	Apply Secure hash functions for attaining data integrity
CO3:	Analyze the security mechanisms for acheiving authentication
CO4:	Analyze the protocols for acheiving availability,access control to resources and protocols for non-repudiation
CO5:	Explore the threats and remedial measures for system security

4. **Course Articulation Matrix:**

Course Code	**COs**	**Programme Outcomes**												**PSOs**		
		1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**1**	**2**	**3**
S168	CO1	2	2	1												
	CO2	2	2													
	CO3	2	2	1												
	CO4		2	1												
	CO5		2				1									
1 = Slight (Low)		**2 = Moderate (Medium)**									**3-Substantial(High)**					

5. **Course Delivery Plan:**

S.NO	**TOPIC TO BE COVERED**	**No. of Classes**		**Date**	**DM**
		As per the Schedule	**Taken**		
Unit-1					
1	Discussion on Cos and and CEOs	1			1

2	Introduction to security,Security Attacks	1			1
3	Security Services	1			1
4	Security Mechanisms	1			1
5	A model for Internetwork security, Internet Standards and RFCs	1			1
6	Conventional Encryption Principles	1			1,3
7	Conventional Encryption Principles(contd)	1			1
8	DES algorithm	2			1,2
9	cipher block modes of operation (ECB, CBC, Counter, CFB CFB)	2			1
10	location of encryption devices, key distribution	1			1
11	Secure Hash Functions,HMAC	1			1
12	Test-1	1			4
13	Quiz-1	1			4
Number of classes		**15**		**--**	
Unit-II					
14	Public key cryptography principles	1			1
15	public key cryptography algorithms	1			1
16	Fermat Theorm,Euler's Totient theorem	1			1
17	RSA Algorithm	2			1,2
18	Diffie Hellman Key Exchange Algorithm	1			1
19	DH Example	1			1
20	Digital signatures and digital Certificates	1			4
21	Certificate Authority and key management	1			1,2
22	Kerberos Version 4	1			1,2
23	Kerberos Version 5	1			1
24	X.509 Directory Authentication Service	1			1
25	**Test- 2**	1			1,2,4
26	**Quiz- 2**	1			4
Number of classes		**14**		**--**	
I MID EXAMINATION					
Unit-III					
27	Pretty Good Privacy (PGP), PGP Services	1			1
28	PGP Services(Contd)	1			1
29	Cryptographic Keys and Key Rings	1			1
30	PGP Message Generation and Message	1			1
31	S/MIME, MIME Overview	1			1,2
32	MIME (Contd), S/MIME Functions	1			1
33	IP Security Overview, Applications of IPSec	1			1,2
34	IP Security Architecture	1			1
35	Authentication Header	1			1
36	Encapsulating Security Payload	1			1
37	Combining Security Associations	1			1,2

	Test- 3	1			4
39	**Quiz- 3**	1			4
Number of classes		**13**		--	
Unit-IV					
40	Web Security Considerations	1			1
41	Secure Socket Layer, SSL Record Protocol	1			1,2
42	Change Cipher Spec Protocol, Alert Protocol, Handshake Protocol	1			1,2
43	Transport Layer Security	2			1,2
44	Secure Electronic Transaction	2			1,2
45	Key Features of SET,SET participants	1			1,2
46	Dual Signature, Payment Processing through SET	1			1,2
47	**Test- 4**	1			4
48	**Quiz- 4**	1			4
Number of classes		**11**		--	
Unit-V					
49	Intruders, Intrusion Techniques	2			1
50	Audit Records, Password Management	1			1
51	Password Selection Strategies	1			1,5
52	Viruses, Types of viruses	1			1,2
53	Virus Countermeasures	1			1,2
54	Distributed Denial of Service Attacks	1			1,2
55	Firewall Design Principles	1			1,2,5
56	Trusted Systems	1			1,2,5
57	Trojan Horse Defense	1			1
58	**Test- 5**	1			4
59	**Quiz- 5**	1			4
Number of classes		**12**		-	
Content beyond the syllabus					**Quiz -**
60	Substituion ciphers	1			1,2,3
61	Tarnspositional ciphers	1			1,2,3
62	Chinese remainder theorem	1			1,2,3
Total Number of classes		**68**		--	
II MID EXAMINATION					

