LAKIREDDY BALI REDDY COLLEGE OF ENGINEERING (AUTONOMOUS)
Accredited by NAAC, Grade ISO 9001:2015 Certified Institution
Approved by AICTE, New Delhi. and Affiliated to JNTUK, Kakinada
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DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

COURSE HANDOUT

PROGRAM : B.Tech., VII-Sem., CSE-A

ACADEMIC YEAR : 2019-20

COURSE NAME & CODE : Data Mining and Data Warehousing(DMDW) - S177

L-T-P STRUCTURE : 3-1-0

COURSE CREDITS : 3

COURSE INSTRUCTOR : Mr.A Raja Gopal

COURSE COORDINATOR: Mr.A Raja Gopal

PRE-REQUISITE: *DBMS, Probability and Statistics.*

COURSE OBJECTIVE: Students will be enabled to understand and implement classical models and algorithms in data warehousing and data mining. They will learn how to analyze the data, identify the problems, and choose the relevant models and algorithms to apply. They will further be able to assess the strengths and weaknesses of various methods and algorithms and to analyze their behavior.

COURSE OUTCOMES (COs)

CO1: Understand the basic concepts of data warehouse & data mining.

CO2: Apply data pre-processing, generalization and data characterization techniques to provide suitable input for a range of data mining algorithms.

CO3: Analyze and provide solutions for real world problems using mining association techniques.

CO4: Examine the different classification & clustering techniques in data mining.

CO5: Apply data mining techniques to complex data objects like spatial data, multimedia data and web mining.

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	1	-	-	-	-	-	-	-	-	1		3	-
CO2	3	3	1	1	1	-	-	-	-	-	-	1	1	3	-
CO3	2	3	3		1	1	-	-	-	-	-	2	1	3	-
CO4	3	3	3	1	1	1	-	-	-	-	-	2	2	3	-
CO5	2	3	2	-	-	-	-	-	-	-	-	1	1	3	-

Note: Enter Correlation Levels **1** or **2** or **3.** If there is no correlation, **put '-'**

1- Lightly(33%) **2 -** Moderately(66%), **3 -** Strongly (100%).

BOS APPROVED TEXT BOOKS:

T1 J. Han, M. Kamber, "Data Mining: Concepts and Techniques", Harcourt India / Morgan Kauffman, 2001

BOS APPROVED REFERENCE BOOKS:

R1 SamAnahory,DennisMurry, "DataWarehousing in the real world", Pearson Education 2003.

R2 DavidHand,HeikkiManila,PadhraicSymth, "Principles of Data Mining", PHI 2004.

R3 W.H.Inmon,"Building the Data Warehouse", Wiley, 3rd Edition, 2003.

R4 PaulrajPonniah, "Data Warehousing Fundamentals", Wiley-Interscience Publication, 2003

COURSE DELIVERY PLAN (LESSON PLAN): Section-A

UNIT-I : Introduction to Data warehouse

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 Data warehouse	1	17/6/2019		**TLM1**	CO1	T1	
2.	Introduction-Data, Info. Importance of DMDW	1	19/6/2019		**TLM1**	CO1	T1	
3.	Data warehouse briefing	1	20/6/2019		**TLM1**	CO1	T1	
4.	Data warehouse Need, OLTP vs OLAP	1	21/6/2019		**TLM1**	CO1	T1	
5.	Multidimensional data models	1	24/6/2019		**TLM1**	CO1	T1	
6.	Concept Hierarchy, OLAP	1	26/6/2019		**TLM2**	CO1	T1	
7.	DWH Architecture	1	27/6/2019		**TLM2**	CO1	R1	
8.	Types of OLAP servers, Meta Data Repository	1	28/6/2019		**TLM2**	CO1	T1	
9.	DWH Implementation	1	01/7/2019		**TLM1**	CO1	T1	
10.	Further Development, DWH to Data Mining	1	03/7/2019		**TLM1**	CO1	T1	

11.	Introduction to data mining	1	4/7/2019		**TLM1**	CO1	T1	
12.	KDD process	1	5/7/2019		**TLM1**	CO1	T1	
13.	Issues regarding data mining, Applications of data mining	1	8/7/2019		**TLM1**	CO1	T1	
14.	TUTORIAL-1	1	10/7/2019		**TLM3**			
15.	Assignment/Quiz-1	1	11/7/2019		**TLM6**			
No. of classes required to complete UNIT-I		15			No. of classes taken:			

UNIT-II: Data Pre-Processing

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
16.	Why we need pre-processing	1	12/7/2019		**TLM1**	CO2	T1	
17.	Data Cleaning	1	15/7/2019		**TLM1**	CO2	T1	
18.	Data Integration	1	17/7/2019		**TLM1**	CO2	T1	
19.	Chi square Analysis	1	18/7/2019		**TLM1**	CO2	T1	
20.	Data Transformation	1	19/7/2019		**TLM1**	CO2	T1	
21.	Data Reduction	1	22/7/2019		**TLM2**	CO2	T1	
22.	Discretization & Concept hierarchy generation	1	24/7/2019		**TLM2**	CO2	T1	
23.	Data mining primitives	1	25/7/2019		**TLM2**	CO2	T1	
24.	Graphical user interfaces, Data mining Architecture	1	26/7/2019		**TLM2**	CO2	T1	
25.	Concept Description, Data Generalization,	1	29/7/2019		**TLM1**	CO2	T1	
26.	Characterizations, Class Comparisons, Descriptive Statistical Measures	1	31/7/2019		**TLM2**	CO2	T1	
27.	Tutorial 2	1	01/8/2019		**TLM3**	CO2	T1	

28.	Assignment/Quiz-2	1	02/8/2019		**TLM6**	CO2	T1	
29.	CRT Classes	1	05/8/2019					
30.	CRT Classes	1	07/8/2019					
31.	CRT Classes	1	08/8/2019					
32.	CRT Classes	1	09/8/2019					
No. of classes required to complete UNIT-II		13			No. of classes taken:			

UNIT-III: Association Rule mining

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.	Association rule mining	1	19/8/2019		**TLM1**	CO3	T1	
34.	Apriori algorithm	2	21/8/2019 22/8/2019		**TLM1**	CO3	T1	
35.	FP growth algorithm	1	23/8/2019		**TLM1**	CO3	T1	
36.	Single dimensional Boolean association from transitional database	2	26/8/2019, 28/8/2019		**TLM1**	CO3	T1	
37.	Multi-level association rules from transitional databases	2	29/8/2019, 30/8/2019		**TLM2**	CO3	T1	
38.	Tutorial 3	1	4/9/2019		**TLM3**	CO3	T1	
39.	Assignment/Quiz-3	1	5/9/2019		**TLM6**	CO3	T1	
No. of classes required to complete UNIT-III		10			No. of classes taken:			

UNIT-IV: Classification and Predition Analysis

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
40.	Classification and Prediction	1	06/9/2019		**TLM1**	CO4	T1	
41.	Issues and Decision Tree induction	2	09/9/2019, 11/9/2019		**TLM1**	CO4	T1	
42.	Bayesian classification	1	12/9/2019		**TLM1**	CO4	T1	
43.	Rule based Classification	1	13/9/2019		**TLM1**	CO4	T1	

44.	Other Classification methods	1	16/9/2019		**TLM2**	CO4	T1	
45.	Prediction	1	18/9/2019		**TLM1**	CO4	T1	
46.	Classifier accuracy, Cluster analysis	2	19/9/2019, 20/9/2019		**TLM1**	CO4	T1	
47.	Decision tree induction algorithm	1	23/10/2019		**TLM1**	CO4	T1	
48.	K-Nearest Neighbor algorithm	1	25/10/2019		**TLM1**	CO4	T1	
49.	Hierarchical clustering algorithm	1	26/10/2019		**TLM2**	CO4	T1	
50.	Outlier Analysis	1	27/10/2019		**TLM1**	CO4	T1	
51.	TUTORIAL-4	1	30/09/2019		**TLM3**	CO4	T1	
52.	Assignment/Quiz-4	1	03/10/2019		**TLM6**	CO4	T1	
No. of classes required to complete UNIT-IV		15			No. of classes taken:			

UNIT-V: Multidimensional Analysis

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
53.	Multi-dimensional analysis and descriptive mining of complex data objects	1	04/10/2019		**TLM2**	CO5	T1	
54.	Spatial databases	1	07/10/2019		**TLM2**	CO5	T1	
55.	Multimedia databases	1	09/10/2019		**TLM2**	CO5	T1	
56.	Time series and sequence of data	1	10/10/2019		**TLM2**	CO5	T1	
57.	Text databases, World wide web	1	11/10/2019		**TLM2**	CO5	T1	
58.	Applications and trends in data mining contd...	1	14/10/2019		**TLM2**	CO5	T1	
59.	Tutorial 5	1	16/10/2019		**TLM2**	CO5	T1	

60.	Assignment 5/Quiz	1	17/10/2019		**TLM6**			
No. of classes required to complete UNIT-V		08			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 Weekly
61.	Advanced topics in mining , Research topics related to social networking	1	18/10/2019					

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

EVALUATION PROCESS:

Evaluation Task	**COs**	**Marks**
Assignment/Quiz – 1	1	A1=5
Assignment/Quiz – 2	2	A2=5
I-Mid Examination	1,2	B1=20
Assignment/Quiz – 3	3	A3=5
Assignment/Quiz – 4	4	A4=5
Assignment/Quiz – 5	5	A5=5
II-Mid Examination	3,4,5	B2=20
Evaluation of Assignment/Quiz Marks: A=(A1+A2+A3+A4+A5)/5	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
Cumulative Internal Examination : A+B	**1,2,3,4,5**	**A+B=25**
Semester End Examinations	**1,2,3,4,5**	**C=75**
Total Marks: A+B+C	**1,2,3,4,5**	**100**

PROGRAM EDUCATIONAL OBJECTIVES (PEOS)

PEO I: To inculcate the adaptability skills into the students for software design, software development or any other allied fields of computing.

PEO II: To equip the graduates with the ability to analyze, design and synthesize data to create novel products.

PEO III: Ability to understand and analyze engineering issues in a broader perspective with ethical responsibility towards sustainable development.

PEO IV: To empower the student with the qualities of effective communication, team work, continues learning attitude, leadership needed for a successful computer professional.

PROGRAM OUTCOMES

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.
7. **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.
8. **Ethics**: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
9. **Individual and team work**: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
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 engineer**ing 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.

PROGRAM SPECIFIC OUTCOMES

1. Programming Paradigms:

To inculcate algorithmic thinking, formulation techniques and visualization, leading to problem solving skills using different programming paradigms.

2. Data Engineering:

To inculcate an ability to Analyse, Design and implement data driven applications into the students.

3. Software Engineering:

Develop an ability to implement various processes / methodologies /practices employed in design, validation, testing and maintenance of software products.

Course Instructor **Course Coordinator** **Module Coordinator** **HOD**

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DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

COURSE HANDOUT

PROGRAM : B.Tech., VII-Sem., CSE-B

ACADEMIC YEAR : 2019-20

COURSE NAME & CODE : Data Mining and Data Warehousing(DMDW) - S177

L-T-P STRUCTURE : 3-1-0

COURSE CREDITS : 3

COURSE INSTRUCTOR : Mr.N V NAIK

COURSE COORDINATOR: Mr.A Raja Gopal

PRE-REQUISITE: *DBMS, Probability and Statistics.*

COURSE OBJECTIVE: Students will be enabled to understand and implement classical models and algorithms in data warehousing and data mining. They will learn how to analyze the data, identify the problems, and choose the relevant models and algorithms to apply. They will further be able to assess the strengths and weaknesses of various methods and algorithms and to analyze their behavior.

