	<b>LESSON PLAN</b>	<b>Date:</b> 01/12/2016
	<b>Subject Name : COMPUTER GRAPHICS</b> <b>Branch: CSE                      Semester &amp; Section: IV &amp; B</b>	<b>To 30/03/2017</b>

### S167 – COMPUTER GRAPHICS

<b>Lecture</b>	<b>: 5 Periods/week</b>	<b>Internal Marks</b>	<b>: 25</b>
<b>Tutorial</b>	<b>: 1</b>	<b>External Marks</b>	<b>: 75</b>
<b>Credits</b>	<b>: 4</b>	<b>External Examination</b>	<b>: 3 Hrs</b>

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#### UNIT - I

**Introduction:** Usage of Graphics and their applications, Presentation Graphics-Computer Aided Design-Computer Art- Entertainment- Education and Training-Visualization- Image Processing- Graphical User Interfaces. **Over view of Graphics systems:** Video Display Devices- Raster Scan systems-random scan systems-Graphics monitors and workstations, Input devices.

#### UNIT - II

**Output primitives:** Points and Lines-Line Drawing Algorithms- Loading the Frame buffer- Line function- Circle- Generating Algorithms- Ellipse Generating Algorithms-Other Curves- Parallel Curve Algorithms- Curve Functions-Pixel Addressing- Filled Area Primitives-Filled Area Functions.

#### UNIT - III

**Two Dimensional Geometric Transformations:** Basic Transformations- Matrix Representations - Homogeneous Coordinates - Composite Transformations - Other Transformations-Transformations between Coordinate Systems - Affine Transformations Transformation Functions- Raster methods for Transformation.

#### UNIT - IV

**Two Dimensional Viewing:** The viewing Pipeline-Viewing Coordinate Reference Frame Window-to-Viewport Coordinate Transformation-Two Dimensional Viewing Functions Clipping Operations-Point Clipping-Line Clipping-Polygon Clipping.

## UNIT - V

**Three Dimensional Concepts and Object representations:** 3D display methods 3D Graphics-Polygon Surfaces- Curved Lines and Surfaces- Quadratic Surfaces, **Three Dimensional Geometric and Modeling Transformations:** Translation-Rotation-scaling-Other Transformations-Composite Transformations-3D Transformation Functions-Modeling and Coordinate Transformations.

## TEXT BOOK

1. Donald Hearn & M. Pauline Baker, “Computer Graphics C Version”, Pearson Education, New Delhi, 2004 (Chapters 1 to 12 except 10-9 to 10-22 of the Text book)

## REFERENCES

1. David F. Rogers; “Procedural Elements for Computer Graphics” TMH Publications.
2. J. D. Foley, S. K Feiner, A Van Dam F. H John; “Computer Graphics: Principles & Practice in C”; Pearson.
3. Francis S Hill Jr; “Computer Graphics using Open GL”; Pearson Education, 2004.

## Course Educational Objectives (CEO's):

- Students will have an appreciation of the history and evolution of computer graphics, both hardware and software.
- Students will have an understanding of 2D graphics and algorithms which includes line drawing, polygon filling, clipping, and transformations.
- Students will understand the concepts & techniques used in 3D computer graphics, including viewing transformations, hierarchical modeling, color, lighting and texture mapping.

## Course Outcomes (CO's)

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

**CO1** : Understand the various applications of graphics and interactive input and output devices.


**CO2** : Design and Implement the algorithms to draw the line, circle and ellipse.

**CO3** : Apply different geometrical transformations such as translation, scaling, rotation, reflection and shear in 2D

**CO4** : Understand 2D Coordinate transformation, viewing functions and various clipping algorithms

**CO5** : Understand the various display methods , geometrical & coordinate transformations in 3D.

**Prerequisite:** Knowledge of coordinate system in mathematics.

	<b>Lakireddy Bali Reddy College of Engineering</b>	
	<b>Department of Computer Science &amp; Engineering</b>	
	<b>Outcome based lesson plan</b>	
	Academic year: 2016-17	Course: B.Tech
	Subject: Computer Graphics	Unit No: 1 to 5
	Year & Sem: II & 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			
<b>UNIT –I: INTRODUCTION</b>						
1	Introduction	1-12-16		2	1	1,2,3,5,7

2	CAD, Presentation Graphics	2-12-16		2	1
3	Computer Art, Entertainment	3-12-16		2	1
4	Education & Training, Image processing	5-12-16		9	1,9
5	Visualization, GUI	6-12-16		2	1
6	<b>Assignment \ Tutorial-1</b>	8-12-16		2	
7	CRT, Raster Scan Display	9-12-16		2	1
8	Random scan Display, DVST	10-12-16		2	1
9	Flat panel displays, refresh CRT	12-12-16		2	1
10	Raster scan systems 2	15-12-16		2	1
11	Random scan system	16-12-16		2	1
12	Workstations, Graphics Monitors	17-12-16		9	1,9
13	Input Devices	19-12-16		2	

**UNIT –II: OUTPUT PRIMITIVES**

14	Points and lines	20-12-16		2	1	1,2,3,5,7
15	DDA line drawing algorithm	22-12-16		2	1,9	
16	DDA-Example	23-12-16		3	1,9	
17	Bresenham Algorithm for slope $0 < m < 1$	24-12-16		2	1,9	
18	Bresenham Algorithm for slope $0 < m < 1$	26-12-16		2	1,9	
19	Bresenham Example	27-12-16		3	1	
20	Parallel line drawing algorithm	29-12-16		2	1,9	
21	<b>Assignment \ Tutorial-2</b>	30-12-16		9	1,9	
22	Mid point circle algorithm	2-1-17		2	1,9	
23	Example – Mid Point Circle	3-1-17		3	1	
24	Ellipse Drawing Algorithm	5-1-17		2	1,9	1,2,3,5,7
25	Ellipse Drawing Algorithm	6-1-17		2	1,9	
26	Example - Ellipse Drawing Algorithm	7-1-17		3	1	
27	Loading the Frame Buffer, Line Functions, Parallel Curve algorithms	16-1-17		2	1	
29	Other Curves, Pixel Addressing, Filled Area Primitives	17-1-17		2	1	

30	Scan Line Polygon Fill Algorithm	19-1-17		2	1	
31	Inside-Outside Test, Boundary Fill	20-1-17		2	1	
32	Flood Fill Algorithm and Filled Area Functions	21-1-17		2	1	
33	MID-I	23-01-16				
37		24-01-16				
38		25-01-16				
<b>UNIT –III: Two Dimensional Geometric Transformations</b>						
39	Basic Transformations (translation, rotation ,scaling)	27-1-17		2	1	1,2,3,5,7
40	Matrix Representations	28-1-17		2	1	
41	Homogeneous Coordinates	30-1-17		2	1	
42	Composite Transformations	31-1-17		2	1	
43	Composite Transformations	2-2-17		9	1,9	
44	General pivot point rotation, Fixed point scaling	3-2-17		2	1	
45	Other Transformations (reflection, shear	4-2-17			1	
46	Transformations between Coordinate Systems	6-2-17		2	1	
47	Affine Transformations	7-2-17		2	1	
48	Transformation Functions	9-2-17		2	1	
49	Raster methods for Transformation	10-2-17		2	1	
50	<b>Assignment \ Tutorial-3</b>	13-2-17		9	1,9	
<b>UNIT –IV: Two Dimensional Viewing</b>						
51	The viewing Pipeline Viewing Coordinate Reference Frame	14-2-17		2	1	1,2,3,5,7
52	Window-to-Viewport Coordinate Transformation, Two Dimensional Viewing Functions	16-2-17		2	1	

53	Point Clipping, Line Clipping introduction	17-2-17		2	1
54	Cohen-sutherland line clipping	18-2-17		2	1
55	Cyrus-Beck Line Clipping	20-2-17		2	1
56	Liang –Barsky Line Clipping	21-2-17		2	1
57	Sutherland-Hodgeman polygon clipping	23-2-17		9	1,9
58	Sutherland-hodgmen polygon clipping	24-2-17		2	1
59	Weiler- Atherton Polygon Clipping	25-2-17		2	1
60	<b>Assignment \ Tutorial-4</b>	27-2-17		9	1,9

**UNIT –V: Three Dimensional Concepts and Object Representations**

61	3D display methods (parallel ,perspective projections)	28-2-17		2	1	1,2,3,5,7
62	Depth Queuing, visible line and surface, identification	2-3-17		2	1	
63	Surface rendering ,Exploded and cutaway views, stereoscopic views	3-3-17		2	1	
64	Polygon Surfaces, Polygon Tables	4-3-17		2	1	
65	Curved Lines and Surfaces, Quadratic Surfaces	6-3-17		2	1	
66	Translation	7-3-17		2	1	
67	Rotation	9-3-17		2	1	
68	scaling	10-3-17		2	1	
69	Composite transformations	13-3-17		9	1,9	
70	Coordinate Axes Rotation, General 3DRotation	14-3-17		2	1	
71	Other Transformations (reflection, shear)	16-3-17		2	1	
72	3D Transformation Functions, Modeling& Coordinate Transformations	17-3-17		2	1	

73	Assignment \ Tutorial-5	18-3-17		9	1,9	
74	Revision	20-3-17		9	1	7
75	Revision	21-3-17		9	1	
76	Revision	23-3-17		9	1	
77	Revision	24-3-17		9	1	
78	Revision	25-3-17		9	1	
79	Revision	27-3-17		9	1	
79	Revision	28-3-17		9	1	
79	Revision	30-3-17		9	1	5
79	MID-II	31-3-17				
83		1-4-17				
84		3-4-17				

#### Resources Used:

#### TEXT BOOK

1. Donald Hearn & M. Pauline Baker, "Computer Graphics C Version", Pearson Education, New Delhi, 2004 (Chapters 1 to 12 except 10-9 to 10-22 of the Text book)

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#### Assessment Summary:

Assessment Task	Weightage (Marks)	Course Outcomes				
		CO1	CO2	CO3	CO4	CO5
Assignments	5					
Quizes						
Tutorials						
Surprise Tests	--					
Mid Exams	20					
Model Exams	--					
End Exam	75					
Attendance	--					
Total	100					

### Mapping Course Outcomes with Programme Outcomes:

Course Code	Unit	Course Outcomes					Programme Outcomes												PSO's					
		1	2	3	4	5	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6
S167	I	x					M		L												S			
	II		x				M	L													S			
	III			x			M	L													S			
	IV				x		M	L													S			
	V					x	M	L													S			

	Instructor	Course Coordinator	Module Coordinator	HOD
Name	K.SUNDEEP SARADHI			Dr. N. Ravi Shankar
Sign with Date				

	<b>LESSON PLAN</b>	<b>Date:</b>
	<b>Subject Name :COMPTER GRAPHICS</b> <b>Branch: CSESemester&amp; Section:IV&amp;A</b>	<b>01/12/2016</b> <b>To 30/03/2017</b>

### S167 – COMPUTER GRAPHICS

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<b>Tutorial</b>	<b>:1</b>	<b>External Marks</b>	<b>: 75</b>
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**UNIT - I**

**Introduction:** Usage of Graphics and their applications, Presentation Graphics-Computer Aided Design-Computer Art- Entertainment- Education and Training-Visualization- Image Processing- Graphical User Interfaces. **Over view of Graphics systems:** Video Display Devices- Raster Scan systems-random scan systems-Graphics monitors and workstations, Input devices.



## **UNIT - II**

**Output primitives:** Points and Lines-Line Drawing Algorithms- Loading the Frame buffer- Line function- Circle- Generating Algorithms- Ellipse Generating Algorithms-Other Curves- Parallel Curve Algorithms- Curve Functions-Pixel Addressing- Filled Area Primitives-Filled Area Functions.

## **UNIT - III**

**Two Dimensional Geometric Transformations:** Basic Transformations- Matrix Representations - Homogeneous Coordinates - Composite Transformations - Other Transformations-Transformations between Coordinate Systems - Affine Transformations Transformation Functions- Raster methods for Transformation.

## **UNIT - IV**

**Two Dimensional Viewing:** The viewing Pipeline-Viewing Coordinate Reference Frame Window-to-Viewport Coordinate Transformation-Two Dimensional Viewing Functions Clipping Operations-Point Clipping-Line Clipping-Polygon Clipping.

## **UNIT - V**

**Three Dimensional Concepts and Object representations:** 3D display methods3DGraphics-Polygon Surfaces- Curved Lines and Surfaces- Quadratic Surfaces, **Three Dimensional Geometric and Modeling Transformations:** Translation-Rotation-scaling-Other Transformations-Composite Transformations-3D Transformation Functions-Modeling and Coordinate Transformations.

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**Prerequisite:** Knowledge of coordinate system in mathematics.

	<b>Lakireddy Bali Reddy College of Engineering</b>	
	<b>Department of Computer Science &amp; Engineering</b>	
	<b>Outcome based lesson plan</b>	
	Academic year: 2016-17	Course: B.Tech
	Subject: Computer Graphics	Unit No: 1 to 5
Year & Sem: II & 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
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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			
<b>UNIT –I: INTRODUCTION</b>						
1	Introduction	1-12-16		2	1	1,2,3,5,7
2	CAD, Presentation Graphics	2-12-16		2	1	
3	Computer Art, Entertainment	3-12-16		2	1	
4	Education & Training , Image processing	6-12-16		9	1,9	
5	Visualization, GUI	7-12-16		2	1	
6	<b>Assignment \ Tutorial-1</b>	8-12-16		2		
7	CRT, Raster Scan Display	9-12-16		2	1	
8	Random scan Display, DVST	1-12-16		2	1	
9	Flat panel displays, refresh CRT	13-12-16		2	1	
10	Raster scan systems 2	14-12-16		2	1	
11	Random scan system	15-12-16		2	1	
12	Workstations, Graphics Monitors	16-12-16		9	1,9	
13	Input Devices	17-12-16		2		
<b>UNIT –II: OUTPUT PRIMITIVES</b>						
14	Points and lines	20-12-16		2	1	1,2,3,5,7
15	DDA line drawing algorithm	21-12-16		2	1,9	
16	DDA-Example	22-12-16		3	1,9	

17	Bresenham Algorithm for slope $0 < m < 1$	23-12-16		2	1,9	
18	Bresenham Algorithm for slope $0 < m < 1$	24-12-16		2	1,9	
19	Bresenham Example	27-12-16		3	1	
20	Parallel line drawing algorithm	28-12-16		2	1,9	
21	<b>Assignment \ Tutorial-2</b>	29-12-16		9	1,9	
22	Mid point circle algorithm	30-12-16		2	1,9	
23	Example – Mid Point Circle	31-12-16		3	1	
24	Ellipse Drawing Algorithm	03-1-17		2	1,9	1,2,3,5,7
25	Ellipse Drawing Algorithm	04-1-17		2	1,9	
26	Example - Ellipse Drawing Algorithm	05-1-17		3	1	
27	Loading the Frame Buffer, Line Functions, Parallel Curve algorithms	06-1-17		2	1	
29	Other Curves, Pixel Addressing, Filled Area Primitives	07-1-17		2	1	
30	Scan Line Polygon Fill Algorithm	17-1-17		2	1	
31	Inside-Outside Test, Boundary Fill	18-1-17		2	1	
32	Flood Fill Algorithm and Filled Area Functions	19-1-17		2	1	
33	MID-I	23-01-16				
37		24-01-16				
38		25-01-16				
<b>UNIT –III: Two Dimensional Geometric Transformations</b>						
39	Basic Transformations (translation, rotation ,scaling)	26-1-17		2	1	1,2,3,5,7
40	Matrix Representations	27-1-17		2	1	
41	Homogeneous Coordinates	28-1-17		2	1	
42	Composite Transformations	31-1-17		2	1	
43	Composite Transformations	01-2-17		9	1,9	
44	General pivot point rotation, Fixed point scaling	02-2-17		2	1	

45	Other Transformations (reflection, shear	03-2-17			1	
46	Transformations between Coordinate Systems	04-2-17		2	1	
47	Affine Transformations	07-2-17		2	1	
48	Transformation Functions	08-2-17		2	1	
49	Raster methods for Transformation	09-2-17		2	1	
50	<b>Assignment \ Tutorial-3</b>	10-2-17		9	1,9	
<b>UNIT –IV: Two Dimensional Viewing</b>						
51	The viewing Pipeline Viewing Coordinate Reference Frame	11-2-17		2	1	1,2,3,5,7
52	Window-to-Viewport Coordinate Transformation, Two Dimensional Viewing Functions	14-2-17		2	1	
53	Point Clipping, Line Clipping introduction	15-2-17		2	1	
54	Cohen-sutherland line clipping	16-2-17		2	1	
55	Cyrus-Beck Line Clipping	17-2-17		2	1	
56	Liang –Barsky Line Clipping	18-2-17		2	1	
57	Sutherland-Hodgeman polygon clipping	21-2-17		9	1,9	
58	Sutherland-hodgmen polygon clipping	22-2-17		2	1	
59	Weiler- Atherton Polygon Clipping	23-2-17		2	1	
60	<b>Assignment \ Tutorial-4</b>	24-2-17		9	1,9	
<b>UNIT –V: Three Dimensional Concepts and Object Representations</b>						
61	3D display methods (parallel ,perspective projections)	25-2-17		2	1	1,2,3,5,7
62	Depth Queuing, visible line and surface, identification	28-2-17		2	1	
63	Surface rendering ,Exploded and cutaway views, stereoscopic views	01-3-17		2	1	

64	Polygon Surfaces, Polygon Tables	02-3-17		2	1	
65	Curved Lines and Surfaces, Quadratic Surfaces	03-3-17		2	1	
66	Translation	04-3-17		2	1	
67	Rotation	07-3-17		2	1	
68	scaling	08-3-17		2	1	
69	Composite transformations	09-3-17		9	1,9	
70	Coordinate Axes Rotation, General 3DRotation	10-3-17		2	1	
71	Other Transformations (reflection, shear)	11-3-17		2	1	
72	3D Transformation Functions, Modeling& Coordinate Transformations	14-3-17		2	1	
73	Assignment \ Tutorial-5	18-3-17		9	1,9	
74	Revision	20-3-17		9	1	7
75	Revision	21-3-17		9	1	
76	Revision	23-3-17		9	1	
77	Revision	24-3-17		9	1	
78	Revision	25-3-17		9	1	
79	Revision	27-3-17		9	1	
79	Revision	28-3-17		9	1	
79	Revision	30-3-17		9	1	5
79	MID-II	31-3-17				
83		1-4-17				
84		3-4-17				

**Resources Used:**

**TEXT BOOK**

2. Donald Hearn & M. Pauline Baker, "Computer Graphics C Version", Pearson Education, New Delhi, 2004 (Chapters 1 to 12 except 10-9 to 10-22 of the Text book)

## REFERENCES

1. David F. Rogers; "Procedural Elements for Computer Graphics" TMH Publications.
2. J. D. Foley, S. K Feiner, A Van Dam F. H John; "Computer Graphics: Principles & Practice in C"; Pearson.
3. Francis S Hill Jr; "Computer Graphics using Open GL"; Pearson Education, 2004.