Delivery Methods (DM):

1. Chalk & Talk 2. ICT Tools 3. Tutorial 4. Assignment/Test/Quiz

5. Laboratory/Field Visit 6. Web based learning.

	Course Instructor	**Course Coordinator**	**Module Coordinator**	**HOD**
Signature				
Name of the Faculty	**L.V.Krishnarao**			

LESSON PLAN

Department: CSE - B/S **Program:** B.Tech
Course: –Information Security (S272) **Academic Year: 2016-17**
SEM: VI SEM

6. Pre-requisites: Knowledge of security issues in using a network

7. Course Educational Objectives (CEOs):

In this course, students will understands the basic concept of Cryptography and Network Security, their mathematical models.Various types ciphers, DES, AES, Message Authentication, digital Signature,providing security for email,different threats and firewalls.

8. Course Outcomes (COs): At the end of the course, the student will be able to :

CO1:	Demonstrate the use of encryption algorithm for acheiving data confidentiality
CO2:	Apply Secure hash functions for attaining data integrity
CO3:	Analyze the security mechanisms for acheiving authentication
CO4:	Analyze the protocols for acheiving availability,access control to resources and protocols for non-repudiation
CO5:	Explore the threats and remedial measures for system security

9. Course Articulation Matrix:

Course Code	**COs**	**Programme Outcomes**												**PSOs**		
		1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**1**	**2**	**3**
S168	CO1	2	2	1												
	CO2	2	2													
	CO3	2	2	1												
	CO4		2	1												
	CO5		2				1									
1 = Slight (Low)		**2 = Moderate (Medium)**									**3-Substantial(High)**					

10. Course Delivery Plan:

S.NO	**TOPIC TO BE COVERED**	**No. of Classes**		**Date**	**DM**
		As per the Schedule	**Taken**		

Unit-1					
1	Discussion on Cos and and CEOs	1			1
2	Introduction to security,Security Attacks	1			1
3	Security Services	1			1
4	Security Mechanisms	1			1
5	A model for Internetwork security, Internet Standards and RFCs	1			1
6	Conventional Encryption Principles	1			1,3
7	Conventional Encryption Principles(contd)	1			1
8	DES algorithm	2			1,2
9	cipher block modes of operation (ECB, CBC, Counter, CFB CFB)	2			1
10	location of encryption devices, key distribution	1			1
11	Secure Hash Functions,HMAC	1			1
12	Test-1	1			4
13	Quiz-1	1			4
Number of classes		**15**		**--**	
Unit-II					
14	Public key cryptography principles	1			1
15	public key cryptography algorithms	1			1
16	Fermat Theorm,Euler's Totient theorem	1			1
17	RSA Algorithm	2			1,2
18	Diffie Hellman Key Exchange Algorithm	1			1
19	DH Example	1			1
20	Digital signatures and digital Certificates	1			4
21	Certificate Authority and key management	1			1,2
22	Kerberos Version 4	1			1,2
23	Kerberos Version 5	1			1
24	X.509 Directory Authentication Service	1			1
25	**Test- 2**	1			1,2,4
26	**Quiz- 2**	1			4
Number of classes		**14**		**--**	
I MID EXAMINATION					
Unit-III					
27	Pretty Good Privacy (PGP), PGP Services	1			1
28	PGP Services(Contd)	1			1
29	Cryptographic Keys and Key Rings	1			1
30	PGP Message Generation and Message	1			1
31	S/MIME, MIME Overview	1			1,2
32	MIME (Contd), S/MIME Functions	1			1
33	IP Security Overview, Applications of IPSec	1			1,2
34	IP Security Architecture	1			1
35	Authentication Header	1			1