COURSE OUTCOMES (COs)

CO1: Understand the basic concepts of data warehouse & data mining.

CO2: Apply data pre-processing, generalization and data characterization techniques to provide suitable input for a range of data mining algorithms.

CO3: Analyze and provide solutions for real world problems using mining association techniques.

CO4: Examine the different classification & clustering techniques in data mining.

CO5: Apply data mining techniques to complex data objects like spatial data, multimedia data and web mining.

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	1	-	-	-	-	-	-	-	-	1		3	-
CO2	3	3	1	1	1	-	-	-	-	-	-	1	1	3	-
CO3	2	3	3		1	1	-	-	-	-	-	2	1	3	-
CO4	3	3	3	1	1	1	-	-	-	-	-	2	2	3	-
CO5	2	3	2	-	-	-	-	-	-	-	-	1	1	3	-

Note: Enter Correlation Levels **1** or **2** or **3.** If there is no correlation, **put '-'**

1- Lightly(33%) **2 -** Moderately(66%), **3 -** Strongly (100%).

BOS APPROVED TEXT BOOKS:

T1 J. Han, M. Kamber, "Data Mining: Concepts and Techniques", Harcourt India / Morgan Kauffman, 2001

BOS APPROVED REFERENCE BOOKS:

R1 SamAnahory,DennisMurry, "DataWarehousing in the real world", Pearson Education 2003.

R2 DavidHand,HeikkiManila,PadhraicSymth, "Principles of Data Mining", PHI 2004.

R3 W.H.Inmon,"Building the Data Warehouse", Wiley, 3rd Edition, 2003.

R4 PaulrajPonniah, "Data Warehousing Fundamentals", Wiley-Interscience Publication, 2003

COURSE DELIVERY PLAN (LESSON PLAN): Section-A

UNIT-I : Introduction to Data warehouse

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.	Introduction to Data warehouse	1	17/6/2019		**TLM1**	CO1	T1	
63.	Introduction-Data, Info. Importance of DMDW	1	18/6/2019		**TLM1**	CO1	T1	
64.	Data warehouse briefing	1	20/6/2019		**TLM1**	CO1	T1	
65.	Data warehouse Need, OLTP vs OLAP	1	22/6/2019		**TLM1**	CO1	T1	
66.	Multidimensional data models	1	24/6/2019		**TLM1**	CO1	T1	
67.	Concept Hierarchy, OLAP	1	25/6/2019		**TLM2**	CO1	T1	
68.	DWH Architecture	1	27/6/2019		**TLM2**	CO1	R1	
69.	Types of OLAP servers, Meta Data Repository	1	29/6/2019		**TLM2**	CO1	T1	
70.	DWH Implementation	1	01/7/2019		**TLM1**	CO1	T1	
71.	Further Development, DWH to Data Mining	1	02/7/2019		**TLM1**	CO1	T1	

72.	Introduction to data mining	1	4/7/2019		**TLM1**	CO1	T1	
73.	KDD process	1	6/7/2019		**TLM1**	CO1	T1	
74.	Issues regarding data mining, Applications of data mining	1	8/7/2019		**TLM1**	CO1	T1	
75.	TUTORIAL-1	1	9/7/2019		**TLM3**			
76.	Assignment/Quiz-1	1	11/7/2019		**TLM6**			
No. of classes required to complete UNIT-I		15			No. of classes taken:			

UNIT-II: Data Pre-Processing

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
77.	Why we need pre-processing	1	13/7/2019		**TLM1**	CO2	T1	
78.	Data Cleaning	1	15/7/2019		**TLM1**	CO2	T1	
79.	Data Integration	1	16/7/2019		**TLM1**	CO2	T1	
80.	Chi square Analysis	1	18/7/2019		**TLM1**	CO2	T1	
81.	Data Transformation	1	20/7/2019		**TLM1**	CO2	T1	
82.	Data Reduction	1	22/7/2019		**TLM2**	CO2	T1	
83.	Discretization & Concept hierarchy generation	1	23/7/2019		**TLM2**	CO2	T1	
84.	Data mining primitives	1	25/7/2019		**TLM2**	CO2	T1	
85.	Graphical user interfaces, Data mining Architecture	1	27/7/2019		**TLM2**	CO2	T1	
86.	Concept Description, Data Generalization,	1	29/7/2019		**TLM1**	CO2	T1	
87.	Characterizations, Class Comparisons, Descriptive Statistical Measures	1	30/7/2019		**TLM2**	CO2	T1	
88.	Tutorial 2	1	01/8/2019		**TLM3**	CO2	T1	

89.	Assignment/Quiz-2	1	03/8/2019		**TLM6**	CO2	T1	
90.	CRT Classes	1	06/8/2019					
91.	CRT Classes	1	08/8/2019					
92.	CRT Classes	1	10/8/2019					
93.	CRT Classes	1	12/8/2019					
No. of classes required to complete UNIT-II		13			No. of classes taken:			

UNIT-III: Association Rule mining

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
94.	Association rule mining	1	19/8/2019		**TLM1**	CO3	T1	
95.	Apriori algorithm	2	20/8/2019 22/8/2019		**TLM1**	CO3	T1	
96.	FP growth algorithm	1	24/8/2019		**TLM1**	CO3	T1	
97.	Single dimensional Boolean association from transitional database	2	26/8/2019, 27/8/2019		**TLM1**	CO3	T1	
98.	Multi-level association rules from transitional databases	2	29/8/2019, 31/8/2019		**TLM2**	CO3	T1	
99.	Tutorial 3	1	3/9/2019		**TLM3**	CO3	T1	
100.	Assignment/Quiz-3	1	5/9/2019		**TLM6**	CO3	T1	
No. of classes required to complete UNIT-III		10			No. of classes taken:			

UNIT-IV: Classification and Predition Analysis

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
101.	Classification and Prediction	1	07/9/2019		**TLM1**	CO4	T1	
102.	Issues and Decision Tree induction	2	09/9/2019, 10/9/2019		**TLM1**	CO4	T1	
103.	Bayesian classification	1	12/9/2019		**TLM1**	CO4	T1	
104.	Rule based Classification	1	14/9/2019		**TLM1**	CO4	T1	

105.	Other Classification methods	1	16/9/2019		**TLM2**	CO4	T1	
106.	Prediction	1	17/9/2019		**TLM1**	CO4	T1	
107.	Classifier accuracy, Cluster analysis	2	19/9/2019, 21/9/2019		**TLM1**	CO4	T1	
108.	Decision tree induction algorithm	1	23/10/2019		**TLM1**	CO4	T1	
109.	K-Nearest Neighbor algorithm	1	24/10/2019		**TLM1**	CO4	T1	
110.	Hierarchical clustering algorithm	1	26/10/2019		**TLM2**	CO4	T1	
111.	Outlier Analysis	1	28/10/2019		**TLM1**	CO4	T1	
112.	TUTORIAL-4	1	30/09/2019		**TLM3**	CO4	T1	
113.	Assignment/Quiz-4	1	01/10/2019		**TLM6**	CO4	T1	
No. of classes required to complete UNIT-IV		15			No. of classes taken:			

UNIT-V: Multidimensional Analysis

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
114.	Multi-dimensional analysis and descriptive mining of complex data objects	1	03/10/2019		**TLM2**	CO5	T1	
115.	Spatial databases	1	05/10/2019		**TLM2**	CO5	T1	
116.	Multimedia databases	1	10/10/2019		**TLM2**	CO5	T1	
117.	Time series and sequence of data	1	11/10/2019		**TLM2**	CO5	T1	
118.	Text databases, World wide web	1	12/10/2019		**TLM2**	CO5	T1	
119.	Applications and trends in data mining contd...	1	14/10/2019		**TLM2**	CO5	T1	
120.	Tutorial 5	1	15/10/2019		**TLM2**	CO5	T1	

121.	Assignment 5/Quiz	1	17/10/2019		**TLM6**			
No. of classes required to complete UNIT-V		08			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 Weekly
122.	Advanced topics in mining , Research topics related to social networking	1	19/10/2019					

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

EVALUATION PROCESS:

Evaluation Task	**COs**	**Marks**
Assignment/Quiz – 1	1	A1=5
Assignment/Quiz – 2	2	A2=5
I-Mid Examination	1,2	B1=20
Assignment/Quiz – 3	3	A3=5
Assignment/Quiz – 4	4	A4=5
Assignment/Quiz – 5	5	A5=5
II-Mid Examination	3,4,5	B2=20
Evaluation of Assignment/Quiz Marks: A=(A1+A2+A3+A4+A5)/5	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
Cumulative Internal Examination : A+B	**1,2,3,4,5**	**A+B=25**
Semester End Examinations	**1,2,3,4,5**	**C=75**
Total Marks: A+B+C	**1,2,3,4,5**	**100**

PROGRAM EDUCATIONAL OBJECTIVES (PEOS)

PEO I: To inculcate the adaptability skills into the students for software design, software development or any other allied fields of computing.

PEO II: To equip the graduates with the ability to analyze, design and synthesize data to create novel products.

PEO III: Ability to understand and analyze engineering issues in a broader perspective with ethical responsibility towards sustainable development.

PEO IV: To empower the student with the qualities of effective communication, team work, continues learning attitude, leadership needed for a successful computer professional.

PROGRAM OUTCOMES

Engineering Graduates will be able to:

13. **Engineering knowledge**: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
14. **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.
15. **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.
16. **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.
17. **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.
18. **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.
19. **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.
20. **Ethics**: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
21. **Individual and team work**: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
22. **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.

23. **Project management and finance**: Demonstrate knowledge and understanding of the engineer**ing 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.
24. **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

1. Programming Paradigms:

To inculcate algorithmic thinking, formulation techniques and visualization, leading to problem solving skills using different programming paradigms.

2. Data Engineering:

To inculcate an ability to Analyse, Design and implement data driven applications into the students.

3. Software Engineering:

Develop an ability to implement various processes / methodologies /practices employed in design, validation, testing and maintenance of software products.

Course Instructor **Course Coordinator** **Module Coordinator** **HOD**

LAKIREDDY BALI REDDY COLLEGE OF ENGINEERING

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

(Autonomous & Affiliated to JNTUK, Kakinada & Approved by AICTE, New Delhi, Accredited by NAAC & NBA, Certified by ISO 9001:2015)
L B Reddy Nagar, Mylavaram-521 230, Krishna District, Andhra Pradesh.

COURSE HANDOUT

PROGRAM **:** B.Tech., VII-Sem., CSE

ACADEMIC YEAR **:** 2019-20

COURSE NAME & CODE : Mobile Computing & S316

L-T-P STRUCTURE **:** 3-1-0

COURSE CREDITS **:** 3

COURSE INSTRUCTOR : Mr. P. Vamsi Naidu

COURSE COORDINATOR: Mr. P. Vamsi Naidu

PRE-REQUISITE: Knowledge in Computer Networks

COURSE OBJECTIVE: The main objective of this course is to enable the students about intricacies of mobile computing and its core functionality. One can also get introduced with various routing protocols of Ad-hoc Networks. This course also enables students to develop Applications that runs on Android Platform.