### Assessment Summary:

Assessment Task	Weightage (Marks)	Course Outcomes				
		CO1	CO2	CO3	CO4	CO5
Assignments	5					
Quizes						
Tutorials						
Surprise Tests	--					
Mid Exams	20					
Model Exams	--					
End Exam	75					
Attendance	--					
Total	100					

### Mapping Course Outcomes with Programme Outcomes:

Course Code	Unit	Course Outcomes					Programme Outcomes												PSO's																						
		1	2	3	4	5	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6																	
S167	I	x					M		L																																
	II		x				M	L																																	
	III			x			M	L																																	
	IV				x		M	L																																	
	V					x	M	L																																	

	Instructor	Course Coordinator	Module Coordinator	HOD
Name	T.V.NAGARAJU			Dr. N. Ravi Shankar
Sign with Date				



## LESSON PLAN

Sub. Name : **JAVA PROGRAMMING**

Branch: CSE

Semester & Sections: IV & A

Date

01/12/2016

To

30/03/2017

### S284 - JAVA PROGRAMMING

<b>Lecture</b>	<b>: 4 Periods/week</b>	<b>Internal Marks</b>	<b>: 25</b>
<b>Tutorial</b>	<b>: 1</b>	<b>External Marks</b>	<b>: 75</b>
<b>Credits</b>	<b>: 3</b>	<b>External Examinations</b>	<b>: 3</b>

**Hrs**

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#### UNIT - I

**Java Language:** History of Java, The Byte code, Java Buzzwords, arrays, type conversion and casting, simple java program,

**Introducing classes:** class fundamentals, declaring objects, access control, constructors, methods, garbage collection, Simple example programs of String and StringBuffer classes, Wrapper classes..

#### UNIT - II

**Packages and Interfaces:** Defining a package, Accessing a Package, Understanding CLASSPATH, importing packages, exploring java.util.package (StringTokenizer, date classes)

**Interfaces:** Defining an interface, implementing interface, applying interfaces, variables in interface and extending interfaces and abstract classes. Differences between classes and interfaces, object serialization

**Exception handling:** Exception handling fundamentals, exception types, usage of try& catch, throw, throws and finally, java's built in exceptions, creating own exception sub classes

#### UNIT - III

**Multithreading** -. Differences between multi threading and multitasking, java thread model, creating thread, multiple threads, and synchronizing threads.



**Applet Class:** Concepts of Applets, differences between applets and applications, applet architecture, skeleton, creating applets, passing parameters to applets, working with graphics class.

#### **UNIT – IV**

**Event Handling:** Events handling mechanisms, Events, Event sources, Event classes, Event Listeners interfaces, Delegation event model, handling mouse and keyboard events, Adapter classes, inner classes.

**AWT controls:** label, button, scrollbars, text components, check box, check box groups, choices controls, lists, scrollbar, text field, layout managers – border, grid, flow, card, Containers.

#### **UNIT-V**

**JDBC:** Introduction, Types of Drivers, Procedure to establish a connection between java applications and database, types of statements, Result set types.

**Networking:** basics, address, ports, sockets.

#### **TEXT BOOK**

Herbert schildt, Java: the complete reference, TMH Publications,5th edition.

#### **REFERENCES**

1. E. Balaguruswamy, 'Programming with JAVA', TMH Publications, 2nd Edition.
2. Patrick Niemeyer & Jonathan Knudsen, Learning Java, O'Reilly P.
3. David Flanagan, Java – In a nutshell – A desktop quick reference, O'REILLY
4. Java Examples In a nutshell – A Tutorial companion to java in a nutshell (O'REILLY)
5. N.B.Venkateswarlu, E.V.Prasad, OOP through java, S chand 2010.

**Prerequisite:** The basic knowledge of Object oriented programming methodology and Graphical User Interface components.

#### **Course Educational Objectives:**

To make students enable to

- Concentrates on the methodological and technical aspects of software design and programming based on OOP.
- Acquire the basic knowledge and skills necessary to implement object-oriented programming techniques in software development through JAVA.
- Know about the importance of GUI based applications and the development of those applications through JAVA.
- Get sufficient knowledge to enter the job market related to Web development.

## Course Outcomes:

After completion of this course student should be able to,


CO1: Understand & learn the history, Buzz words and the basic constructs of Java as per OOP concepts.

CO2: Understand the importance of Packages, Interfaces, Exception handling and have the ability to implement them as per real time scenarios.

CO3: Understand and analyze how Applet class & Multithreading are implemented in Java.

CO4: Analyze the importance of GUI, Event Handling and Implement GUI based applications using AWT.

CO5: Learn the basic concepts of JDBC and networking and to develop applications on Database Connectivity.

	<b>Lakireddy Bali Reddy College of Engineering</b>	
	<b>Department of CSE</b>	
	<b>Outcome based lesson plan</b>	
	Academic year: 2016-17	Course: Java Programming
	Programme: B.Tech	Unit No: 1 to 5
	Year & Sem: II & II (IV sem)	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			
<b>UNIT-I: Java Language &amp; Introducing classes</b>						
1	History of Java	01/12/2016		2	1	1,3,5,7
2	The Byte code, Java Buzzwords	02/12/2016		2	1	
3	Arrays: 1-D and 2-D Arrays	03/12/2016		2	1	
4	Multidimensional Arrays with Example Programs	05/12/2016		2	1	
5	Type conversion and casting	07/12/2016		2	1	
6	Simple java programs	08/12/2016		2	1	
7	Class fundamentals, declaring objects	09/12/2016		2	1,2	
8	Access control	10/12/2016		2	1	
9	Constructors, Constructor Overloading	12/12/2016		2	1	
10	Methods, Method Overloading	14/12/2016		2	1,9	
11	Introduction to garbage collection	15/12/2016		2	1,9	
12	String class and it's methods	16/12/2016		2	1,9	
13	StringBuffer class and it's methods	17/12/2016		2	1,9	
14	Example programs on String and StringBuffer class	19/12/2016		2	1,9	
15	Wrapper classes and it's basics	21/12/2016		2	1	
16	Methods in Wrapper classes	22/12/2016		2	1	
17	<b>Tutorial – I</b>	23/12/2016		4	1,9	
<b>UNIT –II: Packages and Interfaces, Exception handling</b>						
18	Defining a package, Accessing a package	24/12/2016		2	1,2,9	
19	Understanding the CLASSPATH	26/12/2016		2	1,9	
20	Importing packages	28/12/2016		2	1,9	

21	Exploring java.util.package: StringTokenizer class	29/12/2016		2	1,9	1,3,5,7
22	Date class	30/12/2016		2	1	
23	Defining an interface, applying interfaces	31/12/2016		2	1	
24	Variables in interfaces and extending interfaces	02/01/2017		2	1,9	
25	Abstract classes, Differences between interfaces and classes	04/01/2017		2	1,9	
26	Object serialization	05/01/2017		2	1,9	
27	Exception handling fundamentals	06/01/2017		2	1,9	
28	Exception types and examples	07/01/2017		2	1,9	
29	Usage of try, catch, Throw & throws keywords	16/01/2017		2	1,9	
30	Finally keyword and example programs	18/01/2017		2	1,9	
31	Java's built in exceptions	19/01/2017		2	1,9	
32	Creating own exception sub classes	20/01/2017		2	1	
33	<b>Tutorial – II</b>	21/01/2017		4	1,9	
34	MID EXAMS	23/01/2017				
35		24/01/2017				
36		25/01/2017				
<b>UNIT –III: Multithreading, Applet class</b>						
37	Differences between multi threading and multitasking	27/01/2017		2	1	1,3,5,7
38	Java thread model	28/01/2017		2	1	
39	Creating thread	30/01/2017		2	1,9	
40	Multiple threads	01/02/2017		2	1,9	
41	Synchronizing threads	02/02/2017		2	1,9	
42	Concepts of Applets	03/02/2017		2	1,9	
43	<b>Tutorial – III</b>	04/02/2017		2	1,9	
44	Differences between applets and applications	06/02/2017		2	1,9	
45	Applet architecture, skeleton	08/02/2017		2	1,9	

46	Creating applets, passing parameters to applets	09/02/2017		2	1,9	
47	Working with graphics class	10/02/2017		2	1,9	
48	<b>Tutorial – IV</b>	11/02/2017		4	1,9	
<b>UNIT –IV: Event Handling, AWT controls</b>						
49	Events handling mechanisms	13/02/2017		2	1,9	1,3,5,7
50	Events, Event sources	15/02/2017		2	1,9	
51	Event classes	16/02/2017		2	1,9	
52	Event Listeners interfaces	17/02/2017		2	1,9	
53	Delegation event model	18/02/2017		2	1,9	
54	Handling mouse events	20/02/2017		2	1,9	
55	Handling keyboard events	22/02/2017		2	1,9	
56	Adapter classes, inner classes.	23/02/2017		2	1,9	
57	label, button	25/02/2017		2	1,9	1,3,5,7
58	Example program using labels and buttons	27/02/2017		2	1,9	
59	Scrollbars, text components	01/03/2017		2	1,9	
60	Example program using scrollbars and text components	02/03/2017		2	1,9	
61	Check box, check box groups	03/03/2017		2	1,9	
62	Choices controls, lists	04/03/2017		2	1,9	
63	Scrollbar, text field	06/03/2017				
64	layout managers – border, grid	08/03/2017		2	1,9	
65	Flow, card, Containers	09/03/2017		2	1,9	
66	Example program using components and different layout managers	10/03/2017		2	1,9	
67	<b>Tutorial –IV</b>	11/03/2017		4	1,9	
<b>UNIT-V: JDBC, Networking</b>						
68	JDBC Introduction	13/03/2017		2	1	1,3,5,7
69	Types of Drivers	15/03/2017		2	1	
70	Procedure to establish a connection between java applications and database	16/03/2017		2	1	

71	Types of statements	17/03/2017		2	1
72	Result set types	18/03/2017		2	1
73	Result set types	20/03/2017		2	1
74	Networking basics	22/03/2017		2	
75	Network Address	23/03/2017		2	1
76	Network ports	24/03/2017		2	1
77	Sockets	25/03/2017		2	1
78	Example programs using networking	27/03/2017		2	1,9
79	<b>Tutorial – VI</b>	30/03/2017		4	1,9
80	MID-II EXAMS				
81					
82					

## Resources Used:

### TEXT BOOKS

1. Herbert schildt, Java: the complete reference, TMH Publications,5th edition.

### REFERENCES

1. E. Balaguruswamy, 'Programming with JAVA', TMH Publications, 2nd Edition.
2. Patrick Niemeyer & Jonathan Knudsen, Learning Java, O'Reilly P.
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5. N.B.Venkateswarlu, E.V.Prasad, OOP through java, S chand 2010.

### Assessment Summary:


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

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

**Mapping Course Outcomes with Programme Outcomes:**

Course Code	Unit	Course Outcomes					Programme Outcomes												PSO's						
		1	2	3	4	5	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	
S284	I	x																	S		L				
	II		x								L								S						
	III			x			L												S					M	
	IV				x				M										S						
	V					x			L										S	M				M	

	Instructor	Course Coordinator	Module Coordinator	HOD
Name	A.S.R.C.Murthy			Dr. N. Ravi Shankar
Sign with Date				

	<b>LESSON PLAN</b>	<b>Date</b>
	<b>Sub. Name : JAVA PROGRAMMING</b> <b>Branch: CSE</b> <span style="margin-left: 150px;"><b>Semester &amp; Sections: IV &amp; B</b></span>	<b>01/12/2016</b>  <b>To</b>  <b>30/03/2017</b>

**S284 - JAVA PROGRAMMING**

<b>Lecture</b>	<b>: 4 Periods/week</b>	<b>Internal Marks</b>	<b>: 25</b>
<b>Tutorial</b>	<b>: 1</b>	<b>External Marks</b>	<b>: 75</b>
<b>Credits</b>	<b>: 3</b>	<b>External Examinations</b>	<b>: 3</b>

**Hrs**

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**UNIT - I**

**Java Language:** History of Java, The Byte code, Java Buzzwords, arrays, type conversion and casting, simple java program,

**Introducing classes:** class fundamentals, declaring objects, access control, constructors, methods, garbage collection, Simple example programs of String and StringBuffer classes, Wrapper classes..

**UNIT - II**

**Packages and Interfaces:** Defining a package, Accessing a Package, Understanding CLASSPATH, importing packages, exploring java.util.package (StringTokenizer, date classes)

**Interfaces:** Defining an interface, implementing interface, applying interfaces, variables in interface and extending interfaces and abstract classes. Differences between classes and interfaces, object serialization

**Exception handling:** Exception handling fundamentals, exception types, usage of try& catch, throw, throws and finally, java’s built in exceptions, creating own exception sub classes

**UNIT - III**

**Multithreading** -. Differences between multi threading and multitasking, java thread model, creating thread, multiple threads, and synchronizing threads.



**Applet Class:** Concepts of Applets, differences between applets and applications, applet architecture, skeleton, creating applets, passing parameters to applets, working with graphics class.

#### **UNIT – IV**

**Event Handling:** Events handling mechanisms, Events, Event sources, Event classes, Event Listeners interfaces, Delegation event model, handling mouse and keyboard events, Adapter classes, inner classes.

**AWT controls:** label, button, scrollbars, text components, check box, check box groups, choices controls, lists, scrollbar, text field, layout managers – border, grid, flow, card, Containers.

#### **UNIT-V**

**JDBC:** Introduction, Types of Drivers, Procedure to establish a connection between java applications and database, types of statements, Result set types.

**Networking:** basics, address, ports, sockets.

#### **TEXT BOOK**

Herbert schildt, Java: the complete reference, TMH Publications,5th edition.

#### **REFERENCES**

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**Prerequisite:** The basic knowledge of Object oriented programming methodology and Graphical User Interface components.

#### **Course Educational Objectives:**

To make students enable to

- Concentrates on the methodological and technical aspects of software design and programming based on OOP.
- Acquire the basic knowledge and skills necessary to implement object-oriented programming techniques in software development through JAVA.
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CO4: Analyze the importance of GUI, Event Handling and Implement GUI based applications using AWT.

CO5: Learn the basic concepts of JDBC and networking and to develop applications on Database Connectivity.

	<b>Lakireddy Bali Reddy College of Engineering</b>	
	<b>Department of CSE</b>	
	<b>Outcome based lesson plan</b>	
	Academic year: 2016-17	Course: Java Programming
	Programme: B.Tech	Unit No: 1 to 5
	Year & Sem: II & II (IV sem)	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			
<b>UNIT-I: Java Language &amp; Introducing classes</b>						
1	History of Java	01/12/2016		2	1	1,3,5,7
2	The Byte code, Java Buzzwords	02/12/2016		2	1	
3	Arrays: 1-D and 2-D Arrays	03/12/2016		2	1	
4	Multidimensional Arrays with Example Programs	05/12/2016		2	1	
5	Type conversion and casting	07/12/2016		2	1	
6	Simple java programs	08/12/2016		2	1	
7	Class fundamentals, declaring objects	09/12/2016		2	1,2	
8	Access control	10/12/2016		2	1	
9	Constructors, Constructor Overloading	12/12/2016		2	1	
10	Methods, Method Overloading	14/12/2016		2	1,9	
11	Introduction to garbage collection	15/12/2016		2	1,9	
12	String class and it's methods	16/12/2016		2	1,9	
13	StringBuffer class and it's methods	17/12/2016		2	1,9	
14	Example programs on String and StringBuffer class	19/12/2016		2	1,9	
15	Wrapper classes and it's basics	21/12/2016		2	1	
16	Methods in Wrapper classes	22/12/2016		2	1	
17	<b>Tutorial – I</b>	23/12/2016		4	1,9	
<b>UNIT –II: Packages and Interfaces, Exception handling</b>						
18	Defining a package, Accessing a package	24/12/2016		2	1,2,9	
19	Understanding the CLASSPATH	26/12/2016		2	1,9	
20	Importing packages	28/12/2016		2	1,9	
21	Exploring java.util.package: StringTokenizer class	29/12/2016		2	1,9	
22	Date class	30/12/2016		2	1	

23	Defining an interface, applying interfaces	31/12/2016		2	1	1,3,5,7
24	Variables in interfaces and extending interfaces	02/01/2017		2	1,9	
25	Abstract classes, Differences between interfaces and classes	04/01/2017		2	1,9	
26	Object serialization	05/01/2017		2	1,9	
27	Exception handling fundamentals	06/01/2017		2	1,9	
28	Exception types and examples	07/01/2017		2	1,9	
29	Usage of try, catch, Throw & throws keywords	16/01/2017		2	1,9	
30	Finally keyword and example programs	18/01/2017		2	1,9	
31	Java's built in exceptions	19/01/2017		2	1,9	
32	Creating own exception sub classes	20/01/2017		2	1	
33	<b>Tutorial – II</b>	21/01/2017		4	1,9	
34	MID EXAMS	23/01/2017				
35		24/01/2017				
36		25/01/2017				
<b>UNIT –III: Multithreading, Applet class</b>						
37	Differences between multi threading and multitasking	27/01/2017		2	1	1,3,5,7
38	Java thread model	28/01/2017		2	1	
39	Creating thread	30/01/2017		2	1,9	
40	Multiple threads	01/02/2017		2	1,9	
41	Synchronizing threads	02/02/2017		2	1,9	
42	Concepts of Applets	03/02/2017		2	1,9	
43	<b>Tutorial – III</b>	04/02/2017		2	1,9	
44	Differences between applets and applications	06/02/2017		2	1,9	
45	Applet architecture, skeleton	08/02/2017		2	1,9	
46	Creating applets, passing parameters to applets	09/02/2017		2	1,9	
47	Working with graphics class	10/02/2017		2	1,9	

48	<b>Tutorial – IV</b>	11/02/2017		4	1,9	
<b>UNIT –IV: Event Handling, AWT controls</b>						
49	Events handling mechanisms	13/02/2017		2	1,9	1,3,5,7
50	Events, Event sources	15/02/2017		2	1,9	
51	Event classes	16/02/2017		2	1,9	
52	Event Listeners interfaces	17/02/2017		2	1,9	
53	Delegation event model	18/02/2017		2	1,9	
54	Handling mouse events	20/02/2017		2	1,9	
55	Handling keyboard events	22/02/2017		2	1,9	
56	Adapter classes, inner classes.	23/02/2017		2	1,9	
57	label, button	25/02/2017		2	1,9	1,3,5,7
58	Example program using labels and buttons	27/02/2017		2	1,9	
59	Scrollbars, text components	01/03/2017		2	1,9	
60	Example program using scrollbars and text components	02/03/2017		2	1,9	
61	Check box, check box groups	03/03/2017		2	1,9	
62	Choices controls, lists	04/03/2017		2	1,9	
63	Scrollbar, text field	06/03/2017				
64	layout managers – border, grid	08/03/2017		2	1,9	
65	Flow, card, Containers	09/03/2017		2	1,9	
66	Example program using components and different layout managers	10/03/2017		2	1,9	
67	<b>Tutorial –IV</b>	11/03/2017		4	1,9	
<b>UNIT-V: JDBC, Networking</b>						
68	JDBC Introduction	13/03/2017		2	1	1,3,5,7
69	Types of Drivers	15/03/2017		2	1	
70	Procedure to establish a connection between java applications and database	16/03/2017		2	1	
71	Types of statements	17/03/2017		2	1	
72	Result set types	18/03/2017		2	1	
73	Result set types	20/03/2017		2	1	

74	Networking basics	22/03/2017		2		
75	Network Address	23/03/2017		2	1	
76	Network ports	24/03/2017		2	1	
77	Sockets	25/03/2017		2	1	
78	Example programs using networking	27/03/2017		2	1,9	
79	<b>Tutorial – VI</b>	30/03/2017		4	1,9	
80	MID-II EXAMS					
81						
82						

## Resources Used:

### TEXT BOOKS

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### REFERENCES

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2. Patrick Niemeyer & Jonathan Knudsen, Learning Java, O'Reilly P.
3. David Flanagan, Java – In a nutshell – A desktop quick reference, O'REILLY
4. Java Examples In a nutshell – A Tutorial companion to java in a nutshell (O'REILLY)
5. N.B.Venkateswarlu, E.V.Prasad, OOP through java, S chand 2010.

