LAKIREDDY BALI REDDY COLLEGE OF ENGINEERING
DEPARTMENT OF INFORMATION TECHNOLOGY
(Autonomous & Affiliated to JNTUK, Kakinada & Approved by AICTE, New Delhi, NAAC Accredited with 'A' grade, Certified by ISO 9001:2015) L B Reddy Nagar, Mylavaram-521 230, Krishna District, Andhra Pradesh.

COURSE HANDOUT

Part-A

PROGRAM : B.Tech., IV Sem., IT

ACADEMIC YEAR : 2018-19

COURSE NAME & CODE : PROBABILITY AND STATISTICS – 17FE08

L-T-P STRUCTURE : 3-2-0

COURSE CREDITS : 4

COURSE INSTRUCTOR : M.RAMI REDDY

COURSE COORDINATOR : M.RAMI REDDY

PRE-REQUISITES: None

COURSE EDUCATIONAL OBJECTIVES (CEOs) : In this course the students are able to understand the applications of probability distributions. They also learn various sample tests in testing the hypothesis and correlation, regression of a bi-variate data.

COURSE OUTCOMES (COs): At the end of the course, the student will be able to

CO1: Predict various probabilistic situations based on the laws of probability and random variables.
CO2: Distinguish among the criteria of selection and application of
CO3: Binomial, Poisson, CO1:Normal and Exponential distributions.
CO4: Estimate the point and interval estimators of mean and proportion for the given Sample data.
CO5: Apply various sample tests like Z-test, t-test, F-test and x2-test for decision making regarding the population based on sample data.
CO6: Estimate the level of correlation, the linear relationship using the regression lines for the given bivariate data..

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COURSE ARTICULATION MATRIX (Correlation between COs&POs,PSOs):

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	3	1	3	- -	- -	- -	- -	- -	- -	- -	1	- -	- -	- -
CO2	2	3	1	3	- -	- -	- -	- -	- -	- -	- -	1	- -	- -	- -
CO3	2	3	1	3	- -	- -	- -	- -	- -	- -	- -	1	- -	- -	- -
CO4	2	3	1	3	- -	- -	- -	- -	- -	- -	- -	1	- -	- -	- -
CO5	2	3	1	3	- -	- -	- -	- -	- -	- -	- -	1	- -	- -	- -

Note: Enter Correlation Levels **1** or **2** or **3.** If there is no correlation, **put '-'**
1- Slight (Low), **2 –** Moderate (Medium), **3 -** Substantial (High).

BOS APPROVED TEXT BOOKS:

T1 Miller & Freund's "Probability and Statistics for Engineers",8th edition. PHI, New Delhi,2011.

T2 S.C.Gupta, V.K.Kapoor, "Fundamentals of Mathematical Statistics", 11thEdition, Sultan Chand and sons, New Delhi,2014.

BOS APPROVED REFERENCE BOOKS:

R1 Jay L.Devore "Probability and Statistics for engineering and the sciences." , 8th edition, Cengage Learning india, 2012.

R2 B.V. Ramana, "Higher Engineering Mathematics", 1st Edition, TMH, New Delhi, 2010.

Part-B

COURSE DELIVERY PLAN (LESSON PLAN):

UNIT-I : Probability and Random Variables

S.No.	Topics to be covered	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	Learning Outcome COs	Text Book followed	HOD Sign Weekly
1.	Introduction to Subject, course outcomes	1	26-11-18		TLM1	---	---	
2.	Introduction to probability	1	27-11-18		TLM1	CO1	T1	
3.	Basic definitions, simple problems	1	29-11-18		TLM1	CO1	T1	
4.	Problem on addition theorem	1	30-11-18		TLM1	CO1	T1, ,T2	
5.	Conditional probability	1	01-12-18		TLM1	CO1	T1	
6.	Multiplication theorem, examples	1	03-12-18		TLM1	CO1	T1	
7.	Independent events, theorems	1	04-12-18		TLM1	CO1	T1	
8.	Problems on multiplication theorem	1	06-12-18		TLM1	CO1	T1, ,T2	
9.	Tutorial-1	1	07-12-18		TLM3	CO1	T1	
10.	Baye's theorem	1	10-12-18		TLM1	CO1	T1, ,T2	
11.	Problems on baye's theorem	1	11-12-18		TLM1	CO1	T1	
12.	Random variables, Mathematical Expections	1	13-12-18		TLM1	CO1	T1,T2	
13.	Problems on PMF	1	14-12-18		TLM1	CO1	T1,T2	
14.	Problems on PMF	1	15-12-18		TLM1	CO1	T1,T2	
15.	Problems on PDF	1	17-12-18		TLM1	CO1	T1,T2	
16.	Tutorial -2	1	18-12-18		TLM3	CO1	T1,T2	
No. of classes required to complete UNIT-I		16			No. of classes taken:			