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

CO1: Analyze design issues of MAC in mobile networks

CO2: Explore the functioning of Network and Transport layers in mobile networks

CO3: Analyze the routing protocols in MANET'S

CO4: Identify various components of android application development

CO5: Evaluate various VOIP protocols

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	2	-	-	-	-	-	-	-	-	-	-	1	-	-	-
CO2	2	-	-	1	-	-	-	-	-	-	-	1	-	-	-
CO3	2	-	-	1	-	-	-	-	-	-	-	1	-	-	-
CO4	2	-	3	1	1	-	-	-	-	-	-	1	3	2	-
CO5	2	-	-	1	2	-	-	-	-	-	-	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 JochenSchiller, "Mobile Communications", Addison-Wesley. (Chapters 4, 7, 9, 10, 11), second edition, 2004.
T2 C. Siva Ram Murthy, B.S. Manoj, "Ad Hoc Wireless Networks: Architectures and Protocols", Pearson Education, 2004
T3 Android for Programmers: An App-Driven Approach 1st Edition
T4 Voice over IP Fundamentals, 2ndEdition, Cisco Press; Cisco Press, 2006.

BOS APPROVED REFERENCE BOOKS:

R1 Reza Behravanfar, "Mobile Computing Principles: Designing and Developing Mobile Applications with UML and XML", Cambridge University Press, October 2004,

R2 Adelstein, Frank, Gupta, Sandeep KS, Richard III, Golden, Schwiebert, Loren, "Fundamentals of Mobile and Pervasive Computing", ISBN: 0071412379, McGraw-Hill Professional, 2005.

R3 Stefano Basagni, Marco Conti, Silvia Giordano, Ivan Stojmenović, "Mobile ad hoc networking", IEEE Press, Wiley InterScience, 2004

COURSE DELIVERY PLAN (LESSON PLAN): Section-A

UNIT-I: Introduction to Mobile Computing, GSM and MAC

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
12	Introduction to MC, novel applications, limitations, and architecture.	1	18/6/2019		**TLM1**	CO1	T1	
12	System architecture	1	19/6/2019		**TLM1**	CO1	T1	
12	Mobile services, Protocols	1	20/6/2019		**TLM1**	CO1	T1	
12	Localization and calling	1	21/6/2019		**TLM1**	CO1	T1	
12	Handover	1	25/6/2019		**TLM2**	CO1	T1	
12	Security, and New data services	1	26/6/2019		**TLM1**	CO1	T1	
12	Motivation for a specialized MAC	2	27/6/2019 28/6/2019		**TLM1**	CO1	T1	
13	SDMA	1	02/7/2019		**TLM2**	CO1	T1	

13	FDMA	1	03/7/2019		**TLM2**	CO1	T1	
13	TDMA	1	04/7/2019		**TLM2**	CO1	T1	
13	CDMA	1	05/7/2019		**TLM2**	CO1	T1	
13	TUTORIAL-1	1	09/7/2019		**TLM3**			
13	Assignment/Quiz-1	1	10/7/2019		**TLM6**			
No. of classes required to complete UNIT-I		14			No. of classes taken:			

UNIT-II: Mobile Network and Transport Layer

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	Mobile IP Introduction	1	11/7/2019		**TLM1**	CO2	T1	
13	IP packet delivery	1	12/7/2019		**TLM2**	CO2	T1	
13	Agent advertisement and discovery	1	16/7/2019		**TLM1**	CO2	T1	
13	Registration, Tunnelling	1	17/7/2019		**TLM1**	CO2	T1	
14	Encapsulation, Optimizations	1	18/7/2019		**TLM1**	CO2	T1	
14	Traditional TCP, Indirect TCP	1	19/7/2019		**TLM2**	CO2	T1	
14	Snooping TCP, Mobile TCP	1	18/7/2019		**TLM2**	CO2	T1	
14	Fast retransmit/fast recovery	1	23/7/2019		**TLM2**	CO2	T1	
14	Transmission /time-out freezing	1	24/7/2019		**TLM2**	CO2	T1	
14	Selective retransmission, Transaction oriented TCP	1	25/7/2019		**TLM2**	CO2	T1	
14	Tutorial 2	1	26/7/2019		**TLM3**			
14	Assignment/Quiz-2	1	30/7/2019		**TLM6**			

No. of classes required to complete UNIT-II	12			No. of classes taken:

UNIT-III: Adhoc Networks

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
14	Overview, Properties of a MANET, spectrum of MANET applications	1	20/8/2019		**TLM1**	CO3	T2	
14	routing and various routing algorithms	3	21/8/2019 22/8/2019 23/8/2019		**TLM1**	CO3	T2	
15	security in MANETs	1	27/8/2019		**TLM1**	CO3	T2	
15	Introduction, Issues in Ad Hoc Wireless networks	1	28/8/2019		**TLM2**	CO3	T2	
15	Routing Protocols: Table Driven: DSDV, WRP	1	29/8/2019		**TLM2**	CO3	T2	
15	Routing Protocols: On Demand: AODV, DSR.	1	30/8/2019		**TLM2**	CO3	T2	
15	Tutorial 3	1	03/9/2019		**TLM3**			
15	Assignment/Quiz-3	1	04/9/2019		**TLM6**			
No. of classes required to complete UNIT-III		10			No. of classes taken:			

UNIT-IV: Introduction to Android

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
15	What is Android? Setting up development environment	1	05/9/2019		**TLM2**	CO4	T3	
15	Dalvik Virtual Machine & .apk file extension,	1	06/9/2019		**TLM2**	CO4	T3	
15	Activities	1	11/9/2019		**TLM5**	CO4	T3	
15	Services	1	12/9/2019		**TLM5**	CO4	T3	

16	Broadcast Receivers	1	13/9/2019		**TLM5**	CO4	T3	
16	Content providers	1	17/09/2019		**TLM5**	CO4	T3	
16	Views & notifications,	1	18/9/2019		**TLM5**	CO4	T3	
16	Intents & Intent Filters	1	19/9/2019		**TLM5**	CO4	T3	
16	Android API levels	1	20/9/2019		**TLM2**	CO4	T3	
16	AndroidManifest.xml, uses-permission & uses-sdk	1	24/9/2019		**TLM2**	CO4	T3	
16	Resources & R.java, Assets, Layouts &Draw able Resources,	1	25/9/2019		**TLM2**	CO4	T3	
16	Activities and Activity lifecycle	1	26/9/2019		**TLM5**	CO4	T3	
16	First sample Application	1	27/9/2019		**TLM5**	CO4	T3	
16	TUTORIAL-4	1	01/10/2019		**TLM3**			
17	Assignment/Quiz-4	1	03/10/2019		**TLM6**			
No. of classes required to complete UNIT-IV		15			No. of classes taken:			

UNIT-V: Protocols and Tools

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	VOIP (what is VoIP? VoIP issues, VoIP architectures, VoIP protocol stack)	2	04/10/2019 09/10/2019		**TLM2**	CO5	T4	
17	Wireless Application Protocol-WAP	1	10/10/2019		**TLM2**	CO5	T4	
17	Bluetooth	1	11/10/19		**TLM2**	CO5	T4	
17	IOS: What is ios? history	1	15/10/19		**TLM2**	CO5	T4	
17	IOS: features, applications	1	16/10/19		**TLM2**	CO5	T4	

17	Tutorial 5	1	17/10/19		**TLM3**			
17	Assignment 5/Quiz	1	18/10/19		**TLM6**			
No. of classes required to complete UNIT-V		8			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 Weekly
17	Advanced topics in mining , Research topics related to social networking	1	19/10/2019					

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

EVALUATION PROCESS:

Evaluation Task	**COs**	**Marks**
Assignment/Quiz – 1	1	A1=5
Assignment/Quiz – 2	2	A2=5
I-Mid Examination	1,2	B1=20
Assignment/Quiz – 3	3	A3=5
Assignment/Quiz – 4	4	A4=5
Assignment/Quiz – 5	5	A5=5
II-Mid Examination	3,4,5	B2=20
Evaluation of Assignment/Quiz Marks: A=(A1+A2+A3+A4+A5)/5	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
Cumulative Internal Examination : A+B	**1,2,3,4,5**	**A+B=25**
Semester End Examinations	**1,2,3,4,5**	**C=75**
Total Marks: A+B+C	**1,2,3,4,5**	**100**

PROGRAM EDUCATIONAL OBJECTIVES (PEOS)

PEO I: To inculcate the adaptability skills into the students for software design, software development or any other allied fields of computing.

PEO II: To equip the graduates with the ability to analyze, design and synthesize data to create novel products.

PEO III: Ability to understand and analyze engineering issues in a broader perspective with ethical responsibility towards sustainable development.

PEO IV: To empower the student with the qualities of effective communication, team work, continues learning attitude, leadership needed for a successful computer professional.

PROGRAM OUTCOMES

Engineering Graduates will be able to:

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35. **Project management and finance**: Demonstrate knowledge and understanding of the engineer**ing 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.
36. **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

1. Programming Paradigms:

To inculcate algorithmic thinking, formulation techniques and visualization, leading to problem solving skills using different programming paradigms.

2. Data Engineering:

To inculcate an ability to Analyse, Design and implement data driven applications into the students.

3. Software Engineering:

Develop an ability to implement various processes / methodologies /practices employed in design, validation, testing and maintenance of software products.

Course Instructor **Course Coordinator** **Module Coordinator** **HOD**

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http://www.lbrce.ac.in, cselbreddy@gmail.com, Phone: 08659-222933, Fax: 08659-222931

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

COURSE HANDOUT

PROGRAM : B.Tech., VII-Sem., CSE

ACADEMIC YEAR : 2019-20

COURSE NAME & CODE : Mobile Computing & S316

L-T-P STRUCTURE : 3-1-0

COURSE CREDITS : 3

COURSE INSTRUCTOR : Mr. P. Vamsi Naidu

COURSE COORDINATOR: Mr. P. Vamsi Naidu

PRE-REQUISITE: Knowledge in Computer Networks

COURSE OBJECTIVE: The main objective of this course is to enable the students about intricacies of mobile computing and its core functionality. One can also get introduced with various routing protocols of Ad-hoc Networks. This course also enables students to develop Applications that runs on Android Platform.

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

CO1: Analyze design issues of MAC in mobile networks

CO2: Explore the functioning of Network and Transport layers in mobile networks

CO3: Analyze the routing protocols in MANET'S

CO4: Identify various components of android application development

CO5: Evaluate various VOIP protocols

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	2	-	-	-	-	-	-	-	-	-	-	1	-	-	-
CO2	2	-	-	1	-	-	-	-	-	-	-	1	-	-	-
CO3	2	-	-	1	-	-	-	-	-	-	-	1	-	-	-
CO4	2	-	3	1	1	-	-	-	-	-	-	1	3	2	-
CO5	2	-	-	1	2	-	-	-	-	-	-	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).

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T4 Voice over IP Fundamentals, 2ndEdition, Cisco Press; Cisco Press, 2006.