### Assessment Summary:


Assessment Task	Weight age (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 Programme Outcomes:**

Course Code	Unit	Course Outcomes					Programme Outcomes												PSO's					
		1	2	3	4	5	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6
S284	I	x																	S		L			
	II		x								L								S					
	III			x			L												S					M
	IV				x				M										S					
	V					x			L										S	M				M

	Instructor	Course Coordinator	Module Coordinator	HOD
Name	A.S.R.C.Murthy			Dr. N. Ravi Shankar
Sign with Date				

	<b>LESSON PLAN</b>	<b>Date:</b> 28/11/2016
	<b>Sub. Name : DATABASE MANAGEMENT SYSTEMS LAB</b> <b>Branch: CSE                      Semester &amp; Section: IV &amp; A</b>	<b>To</b> 25/04/2017

### L130 – DATABASE MANAGEMENT SYSTEMS LAB

<b>Lecture</b>	<b>: 3 Periods/week</b>	<b>Internal Marks</b>	<b>: 25</b>
		<b>External Marks</b>	<b>: 50</b>
<b>Credits</b>	<b>: 2</b>	<b>External Examinations</b>	<b>: 3 Hrs</b>

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#### Course Educational Objectives:

The major objective of this lab is to provide a strong formal foundation in database concepts, technology and practice to the participants to groom them into well-informed database application developers.

The sub-objectives are:

- To give a good formal foundation on the relational model of data
- To present SQL and procedural interfaces to SQL comprehensively
- To give an introduction to systematic database design approaches covering conceptual design, logical design and an overview of physical design

#### Course Outcomes

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

- CO 1 Design & implement a database schema for a given problem-domain.
- CO 2 Create database using SQL and implement various integrity constraints.
- CO 3 Apply PL/SQL Programming for problem solving.

**Pre requisite:** Knowledge of basic SQL commands.

#### CYCLE-1

**1) Create a table STUDENT with appropriate data types and perform the following queries.**

**Roll number, student name, date of birth, branch and year of study.**

1. Insert 5 to 10 rows in a table?
2. List all the students of all branches
3. List student names whose name starts with 's'



4. List student names whose name contains 's' as third literal
5. List student names whose contains two 's' anywhere in the name
6. List students whose branch is NULL
7. List students of CSE & ECE who born after 1980
8. List all students in reverse order of their names
9. Delete students of any branch whose name starts with 's'
10. Update the branch of CSE students to ECE
11. Display student name padded with '\*' after the name of all the students

**2) Create the following tables based on the above Schema Diagram with appropriate data types and constraints and perform the following queries.**

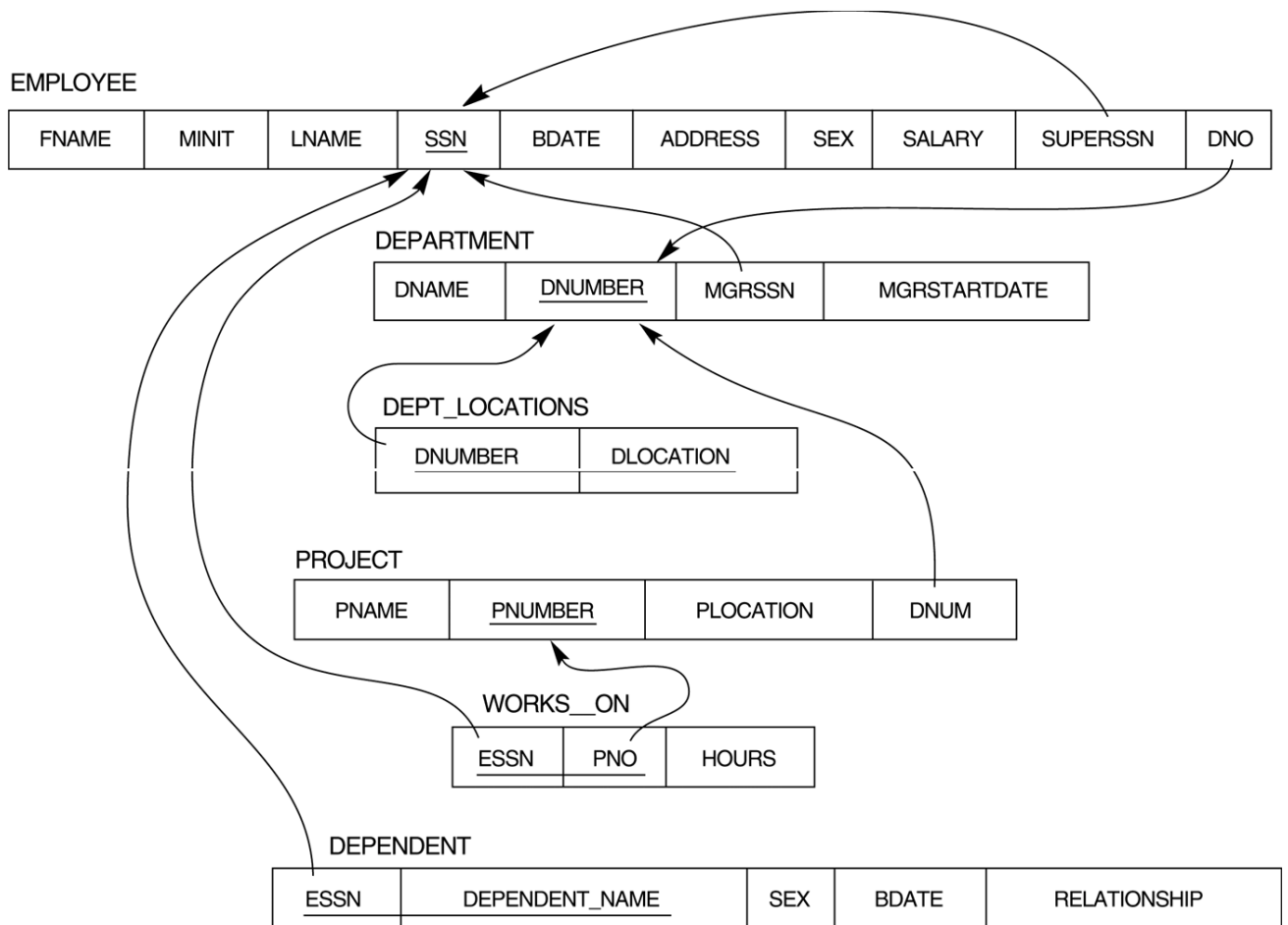
**SAILORS** (Sailid, Salname, Rating, Age)

**RESERVES** (Sailid, boatid, Day)

**BOATS** (Boatid, Boat-name, Color)

1. Insert 5 to 10 rows in all tables?
2. Find the name of sailors who reserved boat number 3.
3. Find the name of sailors who reserved green boat.
4. Find the colors of boats reserved by "Ramesh".
5. Find the names of sailors who have reserved atleast one boat.
6. Find the all sailid of sailors who have a rating of 10 or have reserved boated 104.
7. Find the Sailid's of sailors with age over 20 who have not registered a red boat.
8. Find the names of sailors who have reserved a red or green boat.
9. Find sailors whose rating is better than some sailor called 'Salvador'.
10. Find the names of sailors who are older than the oldest sailor with a rating of 10.

**3) Schema Diagram for the rest of the SQL and PLSQL Programs.**



Create the following tables based on the above Schema Diagram with appropriate data types and constraints.

**EMPLOYEE** (Fname, Mname, Lname, SSN, Bdate, Address, Gender, Salary, SuperSSN, Dno)

**DEPARTMENT**(Dnumber, Dname, MgrSSN, Mgrstartdate)

**DEPENDENT** (ESSN, Dependent\_Name, Gender, Bdate, Relationship)

- 1) Insert 5 to 10 rows into all the tables.
- 2) Display all employee's names along with their department names.
- 3) Display all employee's names along with their dependent details.
- 4) Display name and address of all employees who work for 'ECE' department.
- 5) List the names of all employees with two or more dependents.
- 6) List the names of employee who have no dependents.
- 7) List the names of employees who have at least one dependent.
- 8) List the names of the employees along with names of their supervisors using aliases.
- 9) Display name of the department and name of manager for all the departments.
- 10) Display the name of each employee who has a dependent with the same first name

and gender as the employee.

11) List the names of managers who have at least one dependent.

12) Display the sum of all employees' salaries as well as maximum, minimum and average salary in the entire departments department wise if the department has more than two employees.

13) List the departments of each female employee along with her name.

14) List all employee names and also the name of the department they manage if they happen to manage a dept.

15) Display the name of the employee and his / her supervisor's name.

**4) Create the following tables based on the above Schema Diagram with appropriate data types and constraints in addition to the tables in Experiment 2.**

DEPT\_LOCATIONS (Dnumber, Dlocation)

PROJECT (Pname, Pnumber, Plocation, Dnum)

WORKS\_ON(ESSN, Pno, Hours).

1) Insert 5 to 10 rows into all the tables.

2) Find the names of the employees who work on all the projects controlled by the department 'ECM'.

3) List the project number, name and no. Of employees who work on that project for all the projects.

4) List the names of all the projects controlled by the departments department wise.

5) Retrieve the names of employees who work on all projects that 'John' works on.

6) List the project numbers for projects that involve an employee either as worker or as a manager of the department that controls the project.

7) List the names of all employees in one department who work more than 10 hours on one specific project.

8) For each project, list the project name and total hours (by all employees) spent on that project.

9) Retrieve the names of all employees who work on every project.

10) Retrieve the names of all employees who do not work on any project.

11) Display the name and total no. of hours worked by an employee who is working on maximum no. of projects among all the employees.

12) Display the names of all employees and also no. of hours, project names that they work on if they happen to work on any project(use outer join).

13) List the employee name, project name on which they work and the department they belong to for all the employees using alias names for the resulting columns.

14) Retrieve the names of all employees who work on more than one project department wise.

15) List all the departments that contain at least one occurrence of 'C' in their names.

**5) Create a view that has project name, controlling department name, number of employees**


**and total hours worked on the project for each project with more than one employee working on it.**

- 1) List the projects that are controlled by one department from this view.
- 2) List the managers of the controlling departments for all the projects.
- 3) Demonstrate one update operation on this view.
- 4) List the Location of the controlling departments for all the projects.
- 5) Retrieve the data from the view.

**PL/SQL LAB CYCLE**

**CYCLE-II**

6. Write a PL/SQL Block to find whether the number is Armstrong or not.
7. Write a PL/SQL program for generating Fibonacci series
8. Write an anonymous PL/SQL block that fetches and displays the data from employee table to the console.
9. Write a program that updates salaries of all employees with 10 % hike (use cursors).
10. Write a program to fetch salary and employee name from employee table for a given user input. When no data found raise an exception that prints the message “no data found”.
11. Write a program to find the number of records of any given table using % ROWCOUNT.
12. Write a cursor to display the list of employees and total salary department wise.
13. Write a database trigger on employee table so that the trigger fires when all the DML statements are executed (print appropriate message).
14. Write a trigger in such a way that it should not allow insert or update or delete on Wednesday and Thursday and display the proper message.
15. Write a procedure to display the name and salary of employee when user inputs SSN using IN/OUT parameters.
16. Write a function to check the validity of the given employee number from the employee table (print the appropriate message using PL/SQL block).
17. Visit TPC and submit report.

	<b>Lakireddy Bali Reddy College of Engineering</b>	
	<b>Department of CSE</b>	
	<b>Outcome based lesson plan</b>	
	Academic year: 2016-2017	Course: DBMS Lab
	Programme: B.Tech	Exp No: 1 to 17
	Year & Sem: II & II (IV sem)	Section: A

S.No	Teaching Learning Process (TLP)	Delivery Methods (DM)	Assessment Methods (AM)
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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			
1	Introduction to DBMS	05/12/2016		1	1,2	2,4,6
2	<b>CYCLE-I</b> : EXP-1	19/12/2016		1	1	
3	EXP-2	26/12/2016		1	1	
4	EXP-3	02/01/2017		1	1	
5	EXP-4	09/01/2017		1	1	
6	EXP-5	23/01/2017		1	1	
7	<b>CYCLE-II</b> : EXP-6,EXP7	30/01/2017		1	1	
8	EXP-8,EXP9	06/02/2017		1	1,2	
09	EXP-10,EXP11	13/02/2017		1	1	
10	EXP-12	20/02/2017		1	1	
11	EXP-13	27/02/2017		1	1,2,9	
12	EXP-14	06/03/2017		1	1,2,9	
13	EXP-15	13/03/2017		1	1	
14	EXP-16,EXP17	20/03/2017		1	1,2,9	
15	Internal Exam	27/03/2017				

**Assessment Summary:**

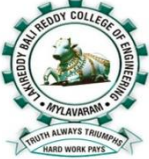
Assessment Task	Weight age (Marks)	Course Outcomes		
		CO1	CO2	CO3
Day-Day Performance	10			
Record	05			
Internal Test	10			
Surprise Tests	--			
Model Exams	--			
End Exam	50			
Total	75			

**Mapping Course Outcomes with Programme Outcomes:**

Course Code	Course Outcomes			Programme Outcomes														
	1	2	3	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
L130	2	2			3					1		2	1	3		2	2	
	2	2			3					1		2	1	3		2	2	
	2	2	2		3					1		2	3	3		2	2	2

(S=strongly (100%) (M=moderately (70%) (L=lightly (50%))

	Instructor	Course Coordinator	Module Coordinator	HOD
Name	S.Govindu			Dr. N. Ravi Shankar
Sign with Date				

	<b>LESSON PLAN</b>	<b>Date:</b> 28/11/2016
	<b>Sub. Name : DATABASE MANAGEMENT SYSTEMS LAB</b> <b>Branch: CSE                      Semester &amp; Section: IV &amp; B</b>	<b>To</b> 25/04/2017

### L130 – DATABASE MANAGEMENT SYSTEMS LAB

<b>Lecture</b>	<b>: 3 Periods/week</b>	<b>Internal Marks</b>	<b>: 25</b>
		<b>External Marks</b>	<b>: 50</b>
<b>Credits</b>	<b>: 2</b>	<b>External Examinations</b>	<b>: 3 Hrs</b>

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#### Course Educational Objectives:

The major objective of this lab is to provide a strong formal foundation in database concepts, technology and practice to the participants to groom them into well-informed database application developers.

The sub-objectives are:

- To give a good formal foundation on the relational model of data
- To present SQL and procedural interfaces to SQL comprehensively
- To give an introduction to systematic database design approaches covering conceptual design, logical design and an overview of physical design

#### Course Outcomes

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

- CO 1 Design & implement a database schema for a given problem-domain.
- CO 2 Create database using SQL and implement various integrity constraints.
- CO 3 Apply PL/SQL Programming for problem solving.

**Pre requisite:** Knowledge of basic SQL commands.

#### CYCLE-1

**1) Create a table STUDENT with appropriate data types and perform the following queries.**

**Roll number, student name, date of birth, branch and year of study.**

1. Insert 5 to 10 rows in a table?
2. List all the students of all branches
3. List student names whose name starts with 's'

4. List student names whose name contains 's' as third literal
5. List student names whose contains two 's' anywhere in the name
6. List students whose branch is NULL
7. List students of CSE & ECE who born after 1980
8. List all students in reverse order of their names
9. Delete students of any branch whose name starts with 's'
10. Update the branch of CSE students to ECE
11. Display student name padded with '\*' after the name of all the students

**2) Create the following tables based on the above Schema Diagram with appropriate data types and constraints and perform the following queries.**

**SAILORS** (Sailid, Salname, Rating, Age)

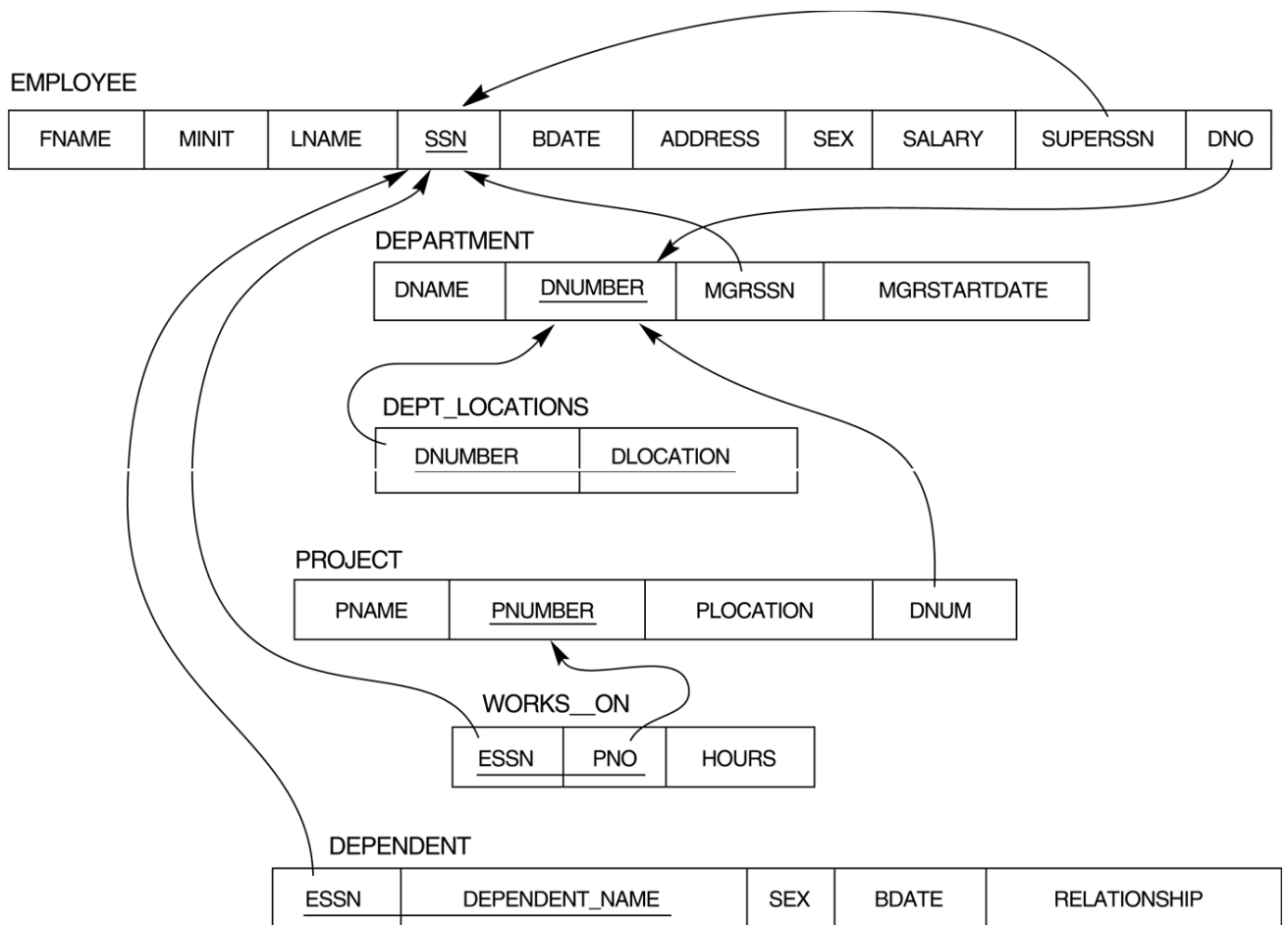
**RESERVES** (Sailid, boatid, Day)

**BOATS** (Boatid, Boat-name, Color)

1. Insert 5 to 10 rows in all tables?
2. Find the name of sailors who reserved boat number 3.
3. Find the name of sailors who reserved green boat.
4. Find the colors of boats reserved by "Ramesh".
5. Find the names of sailors who have reserved atleast one boat.
6. Find the all sailid of sailors who have a rating of 10 or have reserved boated 104.
7. Find the Sailid's of sailors with age over 20 who have not registered a red boat.
8. Find the names of sailors who have reserved a red or green boat.
9. Find sailors whose rating is better than some sailor called 'Salvador'.
10. Find the names of sailors who are older than the oldest sailor with a rating of 10.