UNIT-II : Probability Distributions

S.No.	Topics to be covered	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	Learning Outcome COs	Text Book followed	HOD Sign Weekly
17.	Binomial Distribution : mean and variance	1	20-12-18		TLM1	CO2	T1	
18.	Problems on Binomial distribution	1	21-12-18		TLM1	CO2	T1,T2	
19.	Problems on Binomial distribution	1	22-12-18		TLM1	CO2	T1,T2	
20.	Fitting of binomial distribution	1	24-12-18		TLM1	CO2	T1,T2	
21.	Poisson distribution, mean and variance	1	27-12-18		TLM1	CO2	T1	
22.	Problems on Poisson distribution	1	28-12-18		TLM1	CO2	T1,T2	
23.	Fitting of poisson distributions	1	29-12-18		TLM1	CO2	T1,T2	
24.	Tutorial -3	1	31-12-18		TLM3	CO2	T1,T2	
25.	Normal distribution: mean, variance	1	03-01-19		TLM1	CO2	T1,T2	
26.	Problems on Normal Distribution	1	04-01-19		TLM1	CO2	T1,T2	
27.	Problems on Normal Distribution	1	05-01-19		TLM1	CO2	T1,T2	
28.	Exponential distribution: mean and variance	1	07-01-19		TLM1	CO2	T2	
29.	Moment Generating Functions	1	08-01-19		TLM1	CO2	T2	
30.	Moment Generating Functions	1	10-01-19		TLM1	CO2	T2	
31.	Tutorial-4	1	11-01-19		TLM3	CO2	T1,T2	
No. of classes required to complete UNIT-II		15			No. of classes taken:			

UNIT-III : Sampling Distribution & Estimation

S.No	Topics to be covered	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	Learning Outcome COs	Text Book followed	HOD Sign Weekly
32.	Sampling distribution ,definitions	1	28-01-19		TLM1	CO3	T1	
33.	Sampling distribution of mean, variance	1	29-01-19		TLM1	CO3	T1	
34.	Sampling distribution of mean, variance	1	31-01-19		TLM1	CO3	T1,T2	
35.	problems	1	01-02-19		TLM1	CO3	T1,T2	
36.	Problems on central limit theorem	1	02-02-19		TLM1	CO3	T2	

37.	Problems on central limit theorem	1	04-02-19		TLM1	CO3	T2	
38.	Sums and differences	1	05-02-19		TLM1	CO3	T1,T2	
39.	Tutorial-5	1	07-02-19		TLM3	CO3	T1,T2	
40.	Estimation	1	08-02-19		TLM1	CO3	T1,T2	
41.	Point and interval estimation	1	11-02-19		TLM1	CO3	T1,T2	
42.	Interval estimation of mean in large samples	1	12-02-19		TLM1	CO3	T1,T2	
43.	Interval estimation of proportion in large samples	1	14-02-19		TLM1	CO3	T1,T2	
44.	Interval estimation of mean in small samples	1	15-02-19		TLM1	CO3	T1,T2	
45.	Tutorial-6	1	16-02-19		TLM3	CO3	T1,T2	
No. of classes required to complete UNIT-III		14			No. of classes taken:			