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R3 Stefano Basagni, Marco Conti, Silvia Giordano, Ivan Stojmenović, "Mobile ad hoc networking", IEEE Press, Wiley InterScience, 2004

COURSE DELIVERY PLAN (LESSON PLAN): Section-B

UNIT-I: Introduction to Mobile Computing, GSM and MAC

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	Introduction to MC, novel applications, limitations, and architecture.	1	17/6/2019		**TLM1**	CO1	T1	
18	System architecture	1	19/6/2019		**TLM1**	CO1	T1	
18	Mobile services, Protocols	1	21/6/2019		**TLM1**	CO1	T1	
18	Localization and calling	1	22/6/2019		**TLM1**	CO1	T1	
18	Handover	1	24/6/2019		**TLM2**	CO1	T1	
18	Security, and New data services	1	26/6/2019		**TLM1**	CO1	T1	
18	Motivation for a specialized MAC	2	28/6/2019 29/6/2019		**TLM1**	CO1	T1	
18	SDMA	1	01/7/2019		**TLM2**	CO1	T1	
18	FDMA	1	03/7/2019		**TLM2**	CO1	T1	

18	TDMA	1	05/7/2019		**TLM2**	CO1	T1	
18	CDMA	1	6/7/2019		**TLM2**	CO1	T1	
19	TUTORIAL-1	1	8/7/2019		**TLM3**			
19	Assignment/Quiz-1	1	10/7/2019		**TLM6**			
No. of classes required to complete UNIT-I		14			No. of classes taken:			

UNIT-II: Mobile Network and Transport Layer

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
19	Mobile IP Introduction	1	12/7/2019		**TLM1**	CO2	T1	
19	IP packet delivery	1	13/7/2019		**TLM2**	CO2	T1	
19	Agent advertisement and discovery	1	15/7/2019		**TLM1**	CO2	T1	
19	Registration, Tunnelling	1	17/7/2019		**TLM1**	CO2	T1	
19	Encapsulation, Optimizations	1	19/7/2019		**TLM1**	CO2	T1	
19	Traditional TCP, Indirect TCP	1	20/7/2019		**TLM2**	CO2	T1	
19	Snooping TCP, Mobile TCP	1	22/7/2019		**TLM2**	CO2	T1	
19	Fast retransmit/fast recovery	1	24/7/2019		**TLM2**	CO2	T1	
20	Transmission /time-out freezing	1	26/7/2019		**TLM2**	CO2	T1	
20	Selective retransmission, Transaction oriented TCP	1	27/7/2019		**TLM2**	CO2	T1	
20	Tutorial 2	1	29/7/2019		**TLM3**			
20	Assignment/Quiz-2	1	31/7/2019		**TLM6**			
No. of classes required to complete UNIT-II		12			No. of classes taken:			

UNIT-III: Adhoc Networks

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
20	Overview, Properties of a MANET, spectrum of MANET applications	1	19/8/19		**TLM1**	CO3	T2	
20	routing and various routing algorithms	3	21/8/2019 23/8/2019 26/8/2019		**TLM1**	CO3	T2	
20	security in MANETs	1	28/8/2019		**TLM1**	CO3	T2	
20	Introduction, Issues in Ad Hoc Wireless networks	1	30/8/2019		**TLM2**	CO3	T2	
20	Routing Protocols: Table Driven: DSDV, WRP	1	31/8/2019		**TLM2**	CO3	T2	
20	Routing Protocols: On Demand: AODV, DSR.	1	04/9/2019		**TLM2**	CO3	T2	
21	Tutorial 3	1	06/9/2019		**TLM3**			
21	Assignment/Quiz-3	1	07/9/2019		**TLM6**			
No. of classes required to complete UNIT-III		10			No. of classes taken:			

UNIT-IV: Introduction to Android

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
21	What is Android? Setting up development environment	1	09/9/2019		**TLM2**	CO4	T3	
21	Dalvik Virtual Machine & .apk file extension,	1	11/9/2019		**TLM2**	CO4	T3	
21	Activities	1	13/9/2019		**TLM5**	CO4	T3	
21	Services	1	14/9/2019		**TLM5**	CO4	T3	
21	Broadcast Receivers	1	16/9/2019		**TLM5**	CO4	T3	

21	Content providers	1	18/09/2019		**TLM5**	CO4	T3	
21	Views & notifications,	1	20/9/2019		**TLM5**	CO4	T3	
21	Intents & Intent Filters	1	21/9/2019		**TLM5**	CO4	T3	
22	Android API levels	1	23/9/2019		**TLM2**	CO4	T3	
22	AndroidManifest.xml, uses-permission & uses-sdk	1	25/9/2019		**TLM2**	CO4	T3	
22	Resources & R.java, Assets, Layouts &Draw able Resources,	1	27/9/2019		**TLM2**	CO4	T3	
22	Activities and Activity lifecycle	1	28/9/2019		**TLM5**	CO4	T3	
22	First sample Application	1	30/9/2019		**TLM5**	CO4	T3	
22	TUTORIAL-4	1	04/10/2019		**TLM3**			
22	Assignment/Quiz-4	1	05/10/2019		**TLM6**			
No. of classes required to complete UNIT-IV		15			No. of classes taken:			

UNIT-V: Protocols and Tools

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
22	VOIP (what is VoIP? VoIP issues, VoIP architectures, VoIP protocol stack)	2	07/10/2019 09/10/2019		**TLM2**	CO5	T4	
22	Wireless Application Protocol-WAP	1	11/10/2019		**TLM2**	CO5	T4	
22	Bluetooth	1	12/10/2019		**TLM2**	CO5	T4	
23	IOS: What is ios? history	1	14/10/2019		**TLM2**	CO5	T4	
23	IOS: features, applications	1	16/10/2019		**TLM2**	CO5	T4	
23	Tutorial 5	1	18/10/2019		**TLM3**			

23	Assignment 5/Quiz	1	19/10/2019		**TLM6**			
No. of classes required to complete UNIT-V		8			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 Weekly
23	Advanced topics in Ad-hoc networks and Android Application Development	1	19/10/2019					

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

EVALUATION PROCESS:

Evaluation Task	**COs**	**Marks**
Assignment/Quiz – 1	1	A1=5
Assignment/Quiz – 2	2	A2=5
I-Mid Examination	1,2	B1=20
Assignment/Quiz – 3	3	A3=5
Assignment/Quiz – 4	4	A4=5
Assignment/Quiz – 5	5	A5=5
II-Mid Examination	3,4,5	B2=20
Evaluation of Assignment/Quiz Marks: A=(A1+A2+A3+A4+A5)/5	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
Cumulative Internal Examination : A+B	**1,2,3,4,5**	**A+B=25**
Semester End Examinations	**1,2,3,4,5**	**C=75**
Total Marks: A+B+C	**1,2,3,4,5**	**100**

PROGRAM EDUCATIONAL OBJECTIVES (PEOS)

PEO I: To inculcate the adaptability skills into the students for software design, software development or any other allied fields of computing.

PEO II: To equip the graduates with the ability to analyze, design and synthesize data to create novel products.

PEO III: Ability to understand and analyze engineering issues in a broader perspective with ethical responsibility towards sustainable development.

PEO IV: To empower the student with the qualities of effective communication, team work, continues learning attitude, leadership needed for a successful computer professional.

PROGRAM OUTCOMES

Engineering Graduates will be able to:

37. **Engineering knowledge**: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
38. **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.
39. **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.
40. **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.
41. **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.
42. **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.
43. **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.
44. **Ethics**: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
45. **Individual and team work**: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
46. **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.

47. **Project management and finance**: Demonstrate knowledge and understanding of the engineer**ing 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.
48. **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

1. Programming Paradigms:

To inculcate algorithmic thinking, formulation techniques and visualization, leading to problem solving skills using different programming paradigms.

2. Data Engineering:

To inculcate an ability to Analyse, Design and implement data driven applications into the students.

3. Software Engineering:

Develop an ability to implement various processes / methodologies /practices employed in design, validation, testing and maintenance of software products.

Course Instructor **Course Coordinator** **Module Coordinator** **HOD**

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L.B.Reddy Nagar, Mylavaram-521230, Krishna Dist, Andhra Pradesh, India

COURSE HANDOUT
B.Tech VII-SEM CSE SECTION -A

Part-A

PROGRAM : B.Tech., VII-Sem., CSE

ACADEMIC YEAR : 2019-20

COURSE NAME & CODE : Design Patterns S186

L-T-P STRUCTURE : 4-1-0

COURSE CREDITS : 3

COURSE INSTRUCTOR : **M.Sri Bala**

COURSE COORDINATOR : **G.V.Suresh**

PRE-REQUISITES : Knowledge of Unified modeling language.

COURSE EDUCATIONAL OBJECTIVES (CEOs) :

CEO1: To understand that design patterns are standard solutions to common software design problems.

CEO2: To be able to use systematic approach that focus and describe abstract systems of interaction between classes, objects, and communication flow.

COURSE OUTCOMES (COs)

CO1:	Identify the design patterns to solve object oriented design problems.
CO2:	Analyze and combine design patterns to work together in software design process.
CO3:	construct software systems and components using design pattern (catalog's).
CO4:	implement creational patterns (Singleton, Factory, Abstract Factory), structural patterns for given applications.
CO5:	Evaluate design solutions by using behavioral patterns.

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	1	3	-	-	-	-	-	-	-	-	-	-	-	3
CO2		2	2	-	-	-	-	-	-	-	1	-	-	-	3
CO3		1	2	2	-	-	-	-	-	-	1	-	-	-	3
CO4		1	2	2	-	-	-	-	-	-	1	-	-	-	3

CO 5		1	2	2	-	-	-	-	-	-	1	-	-	-	3

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 Design Patterns by Erich Gamma Pearson Education.

T2 Head first Design Patterns by Eric Freeman-Orielly-SPD.

BOS APPROVED REFERENCE BOOKS:

R1 Pattern's in JAVA VOL-I by Mark Grand Wiley Dream Tech.

R2 Design Patterns Explained by Alan Ahalloway Pearson Education.

Part-B

COURSE DELIVERY PLAN (LESSON PLAN): Section-A
UNIT-I :Introduction

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
235.	Introductio n to Subject	1	18-06-2019		**TLM 1,2**	CO1	T1,T2,R1	
236.	Course Outcomes	1	20-06-2019		**TLM 1,2**	CO1	T1,T2,R1	
237.	**Introduction to UNIT-I**	1	21-06-2019		**TLM 1,2**	CO1	T1,T2,R1	
238.	What is Design pattern?	1	22-06-2019		**TLM 1,2**	CO1	T1,T2,R1	
239.	Design patterns in Smalltalk MVC	1	25-06-2019		**TLM 1,2**	CO1	T1,T2,R1	
240.	Describing Design patterns	1	27-06-2019		**TLM 1,2**	CO1	T1,T2,R1	
241.	Describing Design patterns	1	28-06-2019		**TLM 1,2**	CO1	T1,T2,R1	
242.	The catalog of Design patterns	1	29-06-2019		**TLM 1,2**	CO1	T1,T2,R1	
243.	Organizing the catalog	1	2-07-2019		**TLM 1,2**	CO1	T1,T2,R1	
244.	**TUTORIAL-1**	1	4-07-2019		**TLM 3**	CO1	T1,T2,R1	

245.	How design patterns solve design problems	1	5-07-2019		**TLM 1,2**	CO1	T1,T2,R1	
246.	How design patterns solve design problems	1	6-07-2019		**TLM 1,2**	CO1	T1,T2,R1	
247.	How to select a design pattern	1	9-07-2019		**TLM 1,2**	CO1	T1,T2,R1	
248.	How to select a design pattern	1	11-07-2019		**TLM 1,2**	CO1	T1,T2,R1	
249.	How to use a design pattern.	1	12-07-2019		**TLM 1,2**	CO1	T1,T2,R1	
250.	How to use a design pattern.	1	13-07-2019		**TLM 1,2**	CO1	T1,T2,R1	
251.	**TUTORIAL-2**	1	16-07-2019		**TLM 3**	CO1	T1,T2,R1	
252.	Revision	1	18-07-2019		**TLM 1,2**	CO1		
No. of classes required to complete UNIT-I					No. of classes taken:			

UNIT-II : A case Study.