**3) Schema Diagram for the rest of the SQL and PLSQL Programs.**





Create the following tables based on the above Schema Diagram with appropriate data types and constraints.

**EMPLOYEE** (Fname, Mname, Lname, SSN, Bdate, Address, Gender, Salary, SuperSSN, Dno)

**DEPARTMENT**(Dnumber, Dname, MgrSSN, Mgrstartdate)

**DEPENDENT** (ESSN, Dependent\_Name, Gender, Bdate, Relationship)

- 1) Insert 5 to 10 rows into all the tables.
- 2) Display all employee's names along with their department names.
- 3) Display all employee's names along with their dependent details.
- 4) Display name and address of all employees who work for 'ECE' department.
- 5) List the names of all employees with two or more dependents.
- 6) List the names of employee who have no dependents.
- 7) List the names of employees who have at least one dependent.
- 8) List the names of the employees along with names of their supervisors using aliases.
- 9) Display name of the department and name of manager for all the departments.
- 10) Display the name of each employee who has a dependent with the same first name

and gender as the employee.

11) List the names of managers who have at least one dependent.

12) Display the sum of all employees' salaries as well as maximum, minimum and average salary in the entire departments department wise if the department has more than two employees.

13) List the departments of each female employee along with her name.

14) List all employee names and also the name of the department they manage if they happen to manage a dept.

15) Display the name of the employee and his / her supervisor's name.

**4) Create the following tables based on the above Schema Diagram with appropriate data types and constraints in addition to the tables in Experiment 2.**

DEPT\_LOCATIONS (Dnumber, Dlocation)

PROJECT (Pname, Pnumber, Plocation, Dnum)

WORKS\_ON(ESSN, Pno, Hours).

1) Insert 5 to 10 rows into all the tables.

2) Find the names of the employees who work on all the projects controlled by the department 'ECM'.

3) List the project number, name and no. Of employees who work on that project for all the projects.

4) List the names of all the projects controlled by the departments department wise.

5) Retrieve the names of employees who work on all projects that 'John' works on.

6) List the project numbers for projects that involve an employee either as worker or as a manager of the department that controls the project.

7) List the names of all employees in one department who work more than 10 hours on one specific project.

8) For each project, list the project name and total hours (by all employees) spent on that project.

9) Retrieve the names of all employees who work on every project.

10) Retrieve the names of all employees who do not work on any project.

11) Display the name and total no. of hours worked by an employee who is working on maximum no. of projects among all the employees.

12) Display the names of all employees and also no. of hours, project names that they work on if they happen to work on any project(use outer join).

13) List the employee name, project name on which they work and the department they belong to for all the employees using alias names for the resulting columns.

14) Retrieve the names of all employees who work on more than one project department wise.

15) List all the departments that contain at least one occurrence of 'C' in their names.

**5) Create a view that has project name, controlling department name, number of employees**


**and total hours worked on the project for each project with more than one employee working on it.**

- 1) List the projects that are controlled by one department from this view.
- 2) List the managers of the controlling departments for all the projects.
- 3) Demonstrate one update operation on this view.
- 4) List the Location of the controlling departments for all the projects.
- 5) Retrieve the data from the view.

## **PL/SQL LAB CYCLE**

### **CYCLE-II**

6. Write a PL/SQL Block to find whether the number is Armstrong or not.
7. Write a PL/SQL program for generating Fibonacci series
8. Write an anonymous PL/SQL block that fetches and displays the data from employee table to the console.
9. Write a program that updates salaries of all employees with 10 % hike (use cursors).
10. Write a program to fetch salary and employee name from employee table for a given user input. When no data found raise an exception that prints the message “no data found”.
11. Write a program to find the number of records of any given table using % ROWCOUNT.
12. Write a cursor to display the list of employees and total salary department wise.
13. Write a database trigger on employee table so that the trigger fires when all the DML statements are executed (print appropriate message).
14. Write a trigger in such a way that it should not allow insert or update or delete on Wednesday and Thursday and display the proper message.
15. Write a procedure to display the name and salary of employee when user inputs SSN using IN/OUT parameters.
16. Write a function to check the validity of the given employee number from the employee table (print the appropriate message using PL/SQL block).
17. Visit TPC and submit report.

	<b>Lakireddy Bali Reddy College of Engineering</b>	
	<b>Department of CSE</b>	
	<b>Outcome based lesson plan</b>	
	Academic year: 2016-2017	Course: DBMS Lab
	Programme: B.Tech	Exp No: 1 to 17
	Year & Sem: II & II (IV sem)	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			
1	Introduction to DBMS	06/12/2016		1	1,2	2,4,6
2	<b>CYCLE-I : EXP-1</b>	20/12/2016		1	1	
3	EXP-2	27/12/2016		1	1	
4	EXP-3	03/01/2017		1	1	
5	EXP-4	10/01/2017		1	1	
6	EXP-5	24/01/2017		1	1	
7	<b>CYCLE-II : EXP-6,EXP7</b>	31/01/2017		1	1	
8	EXP-8,EXP9	07/02/2017		1	1,2	
09	EXP-10,EXP11	14/02/2017		1	1	
10	EXP-12	21/02/2017		1	1	

11	EXP-13	28/02/2017		1	1,2,9
12	EXP-14	07/03/2017		1	1,2,9
13	EXP-15	14/03/2017		1	1
14	EXP-16,EXP17	21/03/2017		1	1,2,9
15	Internal Exam	28/03/2017			

**Assessment Summary:**

Assessment Task	Weight age (Marks)	Course Outcomes		
		CO1	CO2	CO3
Day-Day Performance	10			
Record	05			
Internal Test	10			
Surprise Tests	--			
Model Exams	--			
End Exam	50			
Total	75			


**Mapping Course Outcomes with Programme Outcomes:**

Course Code	Course Outcomes			Programme Outcomes														
	1	2	3	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
L130	2	2			3					1		2	1	3		2	2	
	2	2			3					1		2	1	3		2	2	

	2	2	2		3				1		2	3	3		2	2	2
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(S=strongly (100%) (M=moderately (70%) (L=lightly (50%))

	Instructor	Course Coordinator	Module Coordinator	HOD
Name	N V NAIK			Dr. N. Ravi Shankar
Sign with Date				

	<b>LESSON PLAN</b>	<b>Date:</b> 28/11/2016
	<b>Sub. Name : DATABASE MANAGEMENT SYSTEMS</b> <b>Branch: CSE                      Semester &amp; Sections: IV &amp; A</b>	To 25/04/2017

### S180 - DATABASE MANAGEMENT SYSTEMS

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

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**UNIT - I**

**Introduction:** An overview of database management system, database system Vs file system, Database system concepts and architecture, data models schema and instances, data independence and data base language and interfaces, Data definitions language, DML, Overall Database Structure.

**Data modeling using the Entity Relationship Model:** ER model concepts, notation for ER diagram, mapping constraints, keys, Concepts of Super Key, candidate key, primary key, Generalization, aggregation, reduction of an ER diagrams to tables, extended ER model, relationships of higher degree.

**UNIT - II**

**Relational data Model and Language:** Relational data model concepts, integrity constraints: entity integrity, referential integrity, Keys constraints, Domain constraints, relational algebra.

**Introduction to SQL:** Characteristics of SQL, Advantage of SQL. SQL data types and literals. Types of SQL commands. SQL operators and their procedure. Tables, views and indexes. Queries and sub queries. Aggregate functions. Insert, update and delete operations. Joins, Unions, Intersection, Minus, Cursors in SQL.

**UNIT - III**

**Normalization:** Functional dependencies, normal forms, first, second, third normal forms, BCNF, inclusion dependences, loss less join decompositions, normalization using FD, MVD, and JDs, alternative approaches to database design.

**UNIT – IV**

**Transaction Processing Concepts:** Transaction system, Testing of serializability, Serializability of schedules, conflict & view serializable schedule, recoverability, log based recovery, checkpoints, ARIES algorithm, deadlock handling. **Concurrency Control Techniques:** Concurrency control, locking Techniques for concurrency control, Time stamping protocols for concurrency control, validation based protocol, multiple granularity, Recovery with concurrent transactions.

#### **UNIT-V**

**Storage and Indexing:** RAID levels, page formats, record formats, file types and organization, ISAM, B-tree, B+-tree.

#### **TEXT BOOK**

1. "Database Concepts", Korth, Silbertz, Sudarshan, McGraw Hill.
2. "Fundamentals Of Database Systems", Elmasri, Navathe, Addison Wesley.

#### **REFERENCES**

1. "Database Management System", Raghu Ramakrishnan, McGraw Hill
2. "DBMS: Complete Practical Approach", Maheshwari Jain, Firewall Media, New Delhi.
3. "An Introduction to Database System", Date C J, Addison Wesley.

**Prerequisite:** Elementary set theory, concepts of relations and functions, propositional logic data structures (trees, Graphs, dictionaries)& File Concepts.

#### **Course Educational Objectives:**

This course enables the students to know about

- DBMS basic concepts, Database Languages.
- Data base Design.
- Normalization process and Transaction processing.
- Indexing.

#### **Course Outcomes:**

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

CO1: Understand DBMS concepts, architecture & Data model.


CO2: Apply the concepts of relational algebra, calculus, and also SQL.

CO3: Apply the normalization process for data base design.

CO4: Understand the issues in transaction processing and Analyze different Concurrency and recovery strategies of DBMS

CO5: Analyze different file organization techniques & Indexing Techniques.



	<b>Lakireddy Bali Reddy College of Engineering</b>	
	<b>Department of CSE</b>	
	<b>Outcome based lesson plan</b>	
	Academic year: 2015-16	Course: Database Management systems
	Programme: B.Tech	Unit No: 1 to 5
	Year & Sem : II & II (IV sem)	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			
<b>UNIT –I: Introduction &amp; Data modeling using the Entity Relationship Model</b>						
1	Introduction	01/12/2016		2	1	12,,3,5,7
2	An overview of database management system	02/12/2016		2	1	
3	database system Vs file system	05/12/2016		2	1	
4	Database system concepts and architecture	06/12/2016		2	1	
5	data models schema and instances	07/12/2016		2	1	

6	data independence and data base language and interfaces	08/12/2016		2	1	
7	Data definitions language, DML	09/12/2016, 13/12/2016		2	1	
8	Overall Database Structure	15/12/2016		2	1,2	
9	ER model concepts- notation for ER diagram	16/12/2016		2	1	
10	mapping constraints, keys	19/12/2016		2	1,9	
11	Concepts of Super Key, candidate key, primary key	20/12/2016		2	1,9	
12	Generalization, aggregation	21/12/2016		2	1,9	
13	reduction of an ER diagrams to tables	22/12/2016, 23/12/2016		2	1,9	
14	extended ER model	26/12/2016		2	1,9	
15	relationships of higher degree	27/12/2016		2	1,9	
16	<b>Tutorial – I</b>	28/12/2016				
<b>UNIT –II: Relational data Model and Language &amp; Introduction to SQL</b>						
17	Relational data model concepts	02/01/2017		2	1	
18	integrity constraints: entity integrity, referential integrity	03/01/2017		2	1,9	
19	Keys constraints, Domain constraints	04/01/2017		2	1,9	
20	relational algebra	05/01/2017		2	1,9	
21	Characteristics of SQL, Advantage of SQL	06/01/2017		2	1	
22	SQL data types and literals	09/01/2017		2	1	
23	Types of SQL commands	10/01/2017		2	1,9	
24	SQL operators and their procedure	11/01/2017		2	1,9	
25	Tables, views and indexes	11/01/2017		2	1,9	
26	Queries and sub queries	12/01/2017		2	1,9	1,2,3,5,7
27	Aggregate functions	18/01/2017		2	1,9	
28	Insert, update and delete operations	18/01/2017		2	1,9	
29	Unions, Intersection, Minus	19/01/2017		2	1,9	

30	Cursors in SQL	19/01/2017		2	1,9	
31	<b>Tutorial – II</b>	20/01/2017				
32	MID – I EXAMS	23/01/2017				
33		24/01/2017				
34		25/01/2017				
35		28/01/2017				
36		30/01/2017				
37		31/01/2017				
<b>UNIT –III: Normalization</b>						
38	Functional dependencies	01/02/2017		2	1	1,2,3,5,7
39	normal forms: first, second	02/02/2017		2	1,9	
40	third normal forms	03/02/2017		2	1,9	
41	BCNF	06/02/2017		2	1,9	
42	inclusion dependences	07/02/2017		2	1,9	
43	loss less join decompositions	08/02/2017		2	1,9	
44	<b>Tutorial – III</b>	09/02/2017				
45	normalization using FD	10/02/2017		2	1,9	
46	normalization using MVD	13/02/2017		2	1,9	
47	normalization using JD	14/02/2017		2	1,9	
48	alternative approaches to database design	15/02/2017		2	1,9	
49	alternative approaches to database design	16/02/2017		2	1,9	
50	<b>Tutorial – IV</b>	17/02/2017				
<b>UNIT –IV: Transaction Processing Concepts &amp; Concurrency Control Techniques</b>						
50	Transaction system	20/02/2017		2	1	1,2,3,5,7
51	Testing of serializability	21/02/2017		2	1	
52	Serializability of schedules	22/02/2017		2	1	
53	conflict & view serializable schedule	23/02/2017		2	1	
54	recoverability, log based recovery	27/02/2017		2	1	
55	Checkpoints	28/02/2017		2	1	

56	ARIES algorithm	01/03/2017		2	1	
57	deadlock handling	02/03/2017		2	1	
58	<b>Tutorial –V</b>	03/03/2017				
59	Concurrency control	06/03/2017		2	1	
60	Techniques for concurrency control	07/03/2017		2	1	
61	Time stamping protocols for concurrency control	08/03/2017		2	1	
62	Locking	09/03/2017		2	1	
63	validation based protocol	09/03/2017		2	1	
64	multiple granularity	10/03/2017		2	1	
65	Recovery with concurrent transactions	13/03/2017		2	1	
<b>UNIT-V: Storage and Indexing</b>						
66	RAID levels	14/03/2017		2	1	1,2,3,5,7
67	RAID levels	14/03/2017		2	1	
68	page formats	15/03/2017		2	1	
69	record formats	16/03/2017		2	1	
70	file types and organization	17/03/2017		2	1	
71	file types and organization	20/03/2017		2	1	
72	ISAM	21/03/2017		2	1	
73	B-tree	22/03/2017		2	1	
74	B+-tree.	23/03/2017		2	1	
75	B+-tree.	24/03/2017		2	1	
76	<b>Tutorial – VI</b>	27/03/2017				
77	<b>II MID EXAMS</b>	31/03/2017				
78		01/04/2017				
79		03/04/2017				
80		04/04/2017				
81		05/04/2017				
82		06/04/2017				

## Resources Used:

### TEXT BOOKS

1. "Database Concepts", Korth, Silbertz, Sudarshan, McGraw Hill.
2. "Fundamentals Of Database Systems", Elmasri, Navathe, Addison Wesley.

### REFERENCES

1. "Database Management System", Raghu Ramakrishnan, McGraw Hill
2. "DBMS: Complete Practical Approach", Maheshwari Jain, Firewall Media, New Delhi.
3. "An Introduction to Database System", Date C J, Addison Wesley.

### Assessment Summary:


Assessment Task	Weight age (Marks)	Course Outcomes				
		CO1	CO2	CO3	CO4	CO5
Assignments	5					
Quizzes						
Tutorials						
Surprise Tests	--					
Mid Exams	20					
Model Exams	--					
End Exam	75					
Total	100					

### Mapping Course Outcomes with Programme Outcomes:

Course Code	Unit	Course Outcomes					Programme Outcomes												PSO's						
		1	2	3	4	5	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	
S180	I	x						L													S	M			
	II		x				S	S			L										M	S			
	III			x			M	M													S				
	IV				x		M	L													S				L
	V					x	M	L													S				M

(S=strongly (100%) M=moderately (70%) L=lightly (50%)

	Instructor	Course Coordinator	Module Coordinator	HOD
Name	S.Govindu			Dr. N. Ravi Shankar
Sign with Date				

	<b>LESSON PLAN</b>	<b>Date:</b> <b>01/12/2016</b>
	<b>Sub. Name : DATABASE MANAGEMENT SYSTEMS</b> <b>Branch: CSE                      Semester &amp; Sections: IV &amp; B</b>	<b>To</b>  <b>03/04/2016</b>

### S180 - DATABASE MANAGEMENT SYSTEMS

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

#### UNIT - I

**Introduction:** An overview of database management system, database system Vs file system, Database system concepts and architecture, data models schema and instances, data independence and data base language and interfaces, Data definitions language, DML, Overall Database Structure.

**Data modeling using the Entity Relationship Model:** ER model concepts, notation for ER diagram, mapping constraints, keys, Concepts of Super Key, candidate key, primary key, Generalization, aggregation, reduction of an ER diagrams to tables, extended ER model, relationships of higher degree.

#### UNIT - II

**Relational data Model and Language:** Relational data model concepts, integrity constraints: entity integrity, referential integrity, Keys constraints, Domain constraints, relational algebra.

**Introduction to SQL:** Characteristics of SQL, Advantage of SQL. SQL data types and literals. Types of SQL commands. SQL operators and their procedure. Tables, views and indexes. Queries and sub queries. Aggregate functions. Insert, update and delete operations. Joins, Unions, Intersection, Minus, Cursors in SQL.

#### UNIT - III

**Normalization:** Functional dependencies, normal forms, first, second, third normal forms, BCNF, inclusion dependences, loss less join decompositions, normalization using FD, MVD, and JDs, alternative approaches to database design.

## UNIT – IV

**Transaction Processing Concepts:** Transaction system, Testing of serializability, Serializability of schedules, conflict & view serializable schedule, recoverability, log based recovery, checkpoints, ARIES algorithm, deadlock handling. **Concurrency Control Techniques:** Concurrency control, locking Techniques for concurrency control, Time stamping protocols for concurrency control, validation based protocol, multiple granularity, Recovery with concurrent transactions.

## UNIT-V

**Storage and Indexing:** RAID levels, page formats, record formats, file types and organization, ISAM, B-tree, B+-tree.

## TEXT BOOK

1. "Database Concepts", Korth, Silbertz, Sudarshan, McGraw Hill.
2. "Fundamentals of Database Systems", Elmasri, Navathe, Addison Wesley.