UNIT-IV : Tests of Hypothesis

S.No.	Topics to be covered	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	Learning Outcome COs	Text Book followed	HOD Sign Weekly
46.	Testing of Hypothesis , definitions	1	18-02-19		TLM1	CO4	T1,T2	
47.	Z-test for single mean	1	19-02-19		TLM1	CO4	T1,T2	
48.	Z-test for difference of means	1	21-02-19		TLM1	CO4	T1,T2	
49.	problems	1	22-02-19		TLM1	CO4	T1,T2	
50.	Z-test for single proportion	1	23-02-19		TLM1	CO4	T1,T2	
51.	Z-test for difference of proportions	1	25-02-19		TLM1	CO4	T1,T2	
52.	Tutorial-7	1	26-02-19		TLM3	CO4	T1,T2	
53.	t-test for single mean	1	28-02-19		TLM1	CO4	T1,T2	
54.	t-test for difference of means	1	01-03-19		TLM1	CO4	T1,T2	
55.	Paired t-test	1	02-03-19		TLM1	CO4	T2	
56.	problems	1	05-03-19		TLM1	CO4	T1,T2	
57.	F-test for population variances	1	07-03-19		TLM1	CO4	T1,T2	
58.	χ^2 test for goodness of fit	1	08-03-19		TLM1	CO4	T2	
59.	χ^2 test for independence of attributes	1	11-03-19		TLM1	CO4	T2	
60.	problems	1	12-03-19		TLM1	CO4	T2	

61.	Tutorial-8	1	14-03-19		TLM3	CO4	T1,T2	
No. of classes required to complete UNIT-IV		16			No. of classes taken:			

UNIT-V : Correlation & Regression

S.No.	Topics to be covered	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	Learning Outcome COs	Text Book followed	HOD Sign Weekly
62.	Simple Bi-variate Correlation	1	15-03-19		TLM1	CO5	T1	
63.	Problems on Pearson's Correlation	1	16-03-19		TLM1	CO5	T1,T2	
64.	Problems	1	18-03-19		TLM1	CO5	T1,T2	
65.	Regression lines	1	19-03-19		TLM1	CO5	T2	
66.	Problems on Regression lines	1	22-03-19		TLM1	CO5	T1,T2	
67.	Properties of Regression coefficients	1	23-03-19		TLM1	CO5	T1,T2	
68.	Problems on Regression coefficients	1	25-03-19		TLM1	CO5	T1,T2	
69.	Tutorial-9	1	26-03-19		TLM3	CO5	T1,T2	
70.	Problems on rank Correlation	1	28-03-19		TLM1	CO5	T2	
71.	Problems on repeated ranks	1	29-03-19		TLM1	CO5	T2	
72.	Tutorial-10	1	30-03-19		TLM3	CO5	T1,T2	
No. of classes required to complete UNIT-V		11			No. of classes taken:			

Contents beyond the Syllabus

S.No.	Topics to be covered	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	Learning Outcome COs	Text Book followed	HOD Sign
73.	Axioms of probability, results	1	29-11-18		TLM1	CO1	T2	
74.	Bivariate frequency correlation coefficient.	1	16-03-19		TLM1	CO1	T2	

Teaching Learning Methods			
TLM1	Chalk and Talk	**TLM4**	Demonstration (Lab/Field Visit)
TLM2	PPT	**TLM5**	ICT (NPTEL/Swayam Prabha/MOOCS)
TLM3	Tutorial	**TLM6**	Group Discussion/Project

Part - C

EVALUATION PROCESS:

Evaluation Task	Units	Marks
Assignment– 1	1	A1=5
Assignment– 2	2	A2=5
I-Mid Examination	1,2	B1=20
Online Quiz-1	1,2	C1=10
Assignment– 3	3	A3=5
Assignment– 4	4	A4=5
Assignment– 5	5	A5=5
II-Mid Examination	3,4,5	B2=20
Online Quiz-2	3,4,5	C2=10
Evaluation of Assignment: A=Avg (Best of Four(A1,A2,A3,A4,A5))	1,2,3,4,5	A=5
Evaluation of Mid Marks: B=75% of Max(B1,B2)+25% of Min(B1,B2)	1,2,3,4,5	B=20
Evaluation of Online Quiz Marks: C=75% of Max(C1,C2)+25% of Min(C1,C2)	1,2,3,4,5	C=10
Attendance Marks based on Percentage of attendance		D=5
Cumulative Internal Examination : A+B+C+D	**1,2,3,4,5**	**40**
Semester End Examinations : E	**1,2,3,4,5**	**60**
Total Marks: A+B+C+D+E	**1,2,3,4,5**	**100**

PROGRAMME EDUCATIONAL OBJECTIVES (PEOs)

PEO 1: Pursue a successful career in the area of Information Technology or its allied fields.

PEO 2: Exhibit sound knowledge in the fundamentals of Information Technology and apply practical experience with programming techniques to solve real world problems. **PEO 3**: Able to demonstrate self-learning, life-long learning and work in teams on multidisciplinary projects.