36	Encapsulating Security Payload	1			1
37	Combining Security Associations	1			1,2
38	**Test- 3**	1			4
39	**Quiz- 3**	1			4
Number of classes		**13**		--	
Unit-IV					
40	Web Security Considerations	1			1
41	Secure Socket Layer, SSL Record Protocol	1			1,2
42	Change Cipher Spec Protocol, Alert Protocol, Handshake Protocol	1			1,2
43	Transport Layer Security	2			1,2
44	Secure Electronic Transaction	2			1,2
45	Key Features of SET,SET participants	1			1,2
46	Dual Signature, Payment Processing through SET	1			1,2
47	**Test- 4**	1			4
48	**Quiz- 4**	1			4
Number of classes		**11**		--	
Unit-V					
49	Intruders, Intrusion Techniques	2			1
50	Audit Records, Password Management	1			1
51	Password Selection Strategies	1			1,5
52	Viruses, Types of viruses	1			1,2
53	Virus Countermeasures	1			1,2
54	Distributed Denial of Service Attacks	1			1,2
55	Firewall Design Principles	1			1,2,5
56	Trusted Systems	1			1,2,5
57	Trojan Horse Defense	1			1
58	**Test- 5**	1			4
59	**Quiz- 5**	1			4
Number of classes		**12**		-	
Content beyond the syllabus					**Quiz -**
60	Substituion ciphers	1			1,2,3
61	Tarnspositional ciphers	1			1,2,3
62	Chinese remainder theorem	1			1,2,3
Total Number of classes		**68**		--	
II MID EXAMINATION					

Delivery Methods (DM):

1. Chalk & Talk 2. ICT Tools 3. Tutorial 4. Assignment/Test/Quiz

5. Laboratory/Field Visit 6. Web based learning.

	Course Instructor	**Course Coordinator**	**Module Coordinator**	**HOD**
Signature				
Name of the Faculty	**K.Rangachary**			

Faculty Name	:	**G V Suresh, Associate Professor**		
Subject Name	:	**ARTIFICIAL INTELLIGENCE**	**Code**	:S137
Course	**:**	**B.Tech VI Sem**		

COURSE EDUCATIONAL OBJECTIVES

1. This course is used to provide the description of agents and various types of agents and how they used to solve various AI problems, solving various problems using various problem solving techniques and constraint satisfaction problems

2. This gives a clear view of issues of knowledge representation, propositional and predicate logic unification, resolution process, types of logic and its algorithms.

3. This course gives better understanding of reasoning, bayes theorem, certainty factors and fuzzy logic etc.

4. It gives a clear view of planning, planning in state search, types of learning, learning decision trees, learning neural net learning and genetic learning.

5. It provides a clear view of various advanced topics like game playing, expert systems, Robotics and swarm intelligence.

COURSE OUTCOMES:

After the completion of the course, students should be able to,

CO1: Ability to understand AI problems and techniques of solving problems, agents and their types.

CO2: Ability to understand knowledge and its representation techniques, logic and algorithms implementation in different kinds of logic.

CO3: Students able to know uncertainty and certainty, factors and theories and appropriate examples.

CO4: Student can understand various planning techniques and learning techniques.

CO5: 5. He can able to know various advanced topics like expert systems, robotics and swarm intelligent systems.

COURSE OUTCOMES	1	2	3	4	5	6	7	8	9	10	11	12
1. Ability to understand AI problems and techniques of solving problems, agents and their types.	3											
2. Ability to understand knowledge and its representation techniques, logic and algorithms implementation in different kinds of logic.				2		1						
3. Students able to know uncertainty and certainty, factors and theories and appropriate examples.												
4. Student can understand various planning techniques and learning techniques.												
5. He can able to know various advanced topics like expert systems, robotics and swarm intelligent systems.					2							

S No.	Tentative Date	Topics to be covered	Actual Date	Num. of classes	Content Delivery Methods
UNIT-I:Introduction					
1.	27-12-2016	History of AI		1	DM1,DM1
2.	29-12-2016	History of AI		1	DM1