## REFERENCES

1. "Database Management System", Raghu Ramakrishnan, McGraw Hill
2. "DBMS: Complete Practical Approach", Maheshwari Jain, Firewall Media, New Delhi.
3. "An Introduction To Database System", Date C J, Addison Wesley.

**Prerequisite:** Elementary set theory, concepts of relations and functions, propositional logic data structures (trees, Graphs, dictionaries)& File Concepts.

## Course Educational Objectives:


This course enables the students to know about

- DBMS basic concepts, Database Languages.
- Data base Design.
- Normalization process and Transaction processing.
- Indexing.

## Course Outcomes:

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

- CO1: Understand DBMS concepts, architecture & Data model.
- CO2: Apply the concepts of relational algebra, calculus, and also SQL.
- CO3: Apply the normalization process for data base design.
- CO4: Understand the issues in transaction processing and Analyze different Concurrency and recovery strategies of DBMS
- CO5: Analyze different file organization techniques & Indexing Techniques.

	<b>Lakireddy Bali Reddy College of Engineering</b>	
	<b>Department of CSE</b>	
	<b>Outcome based lesson plan</b>	
	Academic year: 2016-17	Course: Database Management systems
	Programme: B.Tech	Unit No: 1 to 5
	Year & Sem: II & II (IV 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			
<b>UNIT –I: Introduction &amp; Data modeling using the Entity Relationship Model</b>						
1	Introduction	01/12/2016		2	1	12,,3,5,7
2	An overview of database management system	02/12/2016		2	1	
3	database system Vs file system	03/12/2016		2	1	
4	Database system concepts and architecture	05/12/2016		2	1	
5	data models schema and instances	06/12/2016		2	1	
6	data independence and data base language and interfaces	08/12/2016		2	1	
7	Data definitions language, DML	09/12/2016		2	1	



8	Overall Database Structure	10/12/2016		2	1,2		
9	ER model concepts- notation for ER diagram	13/12/2016		2	1		
10	mapping constraints, keys	15/12/2016		2	1,9		
11	Concepts of Super Key, candidate key, primary key	16/12/2016		2	1,9		
12	Generalization, aggregation	17/12/2016		2	1,9		
13	reduction of an ER diagrams to tables	19/12/2016		2	1,9		
14	extended ER model	20/12/2016		2	1,9		
15	relationships of higher degree	22/12/2016		2	1,9		
16	<b>Tutorial – I</b>	23/12/2016					
<b>UNIT –II: Relational data Model and Language &amp; Introduction to SQL</b>							
17	Relational data model concepts	24/12/2016		2	1		1,2,3,5,7
18	integrity constraints: entity integrity, referential integrity	26/12/2016		2	1,9		
19	Keys constraints, Domain constraints	27/12/2016		2	1,9		
20	relational algebra	29/12/2016		2	1,9		
21	Characteristics of SQL, Advantage of SQL	30/12/2016		2	1		
22	SQL data types and literals	31/12/2016		2	1		
23	Types of SQL commands	02/01/2017		2	1,9		
24	SQL operators and their procedure	03/01/2017		2	1,9		
25	Tables, views and indexes	05/01/2017		2	1,9		
26	Queries and sub queries	06/01/2017		2	1,9		
27	Aggregate functions	07/01/2017		2	1,9		
28	Insert, update and delete operations	16/01/2017		2	1,9		
29	Unions, Intersection, Minus	17/01/2017		2	1,9		
30	Cursors in SQL	19/01/2017		2	1,9		
31	Cursors	20/01/2017					
	<b>Tutorial – II</b>	21/01/2017					
32	<b>MID – I EXAMS</b>	23/01/2017					

33						
34		24/01/2017				
35						
36		25/01/2017				
<b>UNIT –III: Normalization</b>						
37	Functional dependencies	27/01/2017		2	1	1,2,3,5,7
38	normal forms: first, second	28/01/2017		2	1,9	
39	third normal forms	30/01/2017		2	1,9	
40	BCNF	31/01/2017		2	1,9	
41	inclusion dependences	02/02/2017		2	1,9	
42	loss less join decompositions	03/02/2017		2	1,9	
43	<b>Tutorial – III</b>	04/02/2017				
44	normalization using FD	06/02/2017		2	1,9	
45	normalization using MVD	07/02/2017		2	1,9	
46	normalization using JD	09/02/2017		2	1,9	
47	alternative approaches to database design	10/02/2017		2	1,9	
48	alternative approaches to database design	11/02/2017		2	1,9	
49	<b>Tutorial – IV</b>	13/02/2017				
<b>UNIT –IV: Transaction Processing Concepts &amp; Concurrency Control Techniques</b>						
50	Transaction system	14/02/2017		2	1	1,2,3,5,7
51	Testing of serializability	16/02/2017		2	1	
52	Serializability of schedules	17/02/2017		2	1	
53	conflict & view serializable schedule	18/02/2017		2	1	
54	recoverability, log based recovery	20/02/2017		2	1	
55	Checkpoints	21/02/2017		2	1	
56	ARIES algorithm	23/02/2017		2	1	
57	deadlock handling	24/02/2017		2	1	
58	<b>Tutorial –V</b>	25/02/2017				
59	Concurrency control	27/02/2017		2	1	

60	Techniques for concurrency control	28/02/2017		2	1	
61	Time stamping protocols for concurrency control	02/03/2017		2	1	
62	Locking	03/02/2017		2	1	
63	validation based protocol	04/03/2017		2	1	
64	multiple granularity	06/03/2017		2	1	
65	Recovery with concurrent transactions	07/03/2017		2	1	
<b>UNIT-V: Storage and Indexing</b>						
66	RAID levels	09/02/2017		2	1	1,2,3,5,7
67	RAID levels	10/03/2017		2	1	
68	page formats	11/03/2017		2	1	
69	RAID levels	13/03/2017		2	1	
70	RAID levels	14/03/2017		2	1	
71	page formats	16/03/2017		2	1	
72	record formats	17/03/2017		2	1	
73	<b>Tutorial IV</b>	18/03/2017		2	1	
74	file types and organization	20/03/2017		2	1	
75	file types and organization	21/03/2017		2	1	
76	ISAM	23/03/2017		2	1	
77	B-tree	24/03/2017		2	1	
78	B+-tree.	25/03/2017		2	1	
79	B+-tree.	27/03/2017		2	1	
80	<b>Revision of unit V</b>	28/03/2017		2	1	
81	<b>Tutorial – V</b>	30/03/2017				
82	II MID EXAMS	31/03/2017				
83		1/04/2017				
84		03/04/2017				

## Resources Used:

### TEXT BOOKS

1. "Database Concepts", Korth, Silbertz, Sudarshan, McGraw Hill.
2. "Fundamentals Of Database Systems", Elmasri, Navathe, Addison Wesley.

#### REFERENCES

1. "Database Management System", Raghu Ramakrishnan, McGraw Hill
2. "DBMS: Complete Practical Approach", Maheshwari Jain, Firewall Media, New Delhi.
3. "An Introduction To Database System", Date C J, Addison Wesley.

#### Assessment Summary:


Assessment Task	Weight age (Marks)	Course Outcomes				
		CO1	CO2	CO3	CO4	CO5
Assignments	5					
Quizzes						
Tutorials						
Surprise Tests	--					
Mid Exams	20					
Model Exams	--					
End Exam	75					
Total	100					

#### Mapping Course Outcomes with Programme Outcomes:

Course Code	Unit	Course Outcomes					Programme Outcomes												PSO's						
		1	2	3	4	5	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	
S180	I	x						L													S	M			
	II		x				S	S			L								M	S					
	III			x			M	M												S					
	IV				x		M	L												S				L	
	V					x	M	L												S					M

(S=strongly (100%) M=moderately (70%) L=lightly(50%)

	Instructor	Course Coordinator	Module Coordinator	HOD
Name	N V NAIK			Dr. N. Ravi Shankar
Sign with Date				

	<b>LESSON PLAN</b>	<b>Date:</b> <b>01/12/2016</b>
	<b>Sub. Name : JAVA PROGRAMMING LAB</b> <b>Branch: CSE                      Semester &amp; Section: IV &amp; A</b>	<b>To 30/03/2017</b>

**L155 – JAVA PROGRAMMING LAB**

<b>Lecture</b>	<b>: 3 Periods/week</b>	<b>Internal Marks</b>	<b>: 25</b>
		<b>External Marks</b>	<b>: 50</b>
<b>Credits</b>	<b>: 2</b>	<b>External Examination</b>	<b>: 3 Hrs</b>

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**Course Educational Objectives:**

**To make students enable to**

- Know the importance of implementing application in JAVA.
- Understand and Execute applications through JAVA (at core level).
- Implements concurrent execution of processes (threads), handling exceptions and OOP principles.
- Introduce the base for developing GUI based applications and Networking concepts.

**Course Outcomes:**

After completion of this course student shall able to,

CO1: Design & Implement various Packages, Interfaces, Exception handling& Multithreading.


CO2: Design various Applet programs Using Graphics class& AWT.

CO3: Develop applications on Database connectivity using JDBC.

**Pre requisite:** Knowledge of java syntaxes and notations.

1. a) Write a java program to generate Fibonacci series.  
b) Write a java program to check whether given number is prime or not?
2. a) Write a java program to find out area of a circle.  
b) Write a java program to reverse the given number.
3. a) Write a java program to find the sum of the numbers by using Command line arguments.  
b) Write a java program to find the roots of a quadratic equation.
4. a) Write a java program to find the factorial of a given number using recursion.  
b) Write a java program to find sum of 'n' numbers using Recursion?
5. a) Write a java program to find min and max number of given Array.  
b) Write a java program to perform matrix Multiplication.
- 6 a) Write a java program to search an element by using linear search.  
b) Write a java program by using Bubble sort?
- 7 a) Write a java program to implement Over Loading?  
b) Write a java program using Constructors.
  
- 8 a) Write a java program using StringBuffer?  
b) Write a java program to check whether the given string is palindrome (or) not?  
c) Write a java program length and capacity using StringBuffer class.
- 9 a) Write a java program to sort the Strings in ascending order.  
b) Write a java program to implement stack ADT?
- 10 a) Write a java program using Inheritance.  
b) Write a java program by using super key word.
  
- 11 a) Write a java program using Abstract class.  
b) Write a java program by using final variables and final methods.

- 12 a) Write a java program to implement Overriding?  
b) Write a java program to implement Dynamic method dispatch?
- 13 a) Write a java program to demonstrate Packages.  
b) Write a java program to implement Multiple inheritance using interfaces.
- 14 a) Write a java program by using Exception handling mechanism.  
b) Write a java program to create Multiple Threads.
- 15 a) Write a java program to find sum of n numbers using String Tokenizer.  
b) Write a java program to find sum of the numbers using String Tokenizer.
- 16 a) Write a simple Applet program.  
b) Write an applet program using Graphics.
- 17 a) Write an applet program to pass parameters to Applet.  
b) Write an applet program to display information an applet.
- 18 a) Write an applet program to handle Mouse events.  
b) Write an applet program using Key events?
- 19 a) Write a java program by using AWT components.  
b) Write a java program to implement arithmetic calculator.
- 20 a) Write a java program to establish a connection with data base and perform some SQL  
Commands like create, insert, update delete.  
b) Write a JDBC program to perform SQL commands using prepared statement.
- 21 a) Write a JDBC Program to execute stored procedure using callable statement.  
b) Write a JDBC program to execute stored function using callable statement.

	<b>Lakireddy Bali Reddy College of Engineering</b>	
	<b>Department of CSE</b>	
	<b>Outcome based lesson plan</b>	
	Academic year: 2016-17	Course: Java Programming Lab
	Programme: B.Tech	Exp No: 1 to 21
	Year & Sem: II & II (IV sem)	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			
1	Introduction to JAVA	02/12/2016		1	1,2	2,4,6
2	EXP-1, EXP-2	09/12/2016		1	1	
3	EXP-3, EXP-4	16/12/2016		1	1	
4	EXP-5, EXP-6	23/12/2016		1	1	
5	EXP-7, EXP-8	30/12/2016		1	1	
6	EXP-9, EXP-10	06/01/2017		1	1	
7	EXP-11, EXP-12	13/01/2017		1	1	
8	EXP-13	27/01/2017		1	1,2	
9	EXP-14	03/02/2017		1	1	
10	EXP-15, EXP-16	10/02/2017		1	1	



11	EXP-17, EXP-18	17/02/2017		1	1
12	EXP-19	03/03/2017		1	1,2,9
13	EXP-20	10/03/2017		1	1,2,9
14	EXP-21	17/03/2017		1	1,2,9
15	Internal Exam	24/03/2017			

## Resources Used:

### TEXT BOOK

Herbert Schildt, Java: the complete reference, TMH Publications, 5th edition.

### REFERENCES

1. E. Balaguruswamy, 'Programming with JAVA', TMH Publications, 2nd Edition.
2. Patrick Niemeyer & Jonathan Knudsen, Learning Java, O'Reilly P.
3. David Flanagan, Java – In a nutshell – A desktop quick reference, O'REILLY
4. Java Examples In a nutshell – A Tutorial companion to java in a nutshell (O'REILLY)
5. N.B.Venkateswarlu, E.V.Prasad, OOP through java, S chand 2010.

### Assessment Summary:


Assessment Task	Weight age (Marks)	Course Outcomes		
		CO1	CO2	CO3
Day-Day Performance	10			
Record	05			
Internal Test	10			
Surprise Tests	--			
Model Exams	--			
End Exam	50			
Total	75			

**Mapping Course Outcomes with Programme Outcomes:**

Course Code	Course Outcomes			Programme Outcomes												PSO's						
	1	2	3	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	
L155	x															S						L
		x				M										S						
			x			L										S	M				M	

(S=strongly (100%)    (M=moderately (70%)    (L=lightly (50%))

	Instructor	Course Coordinator	Module Coordinator	HOD
Name	A.S.R.C.Murthy			Dr. N. Ravi Shankar
Sign with Date				

	<b>LESSON PLAN</b>	<b>Date:</b> <b>01/12/2016</b>
	<b>Sub. Name : JAVA PROGRAMMING LAB</b> <b>Branch: CSE                      Semester &amp; Section: IV &amp; B</b>	<b>To 30/03/2017</b>

### L155 – JAVA PROGRAMMING LAB

<b>Lecture</b>	<b>: 3 Periods/week</b>	<b>Internal Marks</b>	<b>: 25</b>
		<b>External Marks</b>	<b>: 50</b>
<b>Credits</b>	<b>: 2</b>	<b>External Examination</b>	<b>: 3 Hrs</b>

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**Course Educational Objectives:**

**To make students enable to**

- Know the importance of implementing application in JAVA.
- Understand and Execute applications through JAVA (at core level).
- Implements concurrent execution of processes (threads), handling exceptions and OOP principles.
- Introduce the base for developing GUI based applications and Networking concepts.

**Course Outcomes:**

After completion of this course student shall able to,

CO1: Design & Implement various Packages, Interfaces, Exception handling& Multithreading.

CO2: Design various Applet programs Using Graphics class& AWT.


CO3: Develop applications on Database connectivity using JDBC.

**Pre requisite:** Knowledge of java syntaxes and notations.

2. a) Write a java program to generate Fibonacci series.

- b) Write a java program to check whether given number is prime or not?
- 2. a) Write a java program to find out area of a circle.
  - b) Write a java program to reverse the given number.
- 3. a) Write a java program to find the sum of the numbers by using Command line arguments.
  - b) Write a java program to find the roots of a quadratic equation.
- 4. a) Write a java program to find the factorial of a given number using recursion.
  - b) Write a java program to find sum of 'n' numbers using Recursion?
- 5. a) Write a java program to find min and max number of given Array.
  - b) Write a java program to perform matrix Multiplication.
- 6 a) Write a java program to search an element by using linear search.
  - b) Write a java program by using Bubble sort?
- 7 a) Write a java program to implement Over Loading?
  - b) Write a java program using Constructors.
  
- 8 a) Write a java program using StringBuffer?
  - b) Write a java program to check whether the given string is palindrome (or) not?
  - c) Write a java program length and capacity using StringBuffer class.
- 9 a) Write a java program to sort the Strings in ascending order.
  - b) Write a java program to implement stack ADT?
- 10 a) Write a java program using Inheritance.
  - b) Write a java program by using super key word.
  
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	<b>Lakireddy Bali Reddy College of Engineering</b>	
	<b>Department of CSE</b>	
	<b>Outcome based lesson plan</b>	
	Academic year: 2016-17	Course: Java Programming Lab
	Programme: B.Tech	Exp No: 1 to 21
	Year & Sem: II & II (IV sem)	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			
1	Introduction to JAVA	02/12/2016		1	1,2	2,4,6
2	EXP-1, EXP-2	09/12/2016		1	1	
3	EXP-3, EXP-4	16/12/2016		1	1	
4	EXP-5, EXP-6	23/12/2016		1	1	
5	EXP-7, EXP-8	30/12/2016		1	1	
6	EXP-9, EXP-10	06/01/2017		1	1	
7	EXP-11, EXP-12	13/01/2017		1	1	
8	EXP-13	27/01/2017		1	1,2	
9	EXP-14	03/02/2017		1	1	
10	EXP-15, EXP-16	10/02/2017		1	1	




L155	x															S						L	
		x				M										S							
			x			L										S	M					M	

(S=strongly (100%) (M=moderately (70%) (L=lightly (50%))

	Instructor	Course Coordinator	Module Coordinator	HOD
Name	A.S.R.C.Murthy			Dr. N. Ravi Shankar
Sign with Date				



	<b>LESSON PLAN</b>	<b>Date</b>
	<b>Sub. Name : JAVA PROGRAMMING</b> <b>Branch: CSE</b> <span style="float: right;"><b>Semester &amp; Sections: IV &amp; B</b></span>	<b>01/12/2016</b>  <b>To</b>  <b>30/03/2017</b>

### S284 - JAVA PROGRAMMING

<b>Lecture</b>	: <b>4 Periods/week</b>	<b>Internal Marks</b>	: <b>25</b>
<b>Tutorial</b>	: <b>1</b>	<b>External Marks</b>	: <b>75</b>
<b>Credits</b>	: <b>3</b>	<b>External Examinations</b>	: <b>3</b>

**Hrs**

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#### **UNIT - I**

**Java Language:** History of Java, The Byte code, Java Buzzwords, arrays, type conversion and casting, simple java program,

**Introducing classes:** class fundamentals, declaring objects, access control, constructors, methods, garbage collection, Simple example programs of String and StringBuffer classes, Wrapper classes..

#### **UNIT - II**

**Packages and Interfaces:** Defining a package, Accessing a Package, Understanding CLASSPATH, importing packages, exploring java.util.package (StringTokenizer, date classes)

**Interfaces:** Defining an interface, implementing interface, applying interfaces, variables in interface and extending interfaces and abstract classes. Differences between classes and interfaces, object serialization

**Exception handling:** Exception handling fundamentals, exception types, usage of try& catch, throw, throws and finally, java's built in exceptions, creating own exception sub classes

#### **UNIT - III**

**Multithreading** -. Differences between multi threading and multitasking, java thread model, creating thread, multiple threads, and synchronizing threads.

**Applet Class:** Concepts of Applets, differences between applets and applications, applet architecture, skeleton, creating applets, passing parameters to applets, working with graphics class.

#### **UNIT – IV**

**Event Handling:** Events handling mechanisms, Events, Event sources, Event classes, Event Listeners interfaces, Delegation event model, handling mouse and keyboard events, Adapter classes, inner classes.