PEO 4: Able to understand the professional code of ethics and demonstrate ethical behavior, effective communication, team work and leadership skills in their job.

PROGRAMME OUTCOMES (POs)

Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

PROGRAM SPECIFIC OUTCOMES(PSOs):-

1. Organize, Analyze and interpret the data to extract meaningful conclusions.
2. Design, Implement and evaluate a computer-based system to meet desired needs.
3. Develop IT application services with the help of different current engineering tools.

Course Instructor	Course Coordinator	Module Coordinator	HOD

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DEPARTMENT OF INFORMATION TECHNOLOGY

COURSE HANDOUT

PROGRAM : B.Tech.,IV-Sem., IT - R17 Regulation

ACADEMIC YEAR : 2018-19

COURSE NAME & CODE : Web Technologies Lab–17CI66

L-T-P STRUCTURE : **0**-0-2

COURSE CREDITS : 2

COURSE INSTRUCTOR : Dr. S.Naganjaneyulu

PRE-REQUISITE : JAVA Programming

COURSE OBJECTIVE: The main objective of the course is, student will be familiar with client server architecture and able to develop interactive, dynamic web applications by using java technologies.

Course Outcomes: At the end of the course, the student will be able to:

CO1: Design and implement static & dynamic websites.
CO2: Create reusable components by using Java Beans.
CO3: Design and implement data driven web applications.
CO4: Improve individual / team work skills, communication & report writing skills with ethical values.

COURSE ARTICULATION MATRIX (Correlation between COs&POs,PSOs):

COs	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2	PSO 3
CO1	3	2	3	-	3	-	-	-	-	-	-	2	3	3	3
CO2	3	2	3	-	3	-	-	-	-	-	-	2	3	3	3
CO3	3	2	3	-	3	-	-	-	-	-	-	2	3	3	3
CO4	-	-	-	-	-	-	-	2	2	2	-	-	-	-	-
1- Slight(Low), **2 -** Moderate(Medium), **3 -** Substantial (High).															

Note: Enter Correlation Levels **1** or **2** or **3.** If there is no correlation, **put '-'**
1- Slight (Low), **2 –** Moderate (Medium), **3 -** Substantial (High).

Lab Program(s)		Tentative Date	Actual Date	Teaching Learning Methods	HOD Signature
1	a) Design a HTML program which includes all basic Text Formatting Tags. b) Design a HTML program by using the following Tags. i) Anchor (<A>) Tag. ii) <Marquee> and its Attributes. iii) Image(<Img>) Tag and its Attributes c) Design a HTML program by using various types of Lists	28/11/28 30/11/18		TLM5 TLM5	
2	a) Design a HTML program by using Table concept b) Design a HTML program for Student Registration which includes all Form controls.	05/12/18 07/12/18		TLM5 TLM5	
3	**Design the following static web pages required for Online Book Store.** • Home page: - The static home page must contains three pages • Top frame: - Logo and college name and links to homepage, login page, registration page, catalogue page and cart page. • Left frame: - At least four links for navigation which will display the data of respective links in the right frame. • Right frame: - The pages to links in the left frame must be loaded here; initially it contains the description of the website.	12/12/18 14/12/18		TLM5 TLM5	
4	**Design a web page using CSS which includes the following:** a) Use different Text, font styles b) Set background image for both the page and single elements on page. c) Control the repetition of image with background-repeat property d) Define style for links as a:link, a:active, a:hover, a:visited e) Work with layers.	19/12/18 21/12/18		TLM5 TLM5	

5	**a) Develop JavaScript code to validate the following fields of a Registration page.** 1) Text Field 2) Password Field 3) Email Field 4) Radio Button 5) Dropdown List 6) Checkbox. **b) Design XML file which displays the following book details.** 1) Title of book 2) Author name 3) Edition 4) Price Develop DTD/XML Schema file to validate the above XML file and display the details in a table (to do this use XSL).	26/12/18 02/01/19		TLM5	
		28/12/18 04/01/19		TLM5	
6	a) Develop a sample Java Bean program by using setter and getter methods and access it from your simple Java program. b) Prepare a simple Java Bean component program and deploy it in BDK. c) Write the procedure to add start and stop button events to Juggler Bean in order to control it.	09/01/19		TLM5	
		11/01/19		TLM5	
7	Develop a Java program to connect database by using JDBC and perform various DDL & DML commands.	16/01/19 30/01/19		TLM5	
		01/02/19 08/02/19		TLM5	
8	**Write the Procedure to Install Apache Tomcat Web Server and deploy a static website & Access it.** a) Install Apache Tomcat Server on port number 8080 b) Deploy html pages in a web server c) Access static website from a web server	06/02/19		TLM5	
		15/02/19		TLM5	
9	a) Develop a Servlet program to AUTHENTICATE User details	13/02/19		TLM5	
		22/02/19		TLM5	