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
253.	Designing a document editor:	1	19-07-2019		**TLM 1,2**	CO2	T1,T2,R1	
254.	Design problems	1	19-07-2019		**TLM 1,2**	CO2	T1,T2,R1	
255.	Document structure	1	20-07-2019		**TLM 1,2**	CO2	T1,T2,R1	

256.	Formatting	1	23-07-2019		**TLM 1,2**	CO2	T1,T2,R1	
257.	**TUTORIAL-3**	1	25-07-2019		**TLM 3**	CO2	T1,T2,R1	
258.	Supporting multiple look-and-feel standards	1	26-07-2019		**TLM 1,2**	CO2	T1,T2,R1	
259.	Supporting multiple look-and-feel standards	1	27-07-2019		**TLM 1,2**	CO2	T1,T2,R1	
260.	Supporting multiple window systems	1	30-07-2019		**TLM 1,2**	CO2	T1,T2,R1	
261.	User operations	1	1-08-2019		**TLM 1,2**	CO2	T1,T2,R1	
262.	User operations	1	2-08-2019		**TLM 1,2**	CO2	T1,T2,R1	
263.	**TUTORIAL-4**	1	3-08-2019		**TLM 3**	CO2	T1,T2,R1	
264.	spelling checking	1	6-08-2019		**TLM 1,2**	CO2	T1,T2,R1	
265.	spelling checking	1	8-08-2019		**TLM 1,2**	CO2	T1,T2,R1	
266.	Hyphenation summary	1	9-08-2019		**TLM 1,2**	CO2	T1,T2,R1	
267.	**TUTORIAL-5**	1	10-08-2019		**TLM 3**	CO2	T1,T2,R1	
268.	**Revision**		10-08-2019		**TLM 1,2**	CO2	T1,T2,R1	
I mid examinations from 12/8/2019 to 17/8/2019								
No. of classes required to complete UNIT-II				No. of classes taken:				

UNIT-III : Creational Patterns, Structural Patterns I and II.

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
269	**Creational**	1	20-08-2019		**TLM 1,2**	CO3		

	Patterns: Abstract Factory						T1,T2,R1	
270	Builder.	1	22-08-2019		**TLM 1,2**	CO3	T1,T2,R1	
271	Factory Method: Intent, Also Known As, Motivation,	1	23-08-2019		**TLM 1,2**	CO3	T1,T2,R1	
272	Applicability, Structure, Collaborations.	1	27-08-2019		**TLM 1,2**	CO3	T1,T2,R1	
273	**TUTORIAL-6**	1	29-08-2019		**TLM 3**	CO3	T1,T2,R1	
274	Prototype , singleton	1	30-08-2019		**TLM 1,2**	CO3	T1,T2,R1	
275	Discussion on creational patterns	1	31-08-2019		**TLM 1,2**	CO3	T1,T2,R1	
276	**Structural pattern part – I:**Adapter	1	3-09-2019		**TLM 1,2**	CO3	T1,T2,R1	
277	Bridge	1	5-09-2019			CO3	T1,T2,R1	
278	**TUTORIAL-7**	1	6-09-2019		**TLM 3**	CO3	T1,T2,R1	
279	Composite.	1	6-09-2019		**TLM 1,2**	CO3	T1,T2,R1	
280	**Structural pattern part – II:** Decorator	1	7-09-2019		**TLM 1,2**	CO3	T1,T2,R1	
281	Facade	1	12-09-2019		**TLM 1,2**	CO3	T1,T2,R1	
282	Flyweight, Proxy	1	13-09-2019		**TLM 1,2**	CO3	T1,T2,R1	
283	**TUTORIAL-8**	1	13-09-2019		**TLM 3**	CO3	T1,T2,R1	
No. of classes required to complete UNIT-III					No. of classes taken:			

UNIT-IV : Behavioral Patterns Part-I and II.

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

284.	Behavioural pattern part – I:	1	14-09-2019		**TLM 1,2**	CO4	T1,T2,R1	
285.	Chain of responsibility	1	14-09-2019		**TLM 1,2**	CO4	T1,T2,R1	
286.	Command	1	17-09-2019		**TLM 1,2**	CO4	T1,T2,R1	
287.	**TUTORIAL-9**	1	19-09-2019		**TLM 3**	CO4	T1,T2,R1	
288.	Interpreter	1	20-09-2019		**TLM 1,2**	CO4	T1,T2,R1	
289.	Iterator	1	21-09-2019		**TLM 1,2**	CO4	T1,T2,R1	
290.	Behavioural pattern part – II:	1	24-09-2019		**TLM 1,2**	CO4	T1,T2,R1	
291.	Mediator	1	26-09-2019		**TLM 1,2**	CO4	T1,T2,R1	
292.	Observer	1	27-09-2019		**TLM 1,2**	CO4	T1,T2,R1	
293.	**TUTORIAL-10**	1	28-09-2019		**TLM 3**	CO4	T1,T2,R1	
294.	Observer	1	28-09-2019		**TLM 1,2**	CO4	T1,T2,R1	
295.	State	1	1-10-2019		**TLM 1,2**	CO4	T1,T2,R1	
296.	Strategy	1	3-10-2019		**TLM 1,2**	CO4	T1,T2,R1	
297.	Template Method	1	4-10-2019		**TLM 1,2**	CO4	T1,T2,R1	
298.	Visitor	1	4-10-2019		**TLM 1,2**	CO4	T1,T2,R1	
299.	Discussion of Behavioral Patterns		5-10-2019		**TLM 1,2**	CO4	T1,T2,R1	
300.	**TUTORIAL-11**	1	10-10-2019		**TLM 3**	CO4	T1,T2,R1	
No. of classes required to complete UNIT-IV					No. of classes taken:			

UNIT-V : What to expect from Design Patterns?

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
301.	What to expect from Design patterns,	1	11-10-2019		**TLM 1,2**	CO5	T1,T2,R1	

302.	A brief history	1	12-10-2019		**TLM 1,2**	CO5	T1,T2,R1	
303.	The pattern community	1	15-10-2019		**TLM 1,2**	CO5	T1,T2,R1	
304.	**TUTORIAL-12**	1	15-10-2019		**TLM 3**	CO5	T1,T2,R1	
305.	An invitation	1	17-10-2019		**TLM 1,2**	CO5	T1,T2,R1	
306.	A pattern thought	1	18-10-2019		**TLM 1,2**	CO5	T1,T2,R1	
307.	**TUTORIAL-13**	1	18-10-2019		**TLM 3**	CO5	T1,T2,R1	
308.	Revision	1	19-10-2019		**TLM 1,2**	CO5	T1,T2,R1	
309.	Revision	1	19-10-2019		**TLM 1,2**	CO5	T1,T2,R1	
310.	**TUTORIAL-14**	1	19-10-2019		**TLM 3**	CO5	T1,T2,R1	
No. of classes required to complete UNIT-V					No. of classes taken:			
II mid examinations from 21/10/2019 to 26/10/2019								

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
311.								
312.								
313.								

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	**COs**	**Marks**
Assignment/Quiz – 1	1	A1=5
Assignment/Quiz – 2	2	A2=5
I-Mid Examination	1,2	B1=20
Assignment/Quiz – 3	3	A3=5
Assignment/Quiz – 4	4	A4=5

Assignment/Quiz – 5	5	A5=5
II-Mid Examination	3,4,5	B2=20
Evaluation of Assignment/Quiz Marks: A=(A1+A2+A3+A4+A5)/5	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
Cumulative Internal Examination : A+B	**1,2,3,4,5**	**A+B=25**
Semester End Examinations	**1,2,3,4,5**	**C=75**
Total Marks: A+B+C	**1,2,3,4,5**	**100**

PROGRAMME EDUCATIONAL OBJECTIVES (PEOs)

PEO I: To inculcate the adaptability skills into the students for software design, software development or any other allied fields of computing.

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Engineering Graduates will be able to:

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50. **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.
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60. **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.

PSOs

1. Programming Paradigms:

To inculcate algorithmic thinking, formulation techniques and visualization, leading to problem solving skills using different programming paradigms.

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To inculcate an ability to Analyze, Design and implement data driven applications into the students.

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Develop an ability to implement various processes / methodologies /practices employed in design, validation, testing and maintenance of software products.

Course Instructor	Course Coordinator	Module Coordinator	HOD

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COURSE HANDOUT
B.Tech VII-SEM CSE SECTION -B

Part-A

PROGRAM : B.Tech., VII-Sem., CSE

ACADEMIC YEAR : 2019-20

COURSE NAME & CODE : Design Patterns S186

L-T-P STRUCTURE : 4-1-0

COURSE CREDITS : 3

COURSE INSTRUCTOR : **M.Sri Bala**

COURSE COORDINATOR : **G.V.Suresh**

PRE-REQUISITES : Knowledge of Unified modeling language.

COURSE EDUCATIONAL OBJECTIVES (CEOs) :

CEO1: To understand that design patterns are standard solutions to common software design problems.

CEO2: To be able to use systematic approach that focus and describe abstract systems of interaction between classes, objects, and communication flow.

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CO1:	Identify the design patterns to solve object oriented design problems.
CO2:	Analyze and combine design patterns to work together in software design process.
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CO5:	Evaluate design solutions by using behavioral patterns.

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	1	3	-	-	-	-	-	-	-	-	-	-	-	3
CO2		2	2	-	-	-	-	-	-	-	1	-	-	-	3
CO3		1	2	2	-	-	-	-	-	-	1	-	-	-	3
CO4		1	2	2	-	-	-	-	-	-	1	-	-	-	3

CO 5		1	2	2	-	-	-	-	-	-	1	-	-	-	3

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

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BOS APPROVED REFERENCE BOOKS:

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R2 Design Patterns Explained by Alan Ahalloway Pearson Education.

Part-B

COURSE DELIVERY PLAN (LESSON PLAN): Section-B
UNIT-I :Introduction

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
314.	Introductio n to Subject	1	17-06-2019		**TLM 1,2**	CO1	T1,T2,R1	
315.	Course Outcomes	1	20-06-2019		**TLM 1,2**	CO1	T1,T2,R1	
316.	**Introduction to UNIT-I**	1	21-06-2019		**TLM 1,2**	CO1	T1,T2,R1	
317.	What is Design pattern?	1	22-06-2019		**TLM 1,2**	CO1	T1,T2,R1	
318.	Design patterns in Smalltalk MVC	1	24-06-2019		**TLM 1,2**	CO1	T1,T2,R1	
319.	Describing Design patterns	1	27-06-2019		**TLM 1,2**	CO1	T1,T2,R1	
320.	Describing Design patterns	1	28-06-2019		**TLM 1,2**	CO1	T1,T2,R1	
321.	The catalog of Design patterns	1	29-06-2019		**TLM 1,2**	CO1	T1,T2,R1	
322.	Organizing the catalog	1	1-07-2019		**TLM 1,2**	CO1	T1,T2,R1	
323.	**TUTORIAL-1**	1	4-07-2019		**TLM 3**	CO1	T1,T2,R1	

324.	How design patterns solve design problems	1	5-07-2019		**TLM 1,2**	CO1	T1,T2,R1	
325.	How design patterns solve design problems	1	6-07-2019		**TLM 1,2**	CO1	T1,T2,R1	
326.	How to select a design pattern	1	8-07-2019		**TLM 1,2**	CO1	T1,T2,R1	
327.	How to select a design pattern	1	11-07-2019		**TLM 1,2**	CO1	T1,T2,R1	
328.	How to use a design pattern.	1	12-07-2019		**TLM 1,2**	CO1	T1,T2,R1	
329.	How to use a design pattern.	1	13-07-2019		**TLM 1,2**	CO1	T1,T2,R1	
330.	**TUTORIAL-2**	1	15-07-2019		**TLM 3**	CO1	T1,T2,R1	
331.	Revision	1	18-07-2019		**TLM 1,2**	CO1		
No. of classes required to complete UNIT-I					No. of classes taken:			

UNIT-II : A case Study.