**AWT controls:** label, button, scrollbars, text components, check box, check box groups, choices controls, lists, scrollbar, text field, layout managers – border, grid, flow, card, Containers.

#### **UNIT-V**

**JDBC:** Introduction, Types of Drivers, Procedure to establish a connection between java applications and database, types of statements, Result set types.

**Networking:** basics, address, ports, sockets.

#### **TEXT BOOK**

Herbert schildt, Java: the complete reference, TMH Publications,5th edition.

#### **REFERENCES**

1. E. Balaguruswamy, 'Programming with JAVA', TMH Publications, 2nd Edition.
2. Patrick Niemeyer & Jonathan Knudsen, Learning Java, O'Reilly P.
3. David Flanagan, Java – In a nutshell – A desktop quick reference, O'REILLY
4. Java Examples In a nutshell – A Tutorial companion to java in a nutshell (O'REILLY)
5. N.B.Venkateswarlu, E.V.Prasad, OOP through java, S chand 2010.

**Prerequisite:** The basic knowledge of Object oriented programming methodology and Graphical User Interface components.

#### **Course Educational Objectives:**

To make students enable to

- Concentrates on the methodological and technical aspects of software design and programming based on OOP.
- Acquire the basic knowledge and skills necessary to implement object-oriented programming techniques in software development through JAVA.

- Know about the importance of GUI based applications and the development of those applications through JAVA.
- Get sufficient knowledge to enter the job market related to Web development.

**Course Outcomes:**

After completion of this course student should be able to,


CO1: Understand & learn the history, Buzz words and the basic constructs of Java as per OOP concepts.

CO2: Understand the importance of Packages, Interfaces, Exception handling and have the ability to implement them as per real time scenarios.

CO3: Understand and analyze how Applet class & Multithreading are implemented in Java.

CO4: Analyze the importance of GUI, Event Handling and Implement GUI based applications using AWT.

CO5: Learn the basic concepts of JDBC and networking and to develop applications on Database Connectivity.

	<b>Lakireddy Bali Reddy College of Engineering</b>	
	<b>Department of CSE</b>	
	<b>Outcome based lesson plan</b>	
	Academic year: 2015-16	Course: Java Programming
	Programme: B.Tech	Unit No: 1 to 5
	Year & Sem: II & II (IV 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			
<b>UNIT-I: Java Language &amp; Introducing classes</b>						
1	History of Java	01/12/2016		2	1	1,3,5,7
2	The Byte code, Java Buzzwords	02/12/2016		2	1	
3	Arrays: 1-D and 2-D Arrays	03/12/2016		2	1	
4	Multidimensional Arrays with Example Programs	05/12/2016		2	1	
5	Type conversion and casting	07/12/2016		2	1	
6	Simple java programs	08/12/2016		2	1	
7	Class fundamentals, declaring objects	09/12/2016		2	1,2	
8	Access control	10/12/2016		2	1	
9	Constructors, Constructor Overloading	12/12/2016		2	1	
10	Methods, Method Overloading	14/12/2016		2	1,9	
11	Introduction to garbage collection	15/12/2016		2	1,9	
12	String class and it's methods	16/12/2016		2	1,9	
13	StringBuffer class and it's methods	17/12/2016		2	1,9	
14	Example programs on String and StringBuffer class	19/12/2016		2	1,9	
15	Wrapper classes and it's basics	21/12/2016		2	1	
16	Methods in Wrapper classes	22/12/2016		2	1	
17	<b>Tutorial – I</b>	23/12/2016		4	1,9	
<b>UNIT –II: Packages and Interfaces, Exception handling</b>						
18	Defining a package, Accessing a package	24/12/2016		2	1,2,9	

19	Understanding the CLASSPATH	26/12/2016		2	1,9	1,3,5,7
20	Importing packages	28/12/2016		2	1,9	
21	Exploring java.util.package: StringTokenizer class	29/12/2016		2	1,9	
22	Date class	30/12/2016		2	1	
23	Defining an interface, applying interfaces	31/12/2016		2	1	
24	Variables in interfaces and extending interfaces	02/01/2017		2	1,9	
25	Abstract classes, Differences between interfaces and classes	04/01/2017		2	1,9	
26	Object serialization	05/01/2017		2	1,9	
27	Exception handling fundamentals	06/01/2017		2	1,9	
28	Exception types and examples	07/01/2017		2	1,9	
29	Usage of try, catch, Throw & throws keywords	16/01/2017		2	1,9	
30	Finally keyword and example programs	18/01/2017		2	1,9	
31	Java's built in exceptions	19/01/2017		2	1,9	
32	Creating own exception sub classes	20/01/2017		2	1	
33	<b>Tutorial – II</b>	21/01/2017		4	1,9	
34	MID EXAMS	23/01/2017				
35		24/01/2017				
36		25/01/2017				
<b>UNIT –III: Multithreading, Applet class</b>						
37	Differences between multi threading and multitasking	27/01/2017		2	1	1,3,5,7
38	Java thread model	28/01/2017		2	1	
39	Creating thread	30/01/2017		2	1,9	
40	Multiple threads	01/02/2017		2	1,9	
41	Synchronizing threads	02/02/2017		2	1,9	
42	Concepts of Applets	03/02/2017		2	1,9	
43	<b>Tutorial – III</b>	04/02/2017		2	1,9	

44	Differences between applets and applications	06/02/2017		2	1,9	
45	Applet architecture, skeleton	08/02/2017		2	1,9	
46	Creating applets, passing parameters to applets	09/02/2017		2	1,9	
47	Working with graphics class	10/02/2017		2	1,9	
48	<b>Tutorial – IV</b>	11/02/2017		4	1,9	
<b>UNIT –IV: Event Handling, AWT controls</b>						
49	Events handling mechanisms	13/02/2017		2	1,9	1,3,5,7
50	Events, Event sources	15/02/2017		2	1,9	
51	Event classes	16/02/2017		2	1,9	
52	Event Listeners interfaces	17/02/2017		2	1,9	
53	Delegation event model	18/02/2017		2	1,9	
54	Handling mouse events	20/02/2017		2	1,9	
55	Handling keyboard events	22/02/2017		2	1,9	
56	Adapter classes, inner classes.	23/02/2017		2	1,9	
57	label, button	25/02/2017		2	1,9	
58	Example program using labels and buttons	27/02/2017		2	1,9	
59	Scrollbars, text components	01/03/2017		2	1,9	
60	Example program using scrollbars and text components	02/03/2017		2	1,9	
61	Check box, check box groups	03/03/2017		2	1,9	
62	Choices controls, lists	04/03/2017		2	1,9	
63	Scrollbar, text field	06/03/2017				
64	layout managers – border, grid	08/03/2017		2	1,9	
65	Flow, card, Containers	09/03/2017		2	1,9	
66	Example program using components and different layout managers	10/03/2017		2	1,9	
67	<b>Tutorial –IV</b>	11/03/2017		4	1,9	
<b>UNIT-V: JDBC, Networking</b>						
68	JDBC Introduction	13/03/2017		2	1	1,3,5,7

69	Types of Drivers	15/03/2017		2	1
70	Procedure to establish a connection between java applications and database	16/03/2017		2	1
71	Types of statements	17/03/2017		2	1
72	Result set types	18/03/2017		2	1
73	Result set types	20/03/2017		2	1
74	Networking basics	22/03/2017		2	
75	Network Address	23/03/2017		2	1
76	Network ports	24/03/2017		2	1
77	Sockets	25/03/2017		2	1
78	Example programs using networking	27/03/2017		2	1,9
79	<b>Tutorial – VI</b>	30/03/2017		4	1,9
80	MID-II EXAMS				
81					
82					

## Resources Used:

### TEXT BOOKS

1. Herbert schildt, Java: the complete reference, TMH Publications,5th edition.

### REFERENCES

1. E. Balaguruswamy, 'Programming with JAVA', TMH Publications, 2nd Edition.
2. Patrick Niemeyer & Jonathan Knudsen, Learning Java, O'Reilly P.
3. David Flanagan, Java – In a nutshell – A desktop quick reference, O'REILLY
4. Java Examples In a nutshell – A Tutorial companion to java in a nutshell (O'REILLY)
5. N.B.Venkateswarlu, E.V.Prasad, OOP through java, S chand 2010.

**Assessment Summary:**

Assessment Task	Weight age (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 Programme Outcomes:**

Course Code	Unit	Course Outcomes					Programme Outcomes												PSO's						
		1	2	3	4	5	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	
S284	I	x																	S		L				
	II		x								L								S						
	III			x			L												S					M	
	IV				x				M										S						
	V					x			L										S	M				M	

	Instructor	Course Coordinator	Module Coordinator	HOD
Name	B.Shyamala			Dr. N. Ravi Shankar
Sign with Date				





## Lakireddy Balireddy College of Engineering (Autonomous)

L.B.Reddy Nagar, Mylavaram , Krishna District, A.P

Freshman engineering Department

### LESSON PLAN

Subject :	<b>PROBABILITY &amp; STATISTICS (P&amp;S) - S 351</b>			
Academic Year :	<b>2016-17</b>	Semester :	<b>IV</b>	Date: <b>01.12.2016</b>  To <b>04.04.2017</b>
Faculty name :	<b>M. Rami Reddy</b>	Branch :	<b>C S E- A</b>	

## SYLLABUS

### UNIT - I

#### PROBABILITY AND RANDOM VARIABLES

Conditional probability – Multiplication theorem-Bayes's theorem. Random variables – Discrete and continuous Random Variables and their distribution functions, Mathematical Expectation of Univariate Random Variable.

### UNIT - II

#### PROBABILITY DISTRIBUTIONS

Probability Distributions-Binomial, Poisson, Normal and Gamma distributions-related properties, simple applications. Moment Generating Function and properties. Moment Generating Function for standard distributions.

### UNIT - III

#### SAMPLING DISTRIBUTION AND ESTIMATION

Population and samples. Sampling distribution of mean (with known and unknown variance), proportion, variances. - Sampling distribution of sums and differences. Point and interval estimators for mean, variance and proportions.

### UNIT - IV

#### TESTING OF HYPOTHESIS

Null and Alternative Hypothesis, One tail and two tailed tests, Type I and Type II errors. Testing of hypothesis concerning means, proportions and their differences using Z-test. Tests of hypothesis using Student's t-test, F-test and  $\chi^2$  test. Applications of decision making using the above tests.

### UNIT - V

#### CORRELATION AND CURVE FITTING

Simple Bi-variate Correlation and Regression lines. Curve fitting: Fitting a straight line – Second degree curve-exponential curve by method of least squares and goodness of fit.

#### **TEXT BOOKS**

1. Miller & Freund's "Probability and Statistics for Engineers" Prentice Hall of India, New Delhi, 8th edition. 2011.
2. William W. Hines "Probability and Statistics in Engineering" John Wiley & Sons, 4th edition. 2002

#### **REFERENCES**

1. Jay L.Devore "Probability and Statistics for engineering and the sciences." Cengage Learning india, 8th edition, 2012.
2. S.C.Gupta&V.K.Kapoor "Fundamentals of Mathematical Statistics" Sultan Chand and sons, New Delhi. 11th edition 2002.
3. T.K.V.Iyengar "Probability and Statistics" S.Chand& Company, New Delhi, edition 2012.
4. B.V.Ramana "Higher Engineering Mathematics" TMH, New Delhi, 1st Edition, 2010.

#### **Course Educational Objectives:**

The main objectives of this course are

1. To revise elementary concepts and techniques encountered in probability.
2. To extend and formalize knowledge of the concepts of probability and probability distributions.
3. To introduce the techniques for carrying out sampling methods and estimation of parameters.
4. To motivate the use of sampling tests using tests of significance.
5. To study the concepts of correlation and linear, non linear regression lines.

#### **Course Outcomes:**

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

CO1: Apply knowledge of mathematics & probability techniques in engineering.

CO2: Design as well as to analyze and interpret the problems using Probability distributions.

CO3: Apply the methods of sampling and estimation of parameter values.

CO4: Identify, formulate and solve problems using tests of hypothesis.

CO5: To measure the association between the variables and prediction of variables.

S. No.	Tentative Date	Topics to be covered	Actual Date	Number of Classes	Delivery Method
UNIT- I					
1	01-12-2016	Introduction class		1	DM1
2	03-12-2016	Syllabus and Basic concepts		1	DM1
3	05-12-2016	Introduction to probability		1	DM1
4	06-12-2016	Basic definitions, simple problems		1	DM1
5	07-12-2016	Problem on addition theorem		1	DM1
6	08-12-2016	Conditional probability		1	DM1
7	10-12-2016	Multiplication theorem, examples		1	DM1
8	13-12-2016	Independent events, theorems		1	DM1
9	14-12-2016	Problems on multiplication theorem		1	DM1
10	15-12-2016	Problems on independent events		1	DM1
11	17-12-2016	Baye's theorem		1	DM1
12	18-12-2016	Problems on baye's theorem		1	DM1
13	19-12-2016	Tutorial		1	DM2
14	20-12-2016	Assignment & Quiz questions		1	DM2,4
UNIT- II					
15	21-12-2016	Random variables,(discrete and continuous)		1	DM1
16	22-12-2016	Mathematical Expectation ,relations		1	DM1
17	24-12-2016	Problems on PMF		1	DM1
18	26-12-2016	Problems on PDF		1	DM1
19	27-12-2016	Problems on pdf		1	DM1
20	29-12-2016	Binomial Distribution , mean and variance		1	DM1
21	31-12-2016	Problems on Binomial distribution		1	DM1
22	02-01-2017	Fitting of Binomial distribution		1	DM1
23	03-01-2017	Poisson distribution, mean and variance		1	DM1
24	04-01-2017	Problems on Poisson distribution, MGF		1	DM1

25	05-01-2017	Fitting of Poisson Distribution.		1	DM1
26	07-01-2017	Normal distribution		1	DM1
27	16-01-2017	Problems on Normal Distribution		1	DM1
28	17-01-2017	Problems on Normal Distribution		1	DM1
29	18-01-2017	Gamma distribution, simple applications		1	DM1
30	19-01-2017	Moment Generating Function and properties		1	DM1
31	20-01-2017	MGF of Binomial, Poisson and Normal		1	DM1
32	21-01-2017	Tutorial		1	DM2
33	21-01-2017	Assignment & Quiz questions		1	DM2,4
34	23-01-2017	I Mid Exams			
35	25-01-2017	I Mid Exams			
36	27-01-2017	I Mid Exams			
37	28-01-2017	I Mid Exams			
38	30-01-2017	I Mid Exams			
UNIT III					
39	01-02-2017	Population and samples		1	DM1
40	02-02-2017	Sampling distribution of mean		1	DM1
41	03-02-2017	Sampling distribution of mean		1	DM1
42	04-02-2017	Sampling distribution of proportions		1	DM1
43	06-02-2017	Sampling distribution of variances		1	DM1
44	07-02-2017	Sampling distribution of sums and differences		1	DM1
45	08-02-2017	Point and interval estimation of mean		1	DM1
46	09-02-2017	Point and interval estimation of mean		1	DM1
47	13-02-2017	Point and interval estimation of proportions.		1	DM1
48	14-02-2017	Interval estimation in small samples		1	DM1
49	15-02-2017	Interval estimation in small samples		1	DM1
50	16-02-2017	Tutorial		1	DM2
51	18-02-2017	Assignment & Quiz questions		1	DM2,4
UNIT IV					

52	20-02-2017	Testing of Hypothesis , definitions		1	DM1
53	21-02-2017	Type I and Type II errors		1	DM1
54	23-02-2017	Large samples- Z-test for single mean		1	DM1
55	25-02-2017	Z-test for single mean		1	DM1
56	01-03-2017	Z-test for difference of means		1	DM1
57	02-03-2017	Z-test for single proportion		1	DM1
58	04-03-2017	Z-test for difference of proportions		1	DM1
59	06-03-2017	t-test for single mean		1	DM1
60	07-03-2017	t-test for difference of means		1	DM1
61	08-03-2017	Problems on t-tests		1	DM1
62	09-03-2017	F-test for population variances		1	DM1
63	13-03-2017	$\chi^2$ test for goodness of fit		1	DM1
64	14-03-2017	$\chi^2$ test for independence of attributes		1	DM1
65	15-03-2017	Problems on $\chi^2$ test		1	DM1
66	16-03-2017	Tutorial		1	DM2
67	18-03-2017	Assignment & Quiz questions		1	DM2,4
UNIT V					
68	20-03-2017	Simple Bi-variate Correlation		1	DM1
69	21-03-2017	Problems on Pearson's Correlation		1	DM1
70	22-03-2017	Problems on Pearson's Correlation		1	DM1
71	23-03-2017	Problems on rank Correlation		1	DM1
72	25-03-2017	Regression lines		1	DM1
73	27-03-2017	Problems on Regression lines		1	DM1
74	28-03-2017	Problems on Regression lines		1	DM1
75	29-03-2017	Curve fitting- method of least squares		1	DM1
76	30-03-2017	Fitting a straight line, Second degree curve		1	DM1
77	31-03-2017	Fitting of exponential and other curves		1	DM1
78	01-04-2017	Tutorial		1	DM2

79	03-04-2017	Assignment & Quiz questions			1	DM2,4
	Instructor	Course Coordinator	Module Coordinator	HOD		
Name	M.Rami Reddy			Dr. A. Rami Reddy		
Sign with Date						

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## Lakireddy Balireddy College of Engineering (Autonomous)

L.B.Reddy Nagar, Mylavaram, Krishna District, A.P

Freshman engineering Department

### LESSON PLAN

Subject :	<b>PROBABILITY &amp; STATISTICS (P&amp;S) - S 351</b>			
Academic Year :	<b>2016-17</b>	Semester :	<b>IV</b>	<b>Date: 01.12.2016</b> <b>To 04.04.2017</b>
Faculty name :	<b>D.VIJAY KUMAR</b>	Branch :	<b>CSE-B</b>	

## SYLLABUS

### UNIT - I

#### PROBABILITY AND RANDOM VARIABLES

Conditional probability – Multiplication theorem-Bayes's theorem. Random variables – Discrete and continuous Random Variables and their distribution functions, Mathematical Expectation of Univariate Random Variable.

### UNIT - II

#### PROBABILITY DISTRIBUTIONS

Probability Distributions-Binomial, Poisson, Normal and Gamma distributions-related properties, simple applications. Moment Generating Function and properties. Moment Generating Function for standard distributions.

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Population and samples. Sampling distribution of mean (with known and unknown variance), proportion, variances. - Sampling distribution of sums and differences. Point and interval estimators for mean, variance and proportions.

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#### **Course Educational Objectives:**

The main objectives of this course are

6. To revise elementary concepts and techniques encountered in probability.
7. To extend and formalize knowledge of the concepts of probability and probability distributions.
8. To introduce the techniques for carrying out sampling methods and estimation of parameters.
9. To motivate the use of sampling tests using tests of significance.
10. To study the concepts of correlation and linear, non linear regression lines.

#### **Course Outcomes:**

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

CO1: Apply knowledge of mathematics & probability techniques in engineering.

CO2: Design as well as to analyze and interpret the problems using Probability distributions.

CO3: Apply the methods of sampling and estimation of parameter values.

CO4: Identify, formulate and solve problems using tests of hypothesis.

CO5: To measure the association between the variables and prediction of variables.