	b) Develop a Servlet program to implement Session Management concept.				
10	a) Develop a Servlet program to access Init parameter values form web.xml by using ServletContext interface. b) Develop a Servlet program to navigate from one Servlet page to another Servlet page using RequestDispatcher interface.	20/02/19		TLM5	
		01/03/19		TLM5	
11	Develop a Servlet program to access Database using JDBC.	27/02/19		TLM5	
		08/03/19		TLM5	
12	a) Develop a program to display & validate user credentials using useBean tag of JSP. b) Develop JSP program by using JSP implicit Objects.	06/03/19		TLM5	
		15/03/19		TLM5	
13	**Design JSP program which does the following job:** Insert the details of the 3 or 4 users who register with the web site by using registration form. Authenticate the user when he submits the login form using the user name and password from the database using JDBC.	13/03/19 20/03/19		TLM5	
		15/03/19 22/03/19		TLM5	
14	Design a Simple Struts application program by using Net Beans IDE.	20/03/19 27/03/19		TLM5	
		22/03/19 29/03/19		TLM5	

Teaching Learning Methods					
TLM1	Chalk and Talk	**TLM4**	Problem Solving	**TLM7**	Seminars or GD
TLM2	PPT	**TLM5**	Programming	**TLM8**	Lab Demo
TLM3	Tutorial	**TLM6**	Assignment or Quiz	**TLM9**	Case Study

ACADEMIC CALENDAR:

Description	From	To	Weeks
Commencement of Class Work	26/11/2018		
I Phase of Instructions	26/11/18	12/01/19	7W
I Mid Examinations	18/01/19	25/01/19	1W
II Phase of Instructions	28/01/19	30/03/19	9W
II Mid Examinations	01/04/19	06/04/19	1W
Practical	08/14/19	20/04/19	2W
Semester End Examinations	22/04/19	04/05/19	2W

PROGRAMME EDUCATIONAL OBJECTIVES (PEOs):

Graduates of Information Technology programme will be:

PEO 1: Pursue a successful career in the area of Information Technology or its allied fields.

PEO 2: Exhibit sound knowledge in the fundamentals of Information Technology and apply practical experience with programming techniques to solve real world problems.

PEO 3: Able to demonstrate self-learning, life-long learning and work in teams on multidisciplinary projects.

PEO 4: Able to understand the professional code of ethics and demonstrate ethical behavior, effective communication, team work and leadership skills in their job.

PROGRAMME OUTCOMES (POs):

Engineering Graduates will be able to:

1. **Engineering knowledge**: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

2. **Problem analysis**: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

3. **Design/development of solutions**: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

4. **Conduct investigations of complex problems**: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

5. **Modern tool usage**: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

6. **The engineer and society**: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

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10. **Communication**: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

11. **Project management and finance**: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

12. Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

PROGRAMME SPECIFIC OUTCOMES (PSOs):

Graduate of the Information Technology will have the ability to:

1. Organize, Analyze and Interpret the data to extract meaningful conclusions.
2. Design, Implement and Evaluate a computer-based system to meet desired needs.
3. Develop IT application services with the help of different current engineering tools

Dr. S.Naganjaneyulu	**Dr. S. Naganjaneyulu**	**Dr.D.Naga Raju**
Course Instructor	**Module Coordinator**	**HOD**

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COURSE HANDOUT

Part-A

PROGRAM	**:** B.Tech. IV Sem., IT- R17 Regulation
ACADEMIC YEAR	**:** 2018-19
COURSE NAME & CODE	**: WEB TECHNOLOGIES & 17CI14**
L-T-P STRUCTURE	**:** 3-0-0
COURSE CREDITS	**: 3**
COURSE INSTRUCTOR	**: Dr.S.Naganjaneyulu**
PRE-REQUISITES	**: JAVA PROGRAMMING LANGUAGE (17CI07)**

COURSE EDUCATIONAL OBJECTIVE: Students will be familiarized with the tools and *web technologies* necessary for business application design and development. This *course* covers client side and server side scripting languages to develop static and dynamic web applications

COURSE OUTCOMES (COs)

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

CO1:	Design web pages with HTML & DHTML.
CO2:	Develop user defined tags and transfer data between components by using XML and JavaBeans.
CO3:	Create data driven web applications by applying database connectivity techniques.
CO4:	Design and implement dynamic Web Pages using server side components like servlets.
CO5:	Understand concepts of JSP and struts framework and apply them in solving real world problems.