3.	30-12-2016	Intelligent systems		1	DM1
4.	31-12-2016	Structure of agents		1	DM1
5.	2-1-2017	Functions of agents		1	DM1
6.	3-1-2017	Heuristic search techniques		1	DM1
7.	5-1-2017	Heuristic search techniques		1	DM1
8.	6-1-2017	**TUTORIAL-1**		1	DM2
9.	7-1-2017	Best first search		1	DM1,DM1
10.	19-1-2017	Best first search		1	DM1
11.	20-1-2017	Problem reduction		1	DM1
12.	21-1-2017	Problem reduction		1	DM1
13.	21-1-2017	**TUTORIAL-2**		1	DM2
14.	23-1-2017	Constrain satisfaction problem		1	DM1
15.	25-1-2017	Constrain satisfaction problem		1	DM1
16.	27-1-2017	Means ends analysis		1	DM1
17.	28-1-2017	**Test-1**		1	DM4
		UNIT-II:KNOWLEDGE REPRESENTATION			
18	30-1-2017	Approachees of knowledgerepresentation and issues		1	DM1
19	31-1-2017	Knowledge based agents		1	DM1
20	2-2-2017	Knowledge based agents		1	DM1
21	3-2-2017	**TUTORIAL-3**		1	DM2
22	4-2-2017	Propositional logic		1	DM1
23	4-2-2017	Propositional logic		1	DM1
24	6-2-2017	Predicate logic		1	DM1
25	8-2-2017	Predicate logic		1	DM1
26	9-2-2017	Unification		1	DM1
27	10-2-2017	Resolution		1	DM1
28	11-2-2017	Resolution		1	DM1
29	13-2-2017	**TUTORIAL-4**		1	DM2
30	15-2-2017	Weak slot filler structures		1	DM1
31	16-2-2017	Strong slot filler structures		1	DM1
32	17-2-2017	Revision for I st mid examination		1	DM1
33	18-2-2017	**Test& Quiz**		1	DM3,DM4
		20-02-2017 TO 27-02-2015 IST MID EXAMINATIONS			
		UNIT-III:REASONING UNDER UNCERTAINITY			
34	28-2	Logics of non monotonic reasoning		1	DM1
35	2-3-2017	Logic implementation		1	DM1
36	3-3-2017	Probability notation		1	DM1
37	4-3-2017	Bayes theorem		1	DM1
38	4-3-2017	Bayes rules and networks		1	DM1
39	6-3-2017	**TUTORIAL-5**		1	DM2
40	7-3-2017	certainity factors and rules		1	DM1

41	9-3-2017	Rule based systems		1	DM1
42	10-3-2017	Dempster shafer theory		1	DM1
43	11-3-2017	Fuzzy logic		1	DM1
44	13-3-2017	**TUTORIAL-6**		1	DM2
45	14-3-2017	Comparison of various above mentioned methods		1	DM1
46	16-3-2017	**Assignment**		1	DM4
		UNIT-IV:PLANNING AND LEARNING			
47	17-3-2017	Planning with state space search		1	DM1
48	18-3-2017	Conditional planning		1	DM1
49	20-3-2017	Continuous planning		1	DM1
50	21-3-2017	Planning types		1	DM1
51	23-3-2017	Multi agent planning		1	DM1
52	24-3-2017	Types of learning ,inductive learning		1	DM1
53	25-3-2017	**TUTORIAL-7**		1	DM2
54	27-3-2017	Reinforcement learning		1	DM1
55	30-3-2017	Learning decision trees		1	DM1
56	31-3-2017	Neural net learning and genetic learning		1	DM1
57	1-4-2017	**Assignment & Quiz**		1	DM1
		UNIT-V: ADVANCED TOPICS			
58	3-4-2017	Game playing		1	DM1
59	4-4-2017	min max procedure			
60	6-4-2017	Adding alpha-beta cut offs		1	DM1
61	7-4-2017	Expert systems Introduction			
62	8-4-2017	Expert systems, representation, shells		1	DM1
63	10-4-2017	Knowledge acquisition		1	DM1
64	11-4-2017	**TUTORIAL-8**		1	DM2
65	13-4-2017	Robotics hardware		1	DM1
66	15-4-2017	robotic perception			
67	15-4-2017	Planning application domains		1	DM1
68	17-4-2017	Swarm intelligent systems		1	DM1
69	18-4-2017	Ant colony system			
70	20-4-2017	Ant colony Deelopment			
71	21-4-2017	Application and working of ant colony system			
72	22-4-2017	**SLIP TEST**		1	DM4
73	24-4-2017	**Beyond the syllabus**: Advanced swarm intelligence systems		1	DM1
74	25-4-2017	Particle swarm optimization algorithm		1	DM1
75	27-4-2017	PSO development and Applications		1	DM1
76	28-4-2017	REISION		1	DM1
77	29-4-2017	REVISION		1	DM1
78	29-4-2017	REVISION		1	DM1
01-05-2017 to 06-05-2017 II mid examinations					
		Total		78	
Total number of classes required to complete the syllabus					**78**