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10	15-12-2016	Problems on independent events		1	DM1
11	16-12-2016	Baye's theorem		1	DM1
12	17-12-2016	Problems on baye's theorem		1	DM1
13	19-12-2016	Tutorial		1	DM2
14	20-12-2016	Assignment & Quiz questions		1	DM2,4
UNIT- II					
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16	23-12-2016	Mathematical Expectation ,relations		1	DM1
17	24-12-2016	Problems on PMF		1	DM1
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21	30-12-2016	Problems on Binomial distribution		1	DM1
22	31-12-2016	Fitting of Binomial distribution		1	DM1
23	02-01-2017	Poisson distribution, mean and variance		1	DM1
24	03-01-2017	Problems on Poisson distribution, MGF		1	DM1

25	05-01-2017	Fitting of Poisson Distribution.		1	DM1
26	06-01-2017	Normal distribution		1	DM1
27	07-01-2017	Problems on Normal Distribution		1	DM1
28	16-01-2017	Problems on Normal Distribution		1	DM1
29	17-01-2017	Gamma distribution, simple applications		1	DM1
30	19-01-2017	Moment Generating Function and properties		1	DM1
31	20-01-2017	MGF of Binomial, Poisson and Normal		1	DM1
32	21-01-2017	Tutorial		1	DM2
33	21-01-2017	Assignment & Quiz questions		1	DM2,4
34	23-01-2017	I Mid Exams			
35	24-01-2017	I Mid Exams			
36	27-01-2017	I Mid Exams			
37	28-01-2017	I Mid Exams			
38	30-01-2017	I Mid Exams			
39	01-02-2017	I Mid Exams			
UNIT III					
40	02-02-2017	Population and samples		1	DM1
41	03-02-2017	Sampling distribution of mean		1	DM1
42	04-02-2017	Sampling distribution of mean		1	DM1
43	06-02-2017	Sampling distribution of proportions		1	DM1
44	07-02-2017	Sampling distribution of variances		1	DM1
45	09-02-2017	Sampling distribution of sums and differences		1	DM1
46	10-02-2017	Point and interval estimation of mean		1	DM1
47	13-02-2017	Interval estimation of mean		1	DM1
48	14-02-2017	Interval estimation of proportions.		1	DM1
49	16-02-2017	Interval estimation in small samples		1	DM1
50	17-02-2017	Interval estimation in small samples		1	DM1
51	18-02-2017	Tutorial		1	DM2
52	20-02-2016	Assignment & Quiz questions		1	DM2,4

UNIT IV					
53	21-02-2017	Testing of Hypothesis , definitions		1	DM1
54	23-02-2017	Type I and Type II errors		1	DM1
55	25-02-2017	Large samples- Z-test for single mean		1	DM1
56	27-02-2017	Z-test for single mean		1	DM1
57	28-02-2017	Z-test for difference of means		1	DM1
58	02-03-2017	Z-test for single proportion		1	DM1
59	03-03-2017	Z-test for difference of proportions		1	DM1
60	04-03-2017	t-test for single mean		1	DM1
61	06-03-2017	t-test for difference of means		1	DM1
62	07-03-2017	Problems on t-tests		1	DM1
63	09-03-2017	F-test for population variances		1	DM1
64	10-03-2017	$\chi^2$ test for goodness of fit		1	DM1
65	13-03-2017	$\chi^2$ test for independence of attributes		1	DM1
66	14-03-2017	Problems on $\chi^2$ test		1	DM1
67	16-03-2017	Tutorial		1	DM2
68	17-03-2017	Assignment & Quiz questions		1	DM2,4
UNIT V					
69	18-03-2017	Simple Bi-variate Correlation		1	DM1
70	20-03-2017	Problems on Pearson's Correlation		1	DM1
71	21-03-2017	Problems on Pearson's Correlation		1	DM1
72	23-03-2017	Problems on rank Correlation		1	DM1
73	24-03-2017	Regression lines		1	DM1
74	25-03-2017	Problems on Regression lines		1	DM1
75	27-03-2017	Problems on Regression lines		1	DM1
76	28-03-2017	Curve fitting- method of least squares		1	DM1
77	30-03-2017	Fitting a straight line, Second degree curve		1	DM1
78	31-03-2017	Fitting of exponential and other curves		1	DM1

79	01-04-2017	Tutorial		1	DM2
80	03-04-2017	Assignment & Quiz questions		1	DM2,4

	Instructor	Course Coordinator	Module Coordinator	HOD
Name				Dr. A. Rami Reddy
Sign with Date				

S No.	Tentative Date	Topics to be covered	Actual Date	Num. of classes	Content Delivery Methods
<b>Unit-I: Engineering Ethics</b>					
1.	01-12-16	Introduction about engineering ethics		1	DM1
2.	02-12-16	Senses of engineering ethics		1	DM1
3.	05-12-16	Variety of moral issued		1	DM1
4.	09-12-16	Moral dilemmas moral autonomy		1	DM1
5.	10-12-16	Kohlberg's theory		1	DM1
6.	15-12-16	Gilligan theory		1	DM1
7.	16-12-16	Consensus and controversy			
8.	19-12-16	Models of professional roles about right action self interest		1	DM1
9.	22-12-16	Customs and religion, uses of ethical theories		1	DM1
10.	23-12-16	uses of ethical theories		1	DM1
11.	26-12-16	Tutorial		1	
<b>UNIT-II: Human values</b>					
12.	29-12-16	Introduction about values			
13.	30-12-16	Morals ethics and values, Integrity		1	DM1
14.	02-01-17	work ethic, Service learning, Civic virtue		1	DM1
15.	05-01-17	Respect for others, living peacefully, Caring, sharing,		1	DM1
16.	06-01-17	honesty, courage, Valuing time, cooperation		1	DM1
17.	16-01-17	Commitment, Empathy, self confidence		1	DM1
18.	19-01-17	Character, spirituality		1	DM1
19.	20-01-17	Tutorial		1	
	23-01-17 to 31-01-17	I-MID EXAMS			
<b>Unit-III Engineering as social experimentation</b>					
20.	02-02-17	Engineering as experimentation introduction		1	DM1

21.	03-02-17	Engineering Projects VS. Standard Experiments		1	DM1
22.	06-02-17	Engineers as responsible experimenters		1	DM1
23.	09-02-17	Codes of ethics		1	DM1
24.	10-02-17	Industrial Standards		1	DM1
25.	13-02-17	A balanced outlook on law		1	DM1
26.	16-02-17	The challenger case study		1	DM1
27.	17-02-17	Tutorial			
		<b>Unit – IV Safety, responsibilities and rights</b>			
28.	20-02-17	Introduction about Safety, and rights		1	DM1
29.	23-02-17	Safety and risk		1	DM1
30.	27-02-17	Assessment of safety and risk		1	DM1
31.	02-03-17	Risk benefit analysis and reducing risk		1	DM1
32.	03-03-17	Three Mile Island and Chernobyl case study		1	DM1
33.	06-03-17	Three Mile Island and Chernobyl case study		1	DM1
34.	09-03-17	Collegiality and loyalty, Respect for authority,		1	DM1
35.	10-03-17	Collective bargaining-Confidentiality		1	DM1
36.	13-03-17	Conflicts of interest, Occupational crime		1	DM1
37.	16-03-17	Professional Rights, Employee rights-		1	DM1
38.	17-03-17	Intellectual Property Rights (IPR)		1	DM1
39.	20-03-17	Tutorial		1	
		<b>Unit –V GLOBAL ISSUES</b>			
40.	23-03-17	MNC's, Environmental ethics, computer ethics,			DM1
41.	24-03-17	Weapons development, Engineers as managers		1	DM1
42.	27-03-17	consulting engineers		1	DM1
43.	30-03-17	Engineers as expert witnesses, advisors Moral leadership		1	DM1
44.	31-03-17	sample code of Ethics		1	DM1
45.	03-04-17	Tutorial			
<b>Total number of classes available as per Schedule</b>				<b>45</b>	

SIGNATURE OF FACULTY

SIGNATURE OF HOD

S No.	Tentative Date	Topics to be covered	Actual Date	Num. of classes	Content Delivery Methods
<b>Unit-I: Engineering Ethics</b>					
11.	01-12-16	Introduction about engineering ethics		1	DM1
12.	03-12-16	Senses of engineering ethics		1	DM1
13.	06-12-16	Variety of moral issued		1	DM1
14.	08-12-16	Moral dilemmas moral autonomy		1	DM1
15.	10-12-16	Kohlberg's theory		1	DM1
16.	13-12-16	Gilligan theory		1	DM1
17.	15-12-16	Consensus and controversy			
18.	17-12-16	Models of professional roles about right action self interest		1	DM1

19.	20-12-16	Customs and religion, uses of ethical theories		1	DM1
20.	22-12-16	uses of ethical theories		1	DM1
11.	24-12-16	Tutorial		1	
		<b>UNIT-II: Human values</b>			
12.	27-12-16	Introduction about values			
13.	29-12-16	Morals ethics and values, Integrity		1	DM1
14.	31-12-16	work ethic, Service learning, Civic virtue		1	DM1
15.	03-01-17	Respect for others, living peacefully, Caring, sharing,		1	DM1
16.	05-01-17	honesty, courage, Valuing time, cooperation		1	DM1
17.	07-01-17	Commitment, Empathy, self confidence		1	DM1
18.	17-01-17	character		1	DM1
19.	19-01-17	spirituality		1	DM1
20.	21-01-17	Tutorial		1	DM1
	23-01-17 to 31-01-17	I-MID EXAMS			
		<b>Unit-III Engineering as social experimentation</b>			
21.	02-02-17	Engineering as experimentation introduction		1	DM1
22.	03-02-17	Engineering Projects VS. Standard Experiments		1	DM1
23.	07-02-17	Engineers as responsible experimenters		1	DM1
24.	09-02-17	Codes of ethics		1	DM1
25.	10-02-17	Industrial Standards		1	DM1
26.	14-02-17	A balanced outlook on law		1	DM1
27.	16-02-17	The challenger case study		1	
28.	17-02-17	Tutorial			
		<b>Unit – IV Safety, responsibilities and rights</b>			
29.	21-02-17	Introduction about Safety, and rights		1	DM1
30.	23-02-17	Safety and risk		1	DM1
31.	28-02-17	Assessment of safety and risk		1	DM1
32.	02-03-17	Risk benefit analysis and reducing risk		1	DM1
33.	03-03-17	Three Mile Island and Chernobyl case study		1	DM1
34.	07-03-17	Three Mile Island and Chernobyl case study		1	DM1
35.	09-03-17	Collegiality and loyalty, Respect for authority,		1	DM1
36.	10-03-17	Collective bargaining-Confidentiality		1	DM1
37.	14-03-17	Conflicts of interest, Occupational crime		1	DM1
38.	16-03-17	Professional Rights, Employee rights-		1	DM1
39.	17-03-17	Intellectual Property Rights (IPR)			
40.	21-03-17	Tutorial		1	
		<b>Unit –V GLOBAL ISSUES</b>			
46.	23-03-17	MNC's, Environmental ethics, computer ethics,			
47.	24-03-17	Weapons development. Engineers as managers,		1	DM1
48.	28-03-17	Engineers as consulting engineers			



variable initialization. **Abstract Data types:** Abstractions and encapsulation, introductions to data abstraction, design issues, language examples, C++ parameterized ADT, object oriented programming in small talk, C++, Java.

#### **UNIT – IV**

**Expressions and Statements:** Arithmetic relational and Boolean expressions, Short circuit evaluation mixed mode assignment, Assignment Statements, Control Structures – Statement Level, Compound Statements, Selection, Iteration, Unconditional Statements, guarded commands.

#### **UNIT-V**

**Subprograms and Blocks:** Fundamentals of sub-programs, Scope and lifetime of variable, static and dynamic scope, Design issues of subprograms and operations, local referencing environments, parameter passing methods, parameters that are sub-program names, design issues for functions user defined overloaded operators. Synchronization, Concurrency concepts.

#### **TEXT BOOK**

Robert .W. Sebesta - Concepts of Programming Languages Pearson Education,6th edition.

#### **REFERENCES**

1. Ghezzi , Programming languages, John Wiley,3rd edition.
2. Pratt and Zelkowitz - Programming Languages Design and Implementation PHI/Pearson Education,4th edition.

#### **Course Educational Objectives:**


- Introducing the fundamental principles of language design.
- Introducing formal syntax and semantics. Discussing control structures and abstractions. Introducing data typing and abstractions
- Aiming at conducting Tutorial, seminars and remedial classes.

#### **Course Outcomes:**

- To be able to express computational solutions in the main programming idioms.
- To be able to select an appropriate programming language for solving a computational problem, with justification
- To know and understand the principal programming abstractions.
- To know and understand the functional programming language.

**Pre requisite:** Knowledge of different languages.



	<b>Lakireddy Bali Reddy College of Engineering</b>	
	<b>Department of CSE</b>	
	<b>Outcome based lesson plan</b>	
	Academic year: 2016-17	Course: Principles of Programming Languages
	Programme: B.Tech	Unit No: 1 to 5
	Year & Sem: II & (IV sem)	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			
<b>UNIT-I: Preliminary Concepts</b>						
1	Reasons for studying concepts of programming languages	01/12/2016		2	1	1,3,5,7
2	Programming domains	02/12/2016		2	1	
3	Language Evaluation Criteria	03/12/2016		2	1	
4	influences on Language design	05/12/2016		2	1	

5	Language categories	07/12/2016		2	1	
6	Programming Paradigms – Imperative	08/12/2016		2	1	
7	Object Oriented	09/12/2016		2	1,2	
8	functional Programming	10/12/2016		2	1	
9	Logic Programming	12/12/2016		2	1	
10	Programming Language Implementation	14/12/2016		2	1,9	
11	Programming Language Implementation	15/12/2016		2	1,9	
12	Compilation	16/12/2016		2	1,9	
13	Virtual Machines	17/12/2016		2	1,9	
14	programming Environments	19/12/2016		2	1,9	
15	programming Environments	21/12/2016		2	1	
16	programming Environments	22/12/2016		2	1	
17	<b>Tutorial – I</b>	23/12/2016		4	1,9	
<b>UNIT –II: Syntax and Semantics</b>						
18	general Problem of describing Syntax and Semantics	24/12/2016		2	1,2,9	
19	general Problem of describing Syntax and Semantics	26/12/2016		2	1,9	
20	formal methods of describing syntax – BNF	28/12/2016		2	1,9	
21	formal methods of describing syntax – BNF	29/12/2016		2	1,9	
22	formal methods of describing syntax – BNF	30/12/2016		2	1	
23	EBNF for common programming languages features	31/12/2016		2	1	
24	parse trees	02/01/2017		2	1,9	
25	ambiguous grammars	04/01/2017		2	1,9	
26	attribute grammars	05/01/2017		2	1,9	
27	<b>Names, Bindings, and Scopes</b> Introduction	06/01/2017		2	1,9	1,3,5,7
28	Names	07/01/2017		2	1,9	
29	Variables	16/01/2017		2	1,9	
30	The Concept of Binding	18/01/2017		2	1,9	
31	The Concept of Binding	19/01/2017		2	1,9	

32	Scope and Lifetime	20/01/2017		2	1	
33	<b>Tutorial – II</b>	21/01/2017		4	1,9	
34	MID EXAMS	23/01/2017				
35		24/01/2017				
36		25/01/2017				
<b>UNIT –III: Data types</b>						
37	Introduction	27/01/2017		2	1	1,3,5,7
38	primitive, character, user defined	28/01/2017		2	1	
39	array, associative	30/01/2017		2	1,9	
40	record, union	01/02/2017		2	1,9	
41	Names, Variable, concept of binding	02/02/2017		2	1,9	
42	type checking, strong typing, type compatibility	03/02/2017		2	1,9	
43	named constants, variable initialization.	04/02/2017		2	1,9	
44	<b>Abstract Data types:</b> Abstractions and encapsulation	06/02/2017		2	1,9	
45	introductions to data abstraction, design issues, language examples	08/02/2017		2	1,9	
46	C++ parameterized ADT	09/02/2017		2	1,9	
47	object oriented programming in small talk, C++, Java	10/02/2017		2	1,9	
48	<b>Tutorial – IV</b>	11/02/2017		4	1,9	
<b>UNIT –IV: Expressions and Statements</b>						
49	<b>Expressions and Statements:</b>	13/02/2017		2	1,9	1,3,5,7
50	Arithmetic, relational and Boolean expressions	15/02/2017		2	1,9	
51	Arithmetic, relational and Boolean expressions	16/02/2017		2	1,9	
52	Short circuit evaluation	17/02/2017		2	1,9	
53	Short circuit evaluation	18/02/2017		2	1,9	
54	mixed mode assignment	20/02/2017		2	1,9	
55	Assignment Statements	22/02/2017		2	1,9	

56	Control Structures – Statement Level	23/02/2017		2	1,9	
57	Control Structures – Statement Level	25/02/2017		2	1,9	
58	Control Structures – Statement Level	27/02/2017		2	1,9	
59	Compound Statements	01/03/2017		2	1,9	
60	Compound Statements	02/03/2017		2	1,9	
61	Selection	03/03/2017		2	1,9	
62	Selection	04/03/2017		2	1,9	
63	Iteration	06/03/2017				
64	Iteration	08/03/2017		2	1,9	
65	Unconditional Statements	09/03/2017		2	1,9	
66	guarded commands	10/03/2017		2	1,9	
67	<b>Tutorial –IV</b>	11/03/2017		4	1,9	
<b>UNIT-V: Subprograms and Blocks</b>						
68	<b>Subprograms and Blocks: Fundamentals of sub-programs</b>	13/03/2017		2	1	
69	Scope and lifetime of variable	15/03/2017		2	1	
70	static and dynamic scope	16/03/2017		2	1	
71	Design issues of subprograms and operations	17/03/2017		2	1	
72	local referencing environments	18/03/2017		2	1	1,3,5,7
73	parameter passing methods	20/03/2017		2	1	
74	parameters that are sub-program names	22/03/2017		2		
75	design issues for functions	23/03/2017		2	1	
76	user defined overloaded operators	24/03/2017		2	1	
77	Synchronization	25/03/2017		2	1	
78	Concurrency concepts.	27/03/2017		2	1,9	
79	<b>Tutorial – VI</b>	30/03/2017		4	1,9	
80	MID-II EXAMS					
81						
82						

## Resources Used:

### TEXT BOOKS

1. Robert W. Sebesta- Concepts of Programming Languages6/e, Pearson Education

### REFERENCES

1. Ghezzi- Programming Languages – 3/e, John Wiley
2. Pratt and Zelkowitz- Programming Languages Design and Implementation – Fourth edition PHI/Pearson Education.

### Assessment Summary:

Assessment Task	Weight age (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 Programme Outcomes:

	Instructor	Course Coordinator	Module Coordinator	HOD
Name	K.N.Prasanthi			Dr. N. Ravi Shankar
Sign with Date				



## LESSON PLAN

Sub. Name : **PRINCIPLES OF PROGRAMMING LANGUAGES**

Branch: CSE

Semester & Sections: IV & B

Date

01/12/2016

To

30/03/2017

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### S350 - PRINCIPLES OF PROGRAMMING LANGUAGES

Lecture	: 4 Periods/week	Internal Marks	: 25
Tutorial	: 1	External Marks	: 75
Credits	: 3	External Examinations	: 3

Hrs

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**UNIT - I**

**Preliminary Concepts:** Reasons for studying concepts of programming languages, Programming domains, Language Evaluation Criteria, influences on Language design, Language categories, Programming Paradigms – Imperative, Object Oriented, functional Programming, Logic Programming. Programming Language Implementation – Compilation and Virtual Machines, programming Environments.