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
332.	Designing a document editor:	1	19-07-2019		**TLM 1,2**	CO2	T1,T2,R1	
333.	Design problems	1	19-07-2019		**TLM 1,2**	CO2	T1,T2,R1	
334.	Document structure	1	20-07-2019		**TLM 1,2**	CO2	T1,T2,R1	

335.	Formatting	1	22-07-2019		**TLM 1,2**	CO2	T1,T2,R1	
336.	**TUTORIAL-3**	1	25-07-2019		**TLM 3**	CO2	T1,T2,R1	
337.	Supporting multiple look-and-feel standards	1	26-07-2019		**TLM 1,2**	CO2	T1,T2,R1	
338.	Supporting multiple look-and-feel standards	1	27-07-2019		**TLM 1,2**	CO2	T1,T2,R1	
339.	Supporting multiple window systems	1	29-07-2019		**TLM 1,2**	CO2	T1,T2,R1	
340.	User operations	1	1-08-2019		**TLM 1,2**	CO2	T1,T2,R1	
341.	User operations	1	2-08-2019		**TLM 1,2**	CO2	T1,T2,R1	
342.	**TUTORIAL-4**	1	3-08-2019		**TLM 3**	CO2	T1,T2,R1	
343.	spelling checking	1	5-08-2019		**TLM 1,2**	CO2	T1,T2,R1	
344.	spelling checking	1	8-08-2019		**TLM 1,2**	CO2	T1,T2,R1	
345.	Hyphenation summary	1	9-08-2019		**TLM 1,2**	CO2	T1,T2,R1	
346.	**TUTORIAL-5**	1	10-08-2019		**TLM 3**	CO2	T1,T2,R1	
347.	**Revision**		10-08-2019		**TLM 1,2**	CO2	T1,T2,R1	
I mid examinations from 12/8/2019 to 17/8/2019								
No. of classes required to complete UNIT-II				No. of classes taken:				

UNIT-III : Creational Patterns, Structural Patterns I and II.

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
348	**Creational**	1	19-08-2019		**TLM 1,2**	CO3		

	Patterns: Abstract Factory						T1,T2,R1	
349	Builder.	1	22-08-2019		**TLM 1,2**	CO3	T1,T2,R1	
350	Factory Method: Intent, Also Known As, Motivation,	1	23-08-2019		**TLM 1,2**	CO3	T1,T2,R1	
351	Applicability, Structure, Collaborations.	1	26-08-2019		**TLM 1,2**	CO3	T1,T2,R1	
352	**TUTORIAL-6**	1	29-08-2019		**TLM 3**	CO3	T1,T2,R1	
353	Prototype , singleton	1	30-08-2019		**TLM 1,2**	CO3	T1,T2,R1	
354	Discussion on creational patterns	1	31-08-2019		**TLM 1,2**	CO3	T1,T2,R1	
355	**Structural pattern part – I:**Adapter	1	31-08-2019		**TLM 1,2**	CO3	T1,T2,R1	
356	Bridge	1	5-09-2019			CO3	T1,T2,R1	
357	**TUTORIAL-7**	1	6-09-2019		**TLM 3**	CO3	T1,T2,R1	
358	Composite.	1	6-09-2019		**TLM 1,2**	CO3	T1,T2,R1	
359	**Structural pattern part – II:** Decorator	1	7-09-2019		**TLM 1,2**	CO3	T1,T2,R1	
360	Facade	1	9-09-2019		**TLM 1,2**	CO3	T1,T2,R1	
361	Flyweight, Proxy	1	12-09-2019		**TLM 1,2**	CO3	T1,T2,R1	
362	**TUTORIAL-8**	1	13-09-2019		**TLM 3**	CO3	T1,T2,R1	
No. of classes required to complete UNIT-III					No. of classes taken:			

UNIT-IV : Behavioral Patterns Part-I and II.

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

363.	Behavioral pattern part – I:	1	14-09-2019		**TLM 1,2**	CO4	T1,T2,R1	
364.	Chain of responsibility	1	14-09-2019		**TLM 1,2**	CO4	T1,T2,R1	
365.	Command	1	16-09-2019		**TLM 1,2**	CO4	T1,T2,R1	
366.	**TUTORIAL-9**	1	19-09-2019		**TLM 3**	CO4	T1,T2,R1	
367.	Interpreter	1	20-09-2019		**TLM 1,2**	CO4	T1,T2,R1	
368.	Iterator	1	21-09-2019		**TLM 1,2**	CO4	T1,T2,R1	
369.	Behavioural pattern part – II:	1	23-09-2019		**TLM 1,2**	CO4	T1,T2,R1	
370.	Mediator	1	26-09-2019		**TLM 1,2**	CO4	T1,T2,R1	
371.	Observer	1	27-09-2019		**TLM 1,2**	CO4	T1,T2,R1	
372.	**TUTORIAL-10**	1	28-09-2019		**TLM 3**	CO4	T1,T2,R1	
373.	Observer	1	30-09-2019		**TLM 1,2**	CO4	T1,T2,R1	
374.	State	1	30-10-2019		**TLM 1,2**	CO4	T1,T2,R1	
375.	Strategy	1	3-10-2019		**TLM 1,2**	CO4	T1,T2,R1	
376.	Template Method	1	4-10-2019		**TLM 1,2**	CO4	T1,T2,R1	
377.	Visitor	1	4-10-2019		**TLM 1,2**	CO4	T1,T2,R1	
378.	Discussion of Behavioral Patterns		5-10-2019		**TLM 1,2**	CO4	T1,T2,R1	
379.	**TUTORIAL-11**	1	5-10-2019		**TLM 3**	CO4	T1,T2,R1	
No. of classes required to complete UNIT-IV					No. of classes taken:			

UNIT-V : What to expect from Design Patterns?

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
380.	What to expect from Design patterns,	1	7-10-2019		**TLM 1,2**	CO5	T1,T2,R1	

381.	A brief history	1	10-10-2019		**TLM 1,2**	CO5	T1,T2,R1	
382.	The pattern community	1	11-10-2019		**TLM 1,2**	CO5	T1,T2,R1	
383.	**TUTORIAL-12**	1	12-10-2019		**TLM 3**	CO5	T1,T2,R1	
384.	An invitation	1	14-10-2019		**TLM 1,2**	CO5	T1,T2,R1	
385.	A pattern thought	1	17-10-2019		**TLM 1,2**	CO5	T1,T2,R1	
386.	**TUTORIAL-13**	1	18-10-2019		**TLM 3**	CO5	T1,T2,R1	
387.	Revision	1	18-10-2019		**TLM 1,2**	CO5	T1,T2,R1	
388.	Revision	1	19-10-2019		**TLM 1,2**	CO5	T1,T2,R1	
389.	**TUTORIAL-14**	1	19-10-2019		**TLM 3**	CO5	T1,T2,R1	
No. of classes required to complete UNIT-V					No. of classes taken:			
II mid examinations from 21/10/2019 to 26/10/2019								

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
390.								
391.								
392.								

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	**COs**	**Marks**
Assignment/Quiz – 1	1	A1=5
Assignment/Quiz – 2	2	A2=5
I-Mid Examination	1,2	B1=20
Assignment/Quiz – 3	3	A3=5
Assignment/Quiz – 4	4	A4=5

Assignment/Quiz – 5	5	A5=5
II-Mid Examination	3,4,5	B2=20
Evaluation of Assignment/Quiz Marks: A=(A1+A2+A3+A4+A5)/5	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
Cumulative Internal Examination : A+B	**1,2,3,4,5**	**A+B=25**
Semester End Examinations	**1,2,3,4,5**	**C=75**
Total Marks: A+B+C	**1,2,3,4,5**	**100**

PROGRAMME EDUCATIONAL OBJECTIVES (PEOs)

PEO I: To inculcate the adaptability skills into the students for software design, software development or any other allied fields of computing.

PEO II: To equip the graduates with the ability to analyze, design and synthesize data to create novel products.

PEO III: Ability to understand and analyze engineering issues in a broader perspective with ethical responsibility towards sustainable development.

PEO IV: To empower the student with the qualities of effective communication, team work, continues learning attitude, leadership needed for a successful computer professional.

PROGRAMME OUTCOMES (POs)

Engineering Graduates will be able to:

61. **Engineering knowledge**: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
62. **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.
63. **Design/development of solutions**: Design solutions for complex engineering problems anddesign 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.
64. **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.
65. **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.
66. **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.

67. **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.
68. **Ethics**: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
69. **Individual and team work**: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
70. **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.
71. **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.
72. **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.

PSOs

1. Programming Paradigms:

To inculcate algorithmic thinking, formulation techniques and visualization, leading to problem solving skills using different programming paradigms.

2. Data Engineering:

To inculcate an ability to Analyze, Design and implement data driven applications into the students.

3. Software Engineering:

Develop an ability to implement various processes / methodologies /practices employed in design, validation, testing and maintenance of software products.

Course Instructor	Course Coordinator	Module Coordinator	HOD

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

COURSE HANDOUT

PROGRAM : B.Tech. VII-Sem., CSE-A

ACADEMIC YEAR : 2019-20

COURSE NAME & CODE : **C# AND .NET Programming** – S153

L-T-P STRUCTURE : 3-1-0

COURSE CREDITS : 3

COURSE INSTRUCTOR : A.SUDHAKAR

COURSE COORDINATOR : A.SUDHAKAR

PRE-REQUISITE: C, C++, JAVA Languages

COURSE OBJECTIVE: This course will cover the practical aspects of multi-tier application development using the .NET framework. The goal of this course is to introduce the basics of distributed application development. Technologies covered include the Common Language Runtime (CLR), .NET framework classes, C#, ASP.NET, and ADO.NET.

COURSE OUTCOMES (CO)

CO1: Identify the basic constructs of C# and .NET Framework with a view of using them in problem solving.
CO2: Apply object oriented features of C# to solve real world problems.
CO3: Demonstrate the usage of ADO.NET to create window applications for database access.
CO4: Design ASP.NET web applications to create user friendly environment.
CO5: Analyze the features like security, assemblies and CLR in .NET framework.

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	2	2	1	-	3	-	-	-	-	-	-	1	3	-	-
CO2	2	2	3	-	3	-	-	-	-	-	-	1	3	-	-
CO3	1	2	3	-	3	-	-	-	-	-	-	1	3	3	-
CO4	2	1	3	-	3	-	-	-	-	-	-	1	3	3	-
CO5	2	3	2	-	3	-	-	-	-	-	-	1	3	2	-

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	Herbert Schildt, "The Complete Reference: C# 4.0", TMH, 2012.
T2	Christian Nagel et al. "Professional C# 2012 with .NET 4.5", Wiley India, 2012.