Total number of classes available as per Schedule	78

NOTE: DELIVERY METHODS :**DM1**: Lecture interspersed with discussions/BB, **DM2:** Tutorial, **DM3:** Lecture with a quiz, **DM4**: Assignment/Test, **DM5**: Demonstration (laboratory, field visit), **DM6:** Presentations/PPT

At the End of the course, students attained the **Course Outcomes:CO1,CO2,CO3,CO4,CO5**& sample proofs are enclosed in Course file.

Signature		
	Name of the Faculty	**HOD**
	G V Suresh	Dr.N.Ravi sankar

	LESSON PLAN	Date:
	Sub Code: L183 **Sub Name: UML DESIGN LAB** **Branch: CSE** **Year:III B.Tech** **Semester : VI (A-Sec)**	**27-12-2016** **To** **06-05-2017**

L183 – UML DESIGN LAB

Lab : 3 Periods/week **Internal Marks : 25** **External Marks: 50**

Credits : 2 **External Examination : 3 Hrs**

The student should take up the following case studies which are mentioned below, and Model it in different views i.e. Use case view, logical view, component view, Deployment view, Database design, forward and Reverse Engineering, and Generation of documentation of the project.

7. Unified Library application
8. Automatic Teller Machine(ATM)
9. Student Admission Procedure
10. Online Book Shopping
11. Hospital Management System
12. Cellular Network

Pre requisite: Object Oriented Programming concepts, Concepts of ER model.

Course Objectives:

To impart in depth knowledge so that the student will

1. Develop a problem statement.

2. Identify Use Cases and develop the Use Case model.

3. Identify the business activities and develop an UML Activity diagram.

4. Identity the conceptual classes and develop a domain model with UML Class diagram.

5. Be using the identified scenarios find the interaction between objects and represent thoseusing UML

Interaction diagrams.

6. Draw the State Chart diagram.

7. Develop architecture diagram with UML package diagram notation.

8. Draw Component and Deployment diagrams.

Course Outcomes (CO's)

After undergoing this laboratory module, the student should be able to:

4. Analyze Software Requirements for the given Software Application.
5. Develop the UML Diagrams to view Software System in Static and Dynamic Aspects.
6. Describe the dynamic behavior and structure of the design.

	Lakireddy Bali Reddy College of Engineering	
	Department of CSE	
	Outcome Based Lesson Plan	
	Academic year : 2016-17	**Course : UML DESIGN LAB**
	Programme : B.Tech	**Section : A**
	Year &Sem : III &II	

S.No	Teaching Learning Process (TLP)	Delivery Methods (DM)	Assessment Methods (AM)
1	Solving Real World Problem	Chalk & Talk	Assignments
2	Explaining Application before Theory	ICT tools	Quiz
3	Solving Problems	Group discussions	Tutorials
4	Designing of Experiments	Industrial visit	Surprise Tests
5	Problems on Environmental, Economics, Health & Safety	Field work	Mid Exams
6	Problems on Professional & Ethics	Case studies	Model Exam
7	Seminar	Mini Projects	QAs
8	Problems using software	Numerical treatment	
9	Self-study	Design / Exercises	