**UNIT - II**

**Syntax and Semantics:** general Problem of describing Syntax and Semantics, formal methods of describing syntax - BNF, EBNF for common programming languages features, parse trees, ambiguous grammars, attribute grammars. **Names, Bindings, and Scopes** Introduction, Names, Variables, The Concept of Binding, Scope and Lifetime

**UNIT - III**

**Data types:** Introduction, primitive, character, user defined, array, associative, record, union, Names, Variable, concept of binding, type checking, strong typing, type compatibility, named constants, variable initialization. **Abstract Data types:** Abstractions and encapsulation, introductions to data abstraction, design issues, language examples, C++ parameterized ADT, object oriented programming in small talk, C++, Java.

**UNIT – IV**

**Expressions and Statements:** Arithmetic relational and Boolean expressions, Short circuit evaluation mixed mode assignment, Assignment Statements, Control Structures – Statement Level, Compound Statements, Selection, Iteration, Unconditional Statements, guarded commands.

## **UNIT-V**

**Subprograms and Blocks:** Fundamentals of sub-programs, Scope and lifetime of variable, static and dynamic scope, Design issues of subprograms and operations, local referencing environments, parameter passing methods, parameters that are sub-program names, design issues for functions user defined overloaded operators. Synchronization, Concurrency concepts.

## **TEXT BOOK**

Robert .W. Sebesta - Concepts of Programming Languages Pearson Education,6th edition.

## **REFERENCES**

1. Ghezzi , Programming languages, John Wiley,3rd edition.
2. Pratt and Zelkowitz - Programming Languages Design and Implementation PHI/Pearson Education,4th edition.


### **Course Educational Objectives:**

- Introducing the fundamental principles of language design.
- Introducing formal syntax and semantics. Discussing control structures and abstractions. Introducing data typing and abstractions
- Aiming at conducting Tutorial, seminars and remedial classes.

### **Course Outcomes:**

- To be able to express computational solutions in the main programming idioms.
- To be able to select an appropriate programming language for solving a computational problem, with justification
- To know and understand the principal programming abstractions.
- To know and understand the functional programming language.

**Pre requisite:** Knowledge of different languages.

	<b>Lakireddy Bali Reddy College of Engineering</b>	
	<b>Department of CSE</b>	
	<b>Outcome based lesson plan</b>	
	Academic year: 2016-17	Course: Principles of Programming Languages
	Programme: B.Tech	Unit No: 1 to 5
	Year & Sem: II & (IV sem)	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			
<b>UNIT-I: Preliminary Concepts</b>						
1	Reasons for studying concepts of programming languages	01/12/2016		2	1	1,3,5,7
2	Programming domains	02/12/2016		2	1	
3	Language Evaluation Criteria	03/12/2016		2	1	



4	influences on Language design	05/12/2016		2	1	
5	Language categories	07/12/2016		2	1	
6	Programming Paradigms – Imperative	08/12/2016		2	1	
7	Object Oriented	09/12/2016		2	1,2	
8	functional Programming	10/12/2016		2	1	
9	Logic Programming	12/12/2016		2	1	
10	Programming Language Implementation	14/12/2016		2	1,9	
11	Programming Language Implementation	15/12/2016		2	1,9	
12	Compilation	16/12/2016		2	1,9	
13	Virtual Machines	17/12/2016		2	1,9	
14	programming Environments	19/12/2016		2	1,9	
15	programming Environments	21/12/2016		2	1	
16	programming Environments	22/12/2016		2	1	
17	<b>Tutorial – I</b>	23/12/2016		4	1,9	
<b>UNIT –II: Syntax and Semantics</b>						
18	general Problem of describing Syntax and Semantics	24/12/2016		2	1,2,9	
19	general Problem of describing Syntax and Semantics	26/12/2016		2	1,9	
20	formal methods of describing syntax – BNF	28/12/2016		2	1,9	
21	formal methods of describing syntax – BNF	29/12/2016		2	1,9	
22	formal methods of describing syntax – BNF	30/12/2016		2	1	
23	EBNF for common programming languages features	31/12/2016		2	1	
24	parse trees	02/01/2017		2	1,9	
25	ambiguous grammars	04/01/2017		2	1,9	
26	attribute grammars	05/01/2017		2	1,9	
27	<b>Names, Bindings, and Scopes</b> Introduction	06/01/2017		2	1,9	1,3,5,7
28	Names	07/01/2017		2	1,9	
29	Variables	16/01/2017		2	1,9	
30	The Concept of Binding	18/01/2017		2	1,9	

31	The Concept of Binding	19/01/2017		2	1,9	
32	Scope and Lifetime	20/01/2017		2	1	
33	<b>Tutorial – II</b>	21/01/2017		4	1,9	
34	MID EXAMS	23/01/2017				
35		24/01/2017				
36		25/01/2017				
<b>UNIT –III: Data types</b>						
37	Introduction	27/01/2017		2	1	1,3,5,7
38	primitive, character, user defined	28/01/2017		2	1	
39	array, associative	30/01/2017		2	1,9	
40	record, union	01/02/2017		2	1,9	
41	Names, Variable, concept of binding	02/02/2017		2	1,9	
42	type checking, strong typing, type compatibility	03/02/2017		2	1,9	
43	named constants, variable initialization.	04/02/2017		2	1,9	
44	<b>Abstract Data types:</b> Abstractions and encapsulation	06/02/2017		2	1,9	
45	introductions to data abstraction, design issues, language examples	08/02/2017		2	1,9	
46	C++ parameterized ADT	09/02/2017		2	1,9	
47	object oriented programming in small talk, C++, Java	10/02/2017		2	1,9	
48	<b>Tutorial – IV</b>	11/02/2017		4	1,9	
<b>UNIT –IV: Expressions and Statements</b>						
49	<b>Expressions and Statements:</b>	13/02/2017		2	1,9	1,3,5,7
50	Arithmetic, relational and Boolean expressions	15/02/2017		2	1,9	
51	Arithmetic, relational and Boolean expressions	16/02/2017		2	1,9	
52	Short circuit evaluation	17/02/2017		2	1,9	
53	Short circuit evaluation	18/02/2017		2	1,9	
54	mixed mode assignment	20/02/2017		2	1,9	

55	Assignment Statements	22/02/2017		2	1,9	
56	Control Structures – Statement Level	23/02/2017		2	1,9	
57	Control Structures – Statement Level	25/02/2017		2	1,9	
58	Control Structures – Statement Level	27/02/2017		2	1,9	
59	Compound Statements	01/03/2017		2	1,9	
60	Compound Statements	02/03/2017		2	1,9	
61	Selection	03/03/2017		2	1,9	
62	Selection	04/03/2017		2	1,9	
63	Iteration	06/03/2017				
64	Iteration	08/03/2017		2	1,9	
65	Unconditional Statements	09/03/2017		2	1,9	
66	guarded commands	10/03/2017		2	1,9	
67	<b>Tutorial –IV</b>	11/03/2017		4	1,9	
<b>UNIT-V: Subprograms and Blocks</b>						
68	<b>Subprograms and Blocks: Fundamentals of sub-programs</b>	13/03/2017		2	1	1,3,5,7
69	Scope and lifetime of variable	15/03/2017		2	1	
70	static and dynamic scope	16/03/2017		2	1	
71	Design issues of subprograms and operations	17/03/2017		2	1	
72	local referencing environments	18/03/2017		2	1	
73	parameter passing methods	20/03/2017		2	1	
74	parameters that are sub-program names	22/03/2017		2		
75	design issues for functions	23/03/2017		2	1	
76	user defined overloaded operators	24/03/2017		2	1	
77	Synchronization	25/03/2017		2	1	
78	Concurrency concepts.	27/03/2017		2	1,9	
79	<b>Tutorial – VI</b>	30/03/2017		4	1,9	
80	MID-II EXAMS					
81						
82						

## Resources Used:

### TEXT BOOKS

1. Robert W. Sebesta- Concepts of Programming Languages6/e, Pearson Education

### REFERENCES

1. Ghezzi- Programming Languages – 3/e, John Wiley
2. Pratt and Zelkowitz- Programming Languages Design and Implementation – Fourth edition PHI/Pearson Education.

### Assessment Summary:

Assessment Task	Weight age (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 Programme Outcomes:**

	Instructor	Course Coordinator	Module Coordinator	HOD
Name	T UDAYA KUMAR			Dr. N. Ravi Shankar
Sign with Date				

S No.	Tentative Date	Topics to be covered	Actual Date	Num. of classes	Content Delivery Methods
<b>UNIT-I: Introduction</b>					
1.	28-11-2016	Introduction		1	DM1
2.	29-11-2016	Introduction To Software Engineering		1	DM1
3.	30-11-2016	Introduction To Software Engineering		1	DM1
4.	01-12-2016	The Evolving Role Of Software		1	DM1
5.	03-12-2016	Software		1	DM1
6.	05-12-2016	Changing Nature Of Software		1	DM1
7.	06-12-2016	Legacy Software		1	DM1
8.	07-12-2016	Software Myths		1	DM1
9.	08-12-2016	Software Process		1	DM1
10.	13-12-2016	Layered Technology		1	DM1
11.	14-12-2016	Process Frame Work		1	DM1
12.	15-12-2016	CMMI		1	DM1
13.	17-12-2016	Process Patterns		1	DM1
14.	19-12-2016	Assessment		1	DM1
15.	20-12-2016	Personal And Team Process Models		1	DM6
16.	21-12-2016	Process Technology		1	DM1
17.	22-12-2016	Product And Process		1	DM1
18.	24-12-2016	Assignment		1	DM4
<b>UNIT-II: Process Models</b>					
19.	26-12-2016	Process Models		1	DM1
20.	27-12-2016	Prescriptive Models		1	DM1
21.	28-12-2016	Water Fall Model		1	DM6
22.	29-12-2016	Incremental		1	DM1
23.	31-12-2016	Evolutionary Process Models		1	DM6
24.	02-01-2017	Specialized Process Models		1	DM6
25.	03-01-2017	Unified Process		1	DM1
26.	04-01-2017	Software Engineering Practice		1	DM1
27.	05-01-2017	Communication Practices		1	DM1
28.	07-01-2017	Planning Practices		1	DM1
29.	16-01-2017	Modelling Practices		1	DM1
30.	17-01-2017	Construction Practice		1	DM1
31.	18-01-2017	Deployment		1	DM1
32.	19-01-2017	Assignment		1	DM4

33.	21-01-2017	Quiz		1	DM3
34.	23-01-2017	Mid Exams		1	
35.	24-01-2017	Mid Exams		1	
36.	25-01-2017	Mid Exams		1	
<b>UNIT-III: Requirements Engineering</b>					
37.	28-01-2017	Requirements Engineering		1	DM1
38.	30-01-2017	A Bridge To Design And Construction		1	DM1
39.	31-01-2017	RE Tasks		1	DM6
40.	01-02-2017	Initiating The RE Process		1	DM1
41.	02-02-2017	Eliciting Requirements		1	DM1
42.	04-02-2017	Developing Use Cases		1	DM6
43.	06-02-2017	Building The Analysis Models		1	DM1
44.	07-02-2017	Negotiating And Validating Requirements		1	DM1
45.	08-02-2017	Building The Analysis Model		1	DM6
46.	09-02-2017	Requirements Analysis		1	DM1
47.	13-02-2017	Analysis Modelling Approaches		1	DM1
48.	14-02-2017	Data Modelling Concepts		1	DM1
49.	15-02-2017	OOA		1	DM1
50.	16-02-2017	Scenario Based Modelling		1	DM6
51.	18-02-2017	Flow Rated Modelling		1	DM6
52.	20-02-2017	Class Based Modelling		1	DM6
53.	21-02-2017	Creating A Behaviour Model		1	DM6
<b>UNIT-IV: Design Engineering</b>					
54.	22-02-2017	Design Engineering		1	DM1
55.	23-02-2017	Design Within The Context Of SE		1	DM1
56.	25-02-2017	Design Process And Software Quality		1	DM1
57.	27-02-2017	Design Concepts		1	DM1
58.	28-02-2017	Design Model		1	DM1
59.	01-03-2017	Pattern Based Software Design Creating An Architectural Design		1	DM1
60.	02-03-2017	Software Architecture		1	DM1
61.	04-03-2017	Data Design		1	DM6
62.	06-03-2017	Architectural Styles And Patterns		1	DM6
63.	07-03-2017	Architectural Design		1	DM1
<b>UNIT-V: Testing Strategies</b>					
64.	08-03-2017	Testing Strategies		1	DM1
65.	09-03-2017	A Strategic To Software Testing		1	DM1
66.	13-03-2017	Strategic Issues		1	DM1
67.	14-03-2017	Test Strategies For Conventional Software		1	DM1
68.	15-03-2017	Object Oriented Software		1	DM6
69.	16-03-2017	Validation Testing		1	DM1
70.	18-03-2017	System Testing		1	DM1
71.	20-03-2017	The Art Of Debugging		1	DM1
72.	21-03-2017	Testing Tactics		1	DM1
73.	22-03-2017	Software Testing Fundamentals		1	DM1
74.	23-03-2017	White Box Testing		1	DM6
75.	25-03-2017	Basis Path Testing		1	DM6
76.	27-03-2017	Control Structure Testing		1	DM1

77.	28-03-2017	Black Box Testing		1	DM6
78.	29-03-2017	OO Testing Methods		1	DM6
79.	30-03-2017	Assignment		1	DM4
80.	01-04-2017	Mid Exams		1	
81.	03-04-2017	Mid Exams		1	
				<b>81</b>	
<b>Total number of classes required to complete the syllabus</b>					<b>81</b>
<b>Total number of classes available as per Schedule</b>					<b>81</b>

**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.

<b>Signature</b>			
	<b>Name of the Faculty</b>	<b>Name of Course Co-ordinator</b>	<b>HOD</b>

S No.	Tentative Date	Topics to be covered	Actual Date	Num. of classes	Content Delivery Methods
<b>UNIT-I: Introduction</b>					
82.	28-11-2016	Introduction		1	DM1
83.	29-11-2016	Introduction To Software Engineering		1	DM1
84.	30-11-2016	Introduction To Software Engineering		1	DM1
85.	01-12-2016	The Evolving Role Of Software		1	DM1
86.	02-12-2016	Software		1	
87.	03-12-2016	Changing Nature Of Software		1	DM1
88.	06-12-2016	Legacy Software		1	DM1
89.	07-12-2016	Software Myths		1	DM1
90.	08-12-2016	Software Process		1	DM1
91.	09-12-2016	Layered Technology		1	
92.	13-12-2016	Process Framework		1	DM1
93.	14-12-2016	CMMI		1	DM1
94.	15-12-2016	CMMI		1	DM1
95.	16-12-2016	Process Patterns		1	
96.	17-12-2016	Process Assessment		1	DM1
97.	20-12-2016	Personal And Team Process Models		1	DM1
98.	21-12-2016	Process Technology		1	DM6
99.	22-12-2016	Product And Process		1	DM1
100.	23-12-2016	Assignment		1	DM1
<b>UNIT-II: Process Models</b>					
101.	24-12-2016	Process Models		1	DM4
102.	27-12-2016	Prescriptive Models		1	DM1
103.	28-12-2016	Water Fall Model		1	DM1
104.	29-12-2016	Incremental		1	DM6
105.	30-12-2016	Incremental		1	DM1
106.	31-12-2016	Evolutionary Process Models		1	DM6

107.	03-01-2017	Specialized Process Models		1	DM6
108.	04-01-2017	Unified Process		1	DM1
109.	05-01-2017	Software Engineering Practice		1	DM1
110.	06-01-2017	Communication Practices		1	DM1
111.	07-01-2017	Planning Practices		1	DM1
112.	16-01-2017	Modelling Practices		1	DM1
113.	17-01-2017	Construction Practice		1	DM1
114.	18-01-2017	Deployment		1	DM1
115.	19-01-2017	Assignment		1	DM4
116.	21-01-2017	Quiz		1	
117.	23-01-2017	Mid Exams		1	DM3
118.	24-01-2017	Mid Exams		1	
119.	25-01-2017	Mid Exams		1	
120.	27-01-17	Mid exam paper discussion		1	
<b>UNIT-III: Requirements Engineering</b>					
121.	28-01-2017	Requirements Engineering		1	DM1
122.	31-01-2017	A Bridge To Design And Construction		1	DM1
123.	01-02-2017	RE Tasks		1	DM6
124.	02-02-2017	Initiating The RE Process		1	DM1
125.	03-02-17	Eliciting Requirements		1	DM1
126.	04-02-2017	Developing Use Cases		1	DM6
127.	07-02-2017	Building The Analysis Models		1	DM1
128.	08-02-2017	Negotiating And Validating Requirements		1	DM1
129.	09-02-2017	Building The Analysis Model		1	DM6
130.	10-02-17	Requirements Analysis		1	DM1
131.	13-02-2017	Analysis Modelling Approaches		1	DM1
132.	14-02-2017	Data Modelling Concepts		1	DM1
133.	15-02-2017	OOA		1	DM1
134.	16-02-2017	Scenario Based Modelling		1	DM6
135.	18-02-2017	Flow Rated Modelling		1	DM6
136.	20-02-2017	Class Based Modelling		1	DM6
137.	21-02-2017	Creating A Behaviour Model		1	DM6
<b>UNIT-IV: Design Engineering</b>					
138.	22-02-2017	Design Engineering		1	DM1
139.	23-02-2017	Design Within The Context Of SE		1	DM1
140.	25-02-2017	Design Process And Software Quality		1	DM1
141.	27-02-2017	Design Concepts		1	DM1
142.	28-02-2017	Design Model		1	DM1
143.		Pattern Based Software Design Creating An		1	DM1
	01-03-2017	Architectural Design			
144.	02-03-2017	Software Architecture		1	DM1
145.	04-03-2017	Data Design		1	DM6
146.	06-03-2017	Architectural Styles And Patterns		1	DM6
147.	07-03-2017	Architectural Design		1	DM1
<b>UNIT-V: Testing Strategies</b>					
148.	08-03-2017	Testing Strategies		1	DM1
149.	09-03-2017	A Strategic Software Testing		1	DM1
150.	10-03-17	A Strategic Software Testing		1	



151.	14-03-2017	Strategic Issues		1	DM1
152.	15-03-2017	Test Strategies For Conventional Software		1	DM1
153.	16-03-2017	Object Oriented Software		1	DM6
154.	17-03-2017	Validation Testing		1	DM1
155.	18-03-2017	System Testing		1	DM1
156.	21-03-2017	The Art Of Debugging		1	DM1
157.	22-03-2017	Testing Tactics		1	DM1
158.	23-03-2017	Software Testing Fundamentals		1	DM1
159.	24-03-17	White Box Testing		1	DM6
160.	25-03-2017	Basis Path Testing		1	DM6
161.	28-03-2017	Control Structure Testing		1	DM1
162.	29-03-2017	Black Box Testing		1	DM6
163.	30-03-2017	OO Testing Methods		1	DM6
164.	31-03-2017	Assignment		1	DM4
165.	01-04-2017	Mid Exams		1	
				<b>81</b>	
<b>Total number of classes required to complete the syllabus</b>					<b>81</b>
<b>Total number of classes available as per Schedule</b>					<b>81</b>

**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.

<b>Signature</b>			
	<b>Name of the Faculty</b>	<b>Name of Course Co-ordinator</b>	<b>HOD</b>