COURSE ARTICULATION MATRIX (Correlation between COs & POs, PSOs):

CO	Statement At the end of the course, student will be able to	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2	PSO 3
1	Design web pages with HTML & DHTML.	2	1	3	-	2	1	-	-	-	-	-	1	2	3	2
2	Develop user defined tags and transfer data between components by using XML and JavaBeans.	2	1	3	-	2	1	-	-	-	-	-	1	2	3	2
3	Create data driven web applications by applying database connectivity techniques.	2	2	3	-	2	1	-	-	-	-	-	1	2	3	2
4	Design and implement dynamic Web Pages using server side components like servlets.	2	2	3	-	2	1	-	-	-	-	-	1	2	3	2
5	Understand concepts of JSP and struts framework and apply them in solving real world problems.	2	2	3	-	2	1	-	-	-	-	-	1	2	3	2
1- Slight (Low), **2 –** Moderate (Medium), **3 -** Substantial (High).																

BOS APPROVED TEXT BOOKS:

T1	Chris Bates, "Web Programming building internet applications", WILEY Dreamtech, 2nd edition, 2002. (UNITS-1,2)
T2	MartyHall, Larry Brown, "Core Servlets and Java Server Pages Volume 1: Core Technologies", Pearson, 2nd Edition, 2004. (UNITS – 3, 4, 5)
T3	Bill Siggelkow, "Jakarta Struts Cookbook", O'Reilly Media, 2005. (UNIT-5)

BOS APPROVED REFERENCE BOOKS:

R1	Robert W Sebesta, "Programming the World Wide Web", Pearson Education, 8th Edition, 2015.
R2	A.A.Puntambekar, "Web Technologies", Technical Publications, 2009.
R3	Harvey M. Deitel, Paul J. Deitel, "Internet and World Wide Web How to program", Pearson Education Asia, 5th Edition, 2008.
R4	Subramnyam Allamraju, Cedit Buest, "Professional java server programming J2EE 1.3 Edition", Apress Publications, 1.3 Edition, 2001.
R5	Budi Kurniawan, "Struts 2 Design and Programming: A Tutorial", Brainy Software, 2008.

Part-B

COURSE DELIVERY PLAN (LESSON PLAN):

UNIT-I: HTML & DHTML

S.No.	Topics to be covered	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	Learning Outcome COs	Text Book followed	HOD Sign Weekly
1.	Introduction, Cos **HTML:** Introduction, Versions,	1	26/11/2018		TLM1	CO1	T1,R2	
2.	Text Formatting Tags	1	27/11/2018		TLM1	CO1	T1,R2	
3.	Lists, Tables,	1	29/11/2018		TLM1	CO1	T1,R2	

4.	Images, links, marquee,	1	03/12/2018		TLM1	CO1	T1,R2	
5.	Frames	1	04/12/2018		TLM1	CO1	T1,R2	
6.	Forms	1	06/12/2018		TLM1	CO1	T1,R2	
7.	**CSS:** Introduction, CSS Selectors,	1	10/12/2018		TLM1	CO1	T1,R2	
8.	Types of Cascading Style sheets;	1	11/12/2018		TLM1	CO1	T1,R2	
9.	CSS Properties: Text, Backgrounds, Font, Links,Borders, Margins, Cell padding, Layouts	1	13/12/2018		TLM1	CO1	T1,R2	
10.	**JAVASCRIPT:** Introduction to JavaScript, Datatypes,Variables	1	17/12/2018		TLM1	CO1	T1,R2	
11.	Control Statements, loops in JavaScript. Objects in Java Script	1	18/12/2018		TLM1	CO1	T1,R2	
12.	Dynamic HTML with Java Script, Form validation using JavaScript	1	20/12/2018		TLM1	CO1	T1,R2	
No. of classes required to complete UNIT-I			12	No. of classes taken:				