Session No	Topics to be covered (Week wise)	Date		TLP	DM	AM
		Tentative	Actual			
1	Introduction to Rational Software Getting Familiarity with UML Notation	29/12/16		2	9	5,7
2	Automatic Teller Machine(ATM)	05/01/17		8	9	5,7
3	Automatic Teller Machine(ATM)	19/01/17		8	9	5,7
4	Unified Library Application	02/02/17		8	9	5,7
5	Unified Library Application	09/02/17		8	9	5,7
6	Student Admission Procedure	16/02/17		8	9	5,7
7	Student Admission Procedure	23/02/17		8	9	5,7
8	Student Admission Procedure	02/03/17		8	9	5,7

9	Online Book Shopping	09/03/17		8	9	5,7
11	Online Book Shopping	16/03/17		8	9	5,7
12	Hospital Management System	23/03/17		8	9	5,7
13	Hospital Management System	30/03/17		8	9	5,7
14	Cellular Network	06/04/17		8	9	5,7
15	Cellular Network	13/04/17		8	9	5,7
16	Lab Internal Exam	20/04/17		8	9	5,7
17	Revision	27/04/17		8		5,7

ASSESSMENT SUMMARY:

Assessment Task	Weightage (Marks)	**Course Outcomes**				
		CO1	CO2	CO3	CO4	CO5
Assignments, Quiz, Tutorials etc.	05					
Mid Exams	20					
Model Exams	--					
End Exam	50					
Attendance	--					
Total	100					

MAPPING COURSE OUTCOMES WITH PROGRAMME OUTCOMES:

Course Code	Course Outcomes	Program Outcomes												Program Specific Outcomes		
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
L183	CO1				1	3				2	1		2	1		3

	CO2				1	3				2	1		2		1	3
	CO3				1	3				2	1		2	1		3

Signature			
	Name of the Faculty	**Name of Course Coordinator**	**HOD**
	Sk. Johny Basha	D VEERAIAH	Dr. N RAVI SHANKAR

	LESSON PLAN	Date:
	Subject : UML DESIGN **Branch : CSE** **Semester : VI** **Section : A**	**27-12-2016** **To** **06-05-2017**

S415 – UML DESIGN

Lecture : 4 Periods/week	**Internal Marks : 25 Marks**
Tutorial: 1	**External Marks : 75 Marks**
Credits : 4	**External Examination : 3 Hrs**

UNIT - I

Introduction to UML: Importance of modeling, Principles of Modeling, Object Oriented Modeling, Conceptual Model of the UML, Architecture, and Software Development Life Cycle.

UNIT - II

Basic Structural Modeling: Classes, Relationships, common Mechanisms, and diagrams.

Advanced Structural Modeling: Advanced classes, advanced relationships, Interfaces, Types and Roles, Packages.

UNIT - III

Class & Object Diagrams: Terms, concepts, modeling techniques for Class & Object Diagrams.

UNIT - IV

Basic Behavioral Modeling-I: Interactions, Interaction diagrams Use cases, Use case Diagrams, Activity Diagrams

UNIT - V

Advanced Behavioral Modeling: Events and signals, state machines, processes and Threads, time and space, state chart diagrams.

Architectural Modeling: Component, Deployment, Component diagrams and Deployment diagrams.

TEXT BOOK

Grady Booch, James Rumbaugh, Ivar Jacobson: The Unified Modeling Language User Guide, Pearson Education.

REFERENCES

1. Meilir Page-Jones: Fundamentals of Object Oriented Design in UML, Pearson Education.
2. Pascal Roques: Modeling Software Systems Using UML2, WILEY- Dreamtech India Pvt. Ltd.
3. Atul Kahate: Object Oriented Analysis & Design, The McGraw-Hil Companies.
4. Appling UML and Patterns: An introduction to Object – Oriented Analysis and Design and Unified Process, Craig Larman, Pearson Education.

PRE-REQUISITE:

- Basic knowledge of object oriented methods, Software Engineering Concepts.