BOS APPROVED REFERENCE BOOKS:

R1	Andrew Troelsen , "Pro C# 2010 and the .NET 4 Platform", Fifth edition, A Press, 2010.
R2	Ian Griffiths, Matthew Adams, Jesse Liberty, "Programming C# 4.0", O_Reilly,6 th Edition 2010.

COURSE DELIVERY PLAN (LESSON PLAN): Section-B

UNIT-I: INTRODUCTION TO C#

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.	Understanding .NET Framework	1	17.06.2019		TLM1	CO1	T1, R1	
2.	Introduction, Overview of C#	1	18.06.2019		TLM1	CO1	T1, R1	
3.	Literals, Variables, Data Types	1	19.06.2019		TLM1, TLM5	CO1	T1, R1	
4.	Operators, checked and unchecked operators	1	20.06.2019		TLM1, TLM5	CO1	T1, R1	
5.	Expressions, Branching	1	01.07.2019		TLM1, TLM5	CO1	T1, R1	
6.	Looping Statements	1	02.07.2019		TLM1, TLM5	CO1	T1, R1	
7.	implicit and explicit casting	1	03.07.2019		TLM1, TLM5	CO1	T1, R1	
8.	Constant, Arrays	1	04.07.2019		TLM1, TLM5	CO1	T1, R1	
9.	Array Class, Array List	1	08.07.2019		TLM1, TLM5	CO1	T1, R1	
10.	String, String Builder	1	09.07.2019		TLM1, TLM5	CO1	T1, R1	
11.	Structure, Enumerations	1	10.07.2019		TLM1, TLM5	CO1	T1, R1	
12.	Boxing and unboxing.	1	11.07.2019		TLM1, TLM5	CO1	T1, R1	
13.	TUTORIAL - 1	1	15.07.2019		TLM3	CO1	---	
14.	Assignment/Quiz-1	1	16.07.2019		TLM6	CO1	---	
No. of classes required to complete UNIT-I		14	No. of classes taken:					

UNIT-II: OBJECT ORIENTED ASPECTS OF C#

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
15.	Class, Objects	1	17.07.2019		TLM1, TLM5	CO2	T1, R1	
16.	Constructors and its types	1	18.07.2019		TLM1, TLM5	CO2	T1, R1	
17.	Inheritance, properties, indexers	1	22.07.2019		TLM1, TLM5	CO2	T1, R1	
18.	Index overloading,	1	23.07.2019		TLM1,	CO2	T1, R1	

	polymorphism				TLM5			
19.	sealed class and methods	1	24.07.2019		TLM1, TLM5	CO2	T1, R1	
20.	interface, abstract class	1	25.07.2019		TLM1, TLM5	CO2	T1, R1	
21.	operator overloading	1	29.07.2019		TLM1, TLM5	CO2	T1, R1	
22.	delegates, events	1	30.07.2019		TLM1, TLM5	CO2	T1, R1	
23.	errors and exception	1	31.08.2019		TLM1, TLM5	CO2	T1, R1	
24.	Threading.	1	01.08.2019		TLM1, TLM5	CO2	T1, R1	
25.	TUTORIAL-2	1	05.08.2019		TLM3	CO2	---	
26.	Assignment/Quiz-2	1	06.08.2019		TLM6	CO2	---	
No.of classes required to complete UNIT-II		12	No. of classes taken:					

UNIT-III: APPLICATION DEVELOPMENT ON .NET

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
27.	Building windows application	1	07.08.2019		TLM1, TLM5	CO3	T1, R2	
28.	Creating our own window forms	1	08.08.2019		TLM1, TLM5	CO3	T1, R2	
29.	window forms with events and controls	1	19.08.2019		TLM1, TLM5	CO3	T1, R2	
30.	menu creation, inheriting window forms	1	20.08.2019		TLM1, TLM5	CO3	T1, R2	
31.	SDI and MDI application	1	21.08.2019		TLM1, TLM5	CO3	T1, R2	
32.	Dialog Box (Modal and Modeless)	1	22.08.2019		TLM1, TLM5	CO3	T1, R2	
33.	accessing data with ADO.NET	1	26.08.2019		TLM1, TLM5	CO3	T1, R2	
34.	DataSet, typed dataset and Data Adapter	1	27.08.2019		TLM1, TLM5	CO3	T1, R2	
35.	Updating database using stored procedures	1	28.08.2019		TLM1, TLM5	CO3	T1, R2	
36.	SQL Server with ADO.NET	1	29.08.2019		TLM1, TLM5	CO3	T1, R2	
37.	handling exceptions, validating controls and Windows application configuration	1	03.09.2019		TLM1, TLM5	CO3	T1, R2	
38.	TUTORIAL-3	1	04.09.2019		TLM3	CO3	---	
39.	Assignment/Quiz-3	1	05.09.2019		TLM6	CO3	---	
No. of classes required to complete UNIT-III		13	No. of classes taken:					

UNIT-IV: WEB BASED APPLICATION DEVELOPMENT ON .NET

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
40.	Programming web application with web forms, ASP.NET introduction.	1	09.09.2019		TLM1, TLM5	CO4	T1, R2	

41.	working with XML and .NET	1	11.09.2019		TLM1, TLM5	CO4	T1, R2	
42.	Creating Virtual Directory and Web Application	1	12.09.2019	`	TLM1, TLM5	CO4	T1, R2	
43.	session management techniques, web.config	1	16.09.2019		TLM1, TLM5	CO4	T1, R2	
44.	web services, passing datasets	1	17.09.2019		TLM1, TLM5	CO4	T1, R2	
45.	returning datasets from web services	1	18.09.2019		TLM1, TLM5	CO4	T1, R2	
46.	handling transaction	1	19.09.2019		TLM1, TLM5	CO4	T1, R2	
47.	handling exceptions	1	23.09.2019		TLM1, TLM5	CO4	T1, R2	
48.	returning exceptions from SQL Server	1	24.09.2019		TLM1, TLM5	CO4	T1, R2	
49.	TUTORIAL-4	1	25.09.2019		TLM3	CO4	---	
50.	Assignment/Quiz-4	1	26.09.2019		TLM6	CO4	---	
No. of classes required to complete UNIT-IV		11	No. of classes taken:					

UNIT-V: Swings & Struts Framework

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
51.	Assemblies	1	30.09.2019		TLM1, TLM5	CO5	T1, R1	
52.	Versioning, Attributes	1	01.10.2019		TLM1, TLM5	CO5	T1, R1	
53.	reflection	1	03.10.2019		TLM1, TLM5	CO5	T1, R1	
54.	viewing meta data	1	07.10.2019		TLM1, TLM5	CO5	T1, R1	
55.	type discovery	1	09.10.2019		TLM1, TLM5	CO5	T1, R1	
56.	Reflection on type	1	10.10.2019		TLM1, TLM5	CO5	T1, R1	
57.	marshalling, remoting	1	14.10.2019		TLM1, TLM5	CO5	T1, R1	
58.	security in NET	1	15.10.2019		TLM1, TLM5	CO5	T1, R1	
59.	TUTORIAL-5	1	16.10.2019		TLM3	CO5	---	
60.	Assignment/Quiz-5	1	17.10.2019		TLM6	CO5	---	
No. of classes required to complete UNIT-V		10	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 Weekly
61.	AJAX							
62.	ADO.NET Complex Examples							

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
I Phase of Instructions + CRT Classes	17-06-2019	10-08-2019	7 W + 1 W
I Mid Examinations	12-08-2019	17-08-2019	1 W
II Phase of Instructions	19-08-2019	19-10-2019	9 W
II Mid Examinations	21-10-2019	26-10-2019	1 W
Preparation and Practicals	28-10-2019	02-11-2019	1 W
Semester End Examinations	04-11-2019	16-11-2019	2 W

EVALUATION PROCESS:

Evaluation Task	COs	Marks
Assignment/Quiz – 1	1	A1=5
Assignment/Quiz – 2	2	A2=5
I-Mid Examination	1,2	B1=20
Assignment/Quiz – 3	3	A3=5
Assignment/Quiz – 4	4	A4=5
Assignment/Quiz – 5	5	A5=5
II-Mid Examination	3,4,5	B2=20
Evaluation of Assignment/Quiz Marks: A=(A1+A2+A3+A4+A5)/5	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
Cumulative Internal Examination : A+B	**1,2,3,4,5**	**A+B=25**
Semester End Examinations	**1,2,3,4,5**	**C=75**
Total Marks: A+B+C	**1,2,3,4,5**	**100**

Course Instructor **Course Coordinator** **Module Coordinator** **HOD**

LAKIREDDY BALI REDDY COLLEGE OF ENGINEERING (AUTONOMOUS)
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DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

COURSE HANDOUT

PROGRAM : B.Tech. VII-Sem., CSE-B

ACADEMIC YEAR : 2019-20

COURSE NAME & CODE : **C# AND .NET Programming** – S153

L-T-P STRUCTURE : 3-1-0

COURSE CREDITS : 3

COURSE INSTRUCTOR : S.GOVINDU

COURSE COORDINATOR : A.SUDHAKAR

PRE-REQUISITE: C, C++, JAVA Languages

COURSE OBJECTIVE: This course will cover the practical aspects of multi-tier application development using the .NET framework. The goal of this course is to introduce the basics of distributed application development. Technologies covered include the Common Language Runtime (CLR), .NET framework classes, C#, ASP.NET, and ADO.NET.

COURSE OUTCOMES (CO)

CO1: Identify the basic constructs of C# and .NET Framework with a view of using them in problem solving.
CO2: Apply object oriented features of C# to solve real world problems.
CO3: Demonstrate the usage of ADO.NET to create window applications for database access.
CO4: Design ASP.NET web applications to create user friendly environment.
CO5: Analyze the features like security, assemblies and CLR in .NET framework.

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	2	2	1	-	3	-	-	-	-	-	-	1	3	-	-
CO2	2	2	3	-	3	-	-	-	-	-	-	1	3	-	-
CO3	1	2	3	-	3	-	-	-	-	-	-	1	3	3	-
CO4	2	1	3	-	3	-	-	-	-	-	-	1	3	3	-
CO5	2	3	2	-	3	-	-	-	-	-	-	1	3	2	-

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	Herbert Schildt, "The Complete Reference: C# 4.0", TMH, 2012.
T2	Christian Nagel et al. "Professional C# 2012 with .NET 4.5", Wiley India, 2012.

BOS APPROVED REFERENCE BOOKS:

R1	Andrew Troelsen , "Pro C# 2010 and the .NET 4 Platform", Fifth edition, A Press, 2010.
R2	Ian Griffiths, Matthew Adams, Jesse Liberty, "Programming C# 4.0", O_Reilly,6 th Edition 2010.