UNIT-II: XML & JAVA BEANS

S.No.	Topics to be covered	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	Learning Outcome COs	Text Book followed	HOD Sign Weekly
13.	Document type definition,	1	24/12/2018		TLM2	CO2	T1,R2	
14.	XML Schemas,	1	27/12/2018		TLM2	CO2	T1,R2	
15.	Presenting XML,	1	31/12/2018		TLM1 TLM2	CO2	T1,R2	
16.	XML Processors: DOM and SAX.	1	01/01/2019		TLM3	CO2	T1,R2	
17.	**JAVA BEANS**: Introduction to Java Beans,	1	03/01/2019		TLM2	CO2	T1,R2	
18.	Advantages of Java Beans,	1	07/01/2019		TLM2	CO2	T1,R2	
19.	Bean Example programs	1	08/01/2019,		TLM2	CO2	T1,R2	
20.	Persistence, Java Beans API,	1	10/01/2019		TLM2	CO2	T1,R2	
21.	Persistence, Java Beans API	1	10/01/2019		TLM1	CO2	T1,R2	
22.	EJB introduction	1	17/01/2019		TLM1	CO2	T1,R2	
No. of classes required to complete UNIT-II		10		No. of classes taken:				

UNIT-III: JDBC:

S.No.	Topics to be covered	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	Learning Outcome COs	Text Book followed	HOD Sign Weekly
23.	**JDBC:** Introduction	1	28/01/2019		TLM1	CO3	T1	
24.	Types of Drivers	1	29/01/2019		TLM1	CO3	T1	
25.	Types of Drivers	1	31/01/2019		TLM2	CO3	T1	
26.	**java.sql package** - Procedure to establish connection between java applications and database	1	04/02/2019		TLM2	CO3	T1	
27.	Database operations - create,	1	05/02/2019		TLM2	CO3	T1	
28.	Database operations - insert, delete & update using JDBC	1	07/02/2019		TLM2	CO3	T1	
29.	Database operations - insert, delete & update using JDBC	1	11/02/2019		TLM2	CO3	T1	
30.	Database operations - insert, delete & update using JDBC	1	12/02/2019		TLM2	CO3	T1	
31.	Types of Statements	1	14/02/2019		TLM1, TLM2	CO3	T1	
32.	Result Set types.	1	18/02/2019		TLM1, TLM2	CO3	T1	
No. of classes required to complete UNIT-III		10			No. of classes taken:			

UNIT-IV: SERVLETS

S.No.	Topics to be covered	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	Learning Outcome COs	Text Book followed	HOD Sign Weekly
33.	Lifecycle of a Servlet with example	1	21/02/2019		TLM2	CO4	T1	
34.	The Servlet API, javax.servlet package-Servlet	1	25/02/2019		TLM2	CO4	T1	
35.	The Servlet API, javax.servlet package-Servlet Request,Servlet Response, Generic Servlet	1	26/02/2019		TLM1	CO4	T1 & NET	
36.	SevletConfig and ServletContext interfaces with example programs	1	28/02/2019		TLM2	CO4	T1	
37.	RequestDispacher Interface usage	1	05/03/2019		TLM1	CO4	T1	
38.	The j**avax.servlet.http** package – HttpServlet,	1	07/03/2019		TLM1, TLM2	CO4	T1	

	HttpServletRequest& HttpServletResponse,							
39.	HttpSession,	1	11/03/2019		TLM2	CO4	T1	
40.	Cookie.	1	12/03/2019		TLM2	CO4	T1	
41.	Accessing different databases from Servlet programs.	1	14/03/2019		TLM2	CO4	T1	
No. of classes required to complete UNIT-IV		09		No. of classes taken:				

UNIT-V: JSP & STRUTS

S.No.	Topics to be covered	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	Learning Outcome COs	Text Book followed	HOD Sign Weekly
42.	**JSP**: Lifecycle of JSP,	1	18/03/2019		TLM2	CO5	T1	
43.	scripting elements,	1	19/03/2019		TLM2	CO5	T1	
44.	Implicit objects	1	21/03/2019		TLM2	CO5	T1	
45.	Directive elements, action elements.	1	25/03/2019		TLM2	CO5	T1	
46.	Error Handling and Debugging	1	26/03/2019		TLM1 TLM2	CO5	T1	
47.	Access database from JSP pages.	1	28/03/2019		TLM2	CO5	T1	
48.	**STRUTS:** Introduction to Struts, Overview of MVC Design Pattern,	1	28/03/2019		TLM2	CO5	T1	
49.	Struts main Components,	1	01/04/2019		TLM2	CO5	T1	
50.	Controller components (Action, Action Mapping, Action Form Beans, and Struts Configuration files).	1	01/04/2019		TLM2	CO5	T1	
No. of classes required to complete UNIT-V		09		No. of classes taken:				