COURSE EDUCATIONAL OUTCOMES:

- The main objective is the students become familiar with all phases of OOAD.
- Master the main features of the UML.
- Master the main concepts of Object Technologies and how to apply them at work and develop the ability to analyze and solve challenging problem in various domains.
- Learn the Object design Principles and understand how to apply them towards implementation.

COURSE OUTCOMES:

After the completion of the course, students should be able to:

CO-1: Understand concepts of OO analysis & design and its difference from structural design.

CO-2: Understand & apply the Basic structural modeling & Advanced structural modeling concepts.

CO-3: Design class and object diagrams for a given real time application.

CO-4: Understand and Design use case & Interaction diagrams for a given application.

CO-5: Construct State chart diagrams and Implementation diagrams for a given application.

	Lakireddy Bali Reddy College of Engineering	
	Department of CSE	
	Outcome Based Lesson Plan	
	Academic year : 2016-17	**Course : UML DESIGN**
	Programme : B.Tech	**Unit No. : 1 to 5**
	Year & Sem : III & II	**Section : A**

S. No	Teaching Learning Process (TLP)	Delivery Methods (DM)	Assessment Methods (AM)
1	Solving Real World Problem	Chalk & Talk	Assignments
2	Explaining Application before Theory	ICT tools	Quiz
3	Solving Problems	Group discussions	Tutorials
4	Designing of Experiments	Industrial visit	Surprise Tests
5	Problems on Environmental, Economics, Health & Safety	Field work	Mid Exams
6	Problems on Professional & Ethics	Case studies	Model Exam
7	Seminar	Mini Projects	QAs
8	Problems using software	Numerical treatment	
9	Self-study	Design / Exercises	

Detailed Lesson Plan:

S.NO	TOPIC TO BE COVERED	Date		TLP	DM	AM
		Tentative	Actual			
UNIT – I						
1	History of Modeling	27/12/16		2	1	1, 2, 7
2	Why Modeling?	28/12/16		2	1	
3	Importance of Modelling	29/12/16		2	1	
4	Principles of modelling	30/12/16		2	1	
5	Object Oriented modelling	31/12/16		2	1	
6	Conceptual model of the UML – Start	3/1/17		2	1	
7	Building Blocks: Things – Part 1	4/1/17		2,4	1,9	

8	Things – Part 2	5/1/17		2,4	1,9	
9	Relationships with Examples	6/1/17		2,4	1,9	
10	UML Diagrams	7/1/17		2,4	1,9	
11	Rules of UML	10/1/17		2	1	
12	Common Mechanisms in UML	11/1/17		2	1	
13	UML Architecture	12/1/17		2	1	
14	Software Development Life Cycle	17/1/17		2	1	
15	**Tutorial – 1**	18/1/17				3
16	**TEST – 1**	19/1/17				4
UNIT - II						
17	**Basic Behavioral Modeling**	20/1/17		2	1	
18	Classes with Examples	21/1/17		2,4	1,9	1, 2, 7
19	Relationships in Class Diagrams	24/1/17		2,4	1,9	
20	Common Mechanisms of Class Diagram	25/1/17		2	1	
21	Different Class Diagrams	27/1/17		2,4	1,9	
22	**Advanced Structural Modeling**	28/1/17		2	1	
23	Advanced Classes	31/1/17		2	1	
24	Advanced Relationships in Advanced Classes	1/2/17		2,4	1,9	
25	Interfaces	2/2/17		2	1	
26	Types in Advanced Classes	3/2/17		2	1	1, 2, 7
27	Roles in Advanced Classes	4/2/17		2	1	
28	Packages with Examples	7/2/17		2	1	
29	Case Study - 1	8/2/17		1	6	
30	Case Study – 2	9/2/17		1	6	
31	Case Study – 3	10/2/17		1	6	
32	Case Study – 4	14/2/17		1	6	
33	Case Study – 5	15/2/17		1	6	
34	**Tutorial – 2**	16/2/17				3
35	**TEST – 2**	17/2/17				4