Contents beyond the Syllabus

S.No.	Topics to be covered	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	Learning Outcome COs	Text Book followed	HOD Sign
1	JSON	1	18/12/2018		TLM2	CO1	T1	
2	Tag libs in jsp	1	21/03/2019		TLM2	CO4 & CO5	T1	

Teaching Learning Methods			
TLM1	Chalk and Talk	**TLM4**	Demonstration (Lab/Field Visit)
TLM2	PPT	**TLM5**	ICT (NPTEL/Swayam Prabha/MOOCS)
TLM3	Tutorial	**TLM6**	Group Discussion/Project

ACADEMIC CALENDAR:

Description	From	To	Weeks
I Phase of Instructions-1	26/11/2018	12/01/2019	7W
I Mid Examinations	18/01/2019	25/01/2019	1W
II Phase of Instructions	28/01/2019	30/03/2019	9W
II Mid Examinations	01/04/2019	06/04/2019	1W
Preparation and Practicals	08/04/2019	20/04/2019	2W
Semester End Examinations	22/04/2019	04/05/2019	2W

Part - C

EVALUATION PROCESS:

Evaluation Task	Units	Marks
Assignment– 1	1	A1=5
Assignment– 2	2	A2=5
I-Mid Examination	1,2	B1=20
Online Quiz-1	1,2	C1=10
Assignment– 3	3	A3=5
Assignment– 4	4	A4=5
Assignment– 5	5	A5=5
II-Mid Examination	3,4,5	B2=20
Online Quiz-2	3,4,5	C2=10
Evaluation of Assignment: A=Avg(Best of Four(A1,A2,A3,A4,A5))	1,2,3,4,5	A=5
Evaluation of Mid Marks: B=75% of Max(B1,B2)+25% of Min(B1,B2)	1,2,3,4,5	B=20
Evaluation of Online Quiz Marks: C=75% of Max(C1,C2)+25% of Min(C1,C2)	1,2,3,4,5	C=10
Attendance Marks based on Percentage of attendance		D=5
Cumulative Internal Examination : A+B+C+D	**1,2,3,4,5**	**40**
Semester End Examinations : E	**1,2,3,4,5**	**60**
Total Marks: A+B+C+D+E	**1,2,3,4,5**	**100**

PROGRAMME EDUCATIONAL OBJECTIVES (PEOs)

PEO1:	Pursue a successful career in the area of Information Technology or its allied fields.
PEO2:	Exhibit sound knowledge in the fundamentals of Information Technology and apply practical experience with programming techniques to solve real world problems.
PEO3:	Able to demonstrate self-learning, life-long learning and work in teams on multidisciplinary projects.
PEO4:	Able to understand the professional code of ethics and demonstrate ethical behavior, effective communication, team work and leadership skills in their job.

PROGRAMME OUTCOMES (POs)

PO1	**Engineering knowledge**: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering Problems.
PO2	**Problem analysis**: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
PO3	**Design/development of solutions**: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal and environmental considerations.
PO4	**Conduct investigations of complex problems**: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
PO5	**Modern tool usage**: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
PO6	**The engineer and society**: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
PO7	**Environment and sustainability**: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
PO8	**Ethics**: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
PO9	**Individual and team work**: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
PO10	**Communication**: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
PO11	**Project management and finance**: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
PO12	**Life-long learning**: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

PROGRAMME SPECIFIC OUTCOMES (PSOs)

PSO1	Organize, Analyze and Interpret the data to extract meaningful conclusions.
PSO2	Design, Implement and Evaluate a computer-based system to meet desired needs.
PSO3	Develop IT application services with the help of different current engineering tools.

Dr.S.Naganjaneyulu	**Dr.S.Naganjaneyulu**	**Dr.D.Naga Raju**
Course Instructor	Module Coordinator	HOD