36	**REVISION FOR MID – I**	18/2/17		3		7
37	**MID – I Exams**	**21/2/17 – 25/2/17**				5
38						
39						
40						
UNIT – III						
41	Class and Object Diagrams: Basics	28/2/17		2	1	1, 2, 7
42	Terms in Classes	1/3/17		2	1	
43	Concepts of Class Diagram	2/3/17		2	1	
44	Modeling Techniques for Class Diagram	3/3/17		2,4	1,9	
45	Case Study – 1	4/3/17		1	6	
46	Case Study – 2	7/3/17		1	6	
47	Case Study – 3	8/3/17		1	6	
48	Terms in Objects	9/3/17		2	1	
49	Concepts of Object Diagram	10/3/17		2	1	
50	Modeling Techniques for Object Diagram	14/3/17		2,4	1,9	
51	Case Study – 1	15/3/17		1	6	
52	Case Study – 2	16/3/17		1	6	
53	Case Study – 3	17/3/17		1	6	
54	**Tutorial – 3**	18/3/17				3
55	**TEST – 3**	21/3/17				4
UNIT - IV						
56	**Basic Behavioral Modeling - 1**	22/3/17		2	1	1, 2, 7
57	Interactions	23/3/17		2	1	
58	Interaction Diagrams – Part 1	24/3/17		2,4	1,9	
59	Interaction Diagrams – Part 2	25/3/17		2,4	1,9	
60	Use Cases	29/3/17		2	1	
61	Use Case Diagrams	30/3/17		2,4	1,9	
62	Activity, Fork, Join	31/3/17		2	1	

63	Activity Diagram	1/4/17		2,4	1,9	
64	Case Study	4/4/17		1	6	
65	**Tutorial – 4**	5/4/17				3
66	**TEST – 4**	6/4/17				4
UNIT - V						
67	**Advanced Behavioral Modeling:** Events and Signals	7/4/17		2	1	
68	State Machines	11/4/17		2,4	1,9	
69	Processes	12/4/17		2	1	
70	Threads	13/4/17		2	1	
71	Time and Space	15/4/17		2	1	
72	State chart Diagrams	18/4/17		2,4	1,9	1, 2, 7
73	**Architectural Modeling:** Component and Deployment	19/4/17		2	1	
74	Component Diagrams	20/4/17		2,4	1,9	
75	Deployment Diagrams	21/4/17		2,4	1,9	
76	Case Study - 1	22/4/17		1	6	
77	Case Study – 2	25/4/17		1	6	
78	Case Study – 3	26/4/17		1	6	
79	**Tutorial – 5**	27/4/17				3
80	**TEST – 5**	28/4/17				4
81	**REVISION FOR MID - II**	29/4/17		3		7
82	**MID – II Exams**	**2/5/17 – 6/5/17**				5
83						
84						
85						
86						

RESOURCES USED:

TEXT BOOK

- Grady Booch, James Rumbaugh, Ivar Jacobson: The Unified Modeling Language User Guide, Pearson Education.
- Meilir Page-Jones: Fundamentals of Object Oriented Design in UML, Pearson Education.
- Pascal Roques: Modeling Software Systems Using UML2, WILEY- Dreamtech India Pvt. Ltd.
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ASSESSMENT SUMMARY:

Assessment Task	Weightage (Marks)	**Course Outcomes**				
		CO1	CO2	CO3	CO4	CO5
Assignments, Quiz, Tutorials etc.	05					
Mid Exams	20					
Model Exams	--					
End Exam	75					
Attendance	--					
Total	100					

MAPPING COURSE OUTCOMES WITH PROGRAMME OUTCOMES:

Course Code	CO	Programme Outcomes											
		1	2	3	4	5	6	7	8	9	10	11	12
S253	I		L										
	II			L									

	III			M	L	S							
	IV			M	L	S							
	V			M	L	S							

Course Code	CO	Programme Specific Outcomes					
		1	2	3	4	5	6
S253	I	M			S		
	II	M			S		
	III				S		
	IV				S		
	V				S		

Name	Faculty	Course Coordinator	Head of the Department
	Sk. Johny Basha	D. Veeraiah	Dr. N. Ravi Shankar
Signature			