COURSE DELIVERY PLAN (LESSON PLAN): Section-B

UNIT-I: INTRODUCTION TO C#

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.	Understanding .NET Framework	1	17.06.2019		TLM1	CO1	T1, R1	
2.	Introduction, Overview of C#	1	18.06.2019		TLM1	CO1	T1, R1	
3.	Literals, Variables, Data Types	1	20.06.2019		TLM1, TLM5	CO1	T1, R1	
4.	Operators, checked and unchecked operators	1	21.06.2019		TLM1, TLM5	CO1	T1, R1	
5.	Expressions, Branching	1	01.07.2019		TLM1, TLM5	CO1	T1, R1	
6.	Looping Statements	1	02.07.2019		TLM1, TLM5	CO1	T1, R1	
7.	implicit and explicit casting	1	04.07.2019		TLM1, TLM5	CO1	T1, R1	
8.	Constant, Arrays	1	05.07.2019		TLM1, TLM5	CO1	T1, R1	
9.	Array Class, Array List	1	08.07.2019		TLM1, TLM5	CO1	T1, R1	
10.	String, String Builder	1	09.07.2019		TLM1, TLM5	CO1	T1, R1	
11.	Structure, Enumerations	1	11.07.2019		TLM1, TLM5	CO1	T1, R1	
12.	Boxing and unboxing.	1	12.07.2019		TLM1, TLM5	CO1	T1, R1	
13.	TUTORIAL - 1	1	15.07.2019		TLM3	CO1	---	
14.	Assignment/Quiz-1	1	16.07.2019		TLM6	CO1	---	
No. of classes required to complete UNIT-I		14	No. of classes taken:					

UNIT-II: OBJECT ORIENTED ASPECTS OF C#

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
15.	Class, Objects	1	18.07.2019		TLM1, TLM5	CO2	T1, R1	
16.	Constructors and its types	1	19.07.2019		TLM1, TLM5	CO2	T1, R1	

17.	Inheritance, properties, indexers	1	22.07.2019		TLM1, TLM5	CO2	T1, R1	
18.	Index overloading, polymorphism	1	23.07.2019		TLM1, TLM5	CO2	T1, R1	
19.	sealed class and methods	1	25.07.2019		TLM1, TLM5	CO2	T1, R1	
20.	interface, abstract class	1	26.07.2019		TLM1, TLM5	CO2	T1, R1	
21.	operator overloading	1	29.07.2019		TLM1, TLM5	CO2	T1, R1	
22.	delegates, events	1	30.07.2019		TLM1, TLM5	CO2	T1, R1	
23.	errors and exception	1	01.08.2019		TLM1, TLM5	CO2	T1, R1	
24.	Threading.	1	02.08.2019		TLM1, TLM5	CO2	T1, R1	
25.	TUTORIAL-2	1	05.08.2019		TLM3	CO2	---	
26.	Assignment/Quiz-2	1	06.08.2019		TLM6	CO2	---	
No.of classes required to complete UNIT-II		12	No. of classes taken:					

UNIT-III: APPLICATION DEVELOPMENT ON .NET

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
27.	Building windows application	1	08.08.2019		TLM1, TLM5	CO3	T1, R2	
28.	Creating our own window forms	1	09.08.2019		TLM1, TLM5	CO3	T1, R2	
29.	window forms with events and controls	1	19.08.2019		TLM1, TLM5	CO3	T1, R2	
30.	menu creation, inheriting window forms	1	20.08.2019		TLM1, TLM5	CO3	T1, R2	
31.	SDI and MDI application	1	22.08.2019		TLM1, TLM5	CO3	T1, R2	
32.	Dialog Box (Modal and Modeless)	1	23.08.2019		TLM1, TLM5	CO3	T1, R2	
33.	accessing data with ADO.NET	1	26.08.2019		TLM1, TLM5	CO3	T1, R2	
34.	DataSet, typed dataset and Data Adapter	1	27.08.2019		TLM1, TLM5	CO3	T1, R2	
35.	Updating database using stored procedures	1	29.08.2019		TLM1, TLM5	CO3	T1, R2	
36.	SQL Server with ADO.NET	1	30.08.2019		TLM1, TLM5	CO3	T1, R2	
37.	handling exceptions, validating controls and Windows application configuration	1	03.09.2019		TLM1, TLM5	CO3	T1, R2	
38.	TUTORIAL-3	1	05.09.2019		TLM3	CO3	---	
39.	Assignment/Quiz-3	1	06.09.2019		TLM6	CO3	---	
No. of classes required to complete UNIT-III		13	No. of classes taken:					

UNIT-IV: WEB BASED APPLICATION DEVELOPMENT ON .NET

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

40.	Programming web application with web forms, ASP.NET introduction.	1	09.09.2019		TLM1, TLM5	CO4	T1, R2	
41.	working with XML and .NET	1	12.09.2019		TLM1, TLM5	CO4	T1, R2	
42.	Creating Virtual Directory and Web Application	1	13.09.2019		TLM1, TLM5	CO4	T1, R2	
43.	session management techniques, web.config	1	16.09.2019		TLM1, TLM5	CO4	T1, R2	
44.	web services, passing datasets	1	17.09.2019		TLM1, TLM5	CO4	T1, R2	
45.	returning datasets from web services	1	19.09.2019		TLM1, TLM5	CO4	T1, R2	
46.	handling transaction	1	20.09.2019		TLM1, TLM5	CO4	T1, R2	
47.	handling exceptions		12.09.2019		TLM1, TLM5	CO4	T1, R2	
48.	returning exceptions from SQL Server	1	23.09.2019		TLM1, TLM5	CO4	T1, R2	
49.	TUTORIAL-4	1	24.09.2019		TLM3	CO4	---	
50.	Assignment/Quiz-4	1	26.09.2019		TLM6	CO4	---	
No. of classes required to complete UNIT-IV		11	No. of classes taken:					

UNIT-V: Swings & Struts Framework

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
51.	Assemblies	1	27.09.2019		TLM1, TLM5	CO5	T1, R1	
52.	Versioning, Attributes	1	30.09.2019		TLM1, TLM5	CO5	T1, R1	
53.	reflection	1	01.10.2019		TLM1, TLM5	CO5	T1, R1	
54.	viewing meta data	1	03.10.2019		TLM1, TLM5	CO5	T1, R1	
55.	type discovery	1	04.10.2019		TLM1, TLM5	CO5	T1, R1	
56.	Reflection on type	1	10.10.2019		TLM1, TLM5	CO5	T1, R1	
57.	marshalling, remoting	1	11.10.2019		TLM1, TLM5	CO5	T1, R1	
58.	security in NET	1	14.10.2019		TLM1, TLM5	CO5	T1, R1	
59.	TUTORIAL-5	1	15.10.2019		TLM3	CO5	---	
60.	Assignment/Quiz-5	1	17.10.2019		TLM6	CO5	---	
No. of classes required to complete UNIT-V		10	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 Weekly
61.								
62.								

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
I Phase of Instructions + CRT Classes	17-06-2019	10-08-2019	7 W + 1 W
I Mid Examinations	12-08-2019	17-08-2019	1 W
II Phase of Instructions	19-08-2019	19-10-2019	9 W
II Mid Examinations	21-10-2019	26-10-2019	1 W
Preparation and Practicals	28-10-2019	02-11-2019	1 W
Semester End Examinations	04-11-2019	16-11-2019	2 W

EVALUATION PROCESS:

Evaluation Task	COs	Marks
Assignment/Quiz – 1	1	A1=5
Assignment/Quiz – 2	2	A2=5
I-Mid Examination	1,2	B1=20
Assignment/Quiz – 3	3	A3=5
Assignment/Quiz – 4	4	A4=5
Assignment/Quiz – 5	5	A5=5
II-Mid Examination	3,4,5	B2=20
Evaluation of Assignment/Quiz Marks: A=(A1+A2+A3+A4+A5)/5	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
Cumulative Internal Examination : A+B	**1,2,3,4,5**	**A+B=25**
Semester End Examinations	**1,2,3,4,5**	**C=75**
Total Marks: A+B+C	**1,2,3,4,5**	**100**

Course Instructor **Course Coordinator** **Module Coordinator** **HOD**

LAKKIREDDY BALI REDDY COLLEGE OF ENGINEERING
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L B Reddy Nagar, Mylavaram-521 230, Krishna District, Andhra Pradesh.

PRE-REQUISITE: Knowledge of security concepts and also networking.

COURSE OBJECTIVE:

- Understanding of a broad range of Internet tools.
- Business models and applications and Benefits and risks

COURSE OUTCOMES (CO)

CO1: Evaluate electronic commerce frame work, features and functions of E-commerce.
CO2: Analyze Business model for e-commerce, Inter organizational, Intra organizational commerce and supply chain management.
CO3: Analyze modes of electronic commerce and Identify approaches for secure electronic commerce.
CO4: Categorize electronic payment systems and evaluate security of e-commerce.
CO5: Explore various approaches and technologies used in business over the internet.

COURSE DELIVERY PLAN (LESSON PLAN): Section-A **A.Y:2019-20**

UNIT-I:

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
393.	Introduction to Subject	1	18-06-19		**TLM1**	CO1	T1	
394.	Course Outcomes	1	19-06-19		**TLM1**	CO1	T1	
395.	Introduction to UNIT-I	1	20-06-19		**TLM1**	CO1	T1	
396.	Overview of Electronic Commerce (EC)	1	22-06-19		**TLM1**	CO1	T1	
397.	Electronic Commerce-Frame work	1	25-06-19		**TLM1**	CO1	T1	
398.	Anatomy of E-Commerce applications	1	26-06-19		**TLM1**	CO1	T1	
399.	Features of e-commerce	1	27-06-19		**TLM1**	CO1	T1	
400.	Functions of e-commerce	1	29-06-19		**TLM1**	CO1	T1	
401.	E-commerce practices	1	02-07-19		**TLM1**	CO1	T1	
402.	Traditional Practices	1	03-07-19		**TLM1**	CO1	T1	

403.	scope and limitations of e-commerce	1	04-07-19		**TLM1**	CO1	T1	
404.	**Quiz-1**	1	06-07-19		**TLM6**	CO1	T1	
405.	**Assignment Test-1**	1	16-07-19		**TLM6**	CO1	T1	
406.	**Tutorial Class-1**	1	16-07-19		**TLM3**	CO1	T1	
No. of classes required to complete UNIT-I		14			No. of classes taken:			

UNIT-II:

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
407.	Introduction to UNIT-II	1	17-07-19		**TLM1**	CO2	T1	
408.	Business Model for E-Commerce	1	18-07-19		**TLM1**	CO2	T1	
409.	B2B, B2C, C2C, C2B	1	20-07-19		**TLM1**	CO2	T1	
410.	Inter Organizational Commerce - EDI, EDI Implementation	1	23-07-19		**TLM1**	CO2	T1	
411.	Value added networks	1	24-07-19		**TLM1**	CO2	T1	
412.	Intra Organizational Commerce - work Flow	1	25-07-19		**TLM1**	CO2	T1	
413.	Automation	1	27-07-19		**TLM1**	CO2	T1	
414.	Customization and internal Commerce	1	30-07-19		**TLM1**	CO2	T1	
415.	Supply chain Management.	1	31-07-19		**TLM1**	CO2	T1	
416.	**Quiz-2**	1	01-08-19		**TLM6**	CO2	T1	
417.	**Assignment Test-2**	1	03-08-19		**TLM6**	CO2	T1	
418.	**Tutorial Class-2**	1	03-08-19		**TLM3**	CO2	T1	
No. of classes required to complete UNIT-II		12			No. of classes taken:			

UNIT-III:

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
419.	Introduction to UNIT-III	1	06-08-19		**TLM1**	CO3	T2	

420.	Modes of Electronic Commerce: Electronic Data Interchange	1	07-08-19		**TLM1**	CO3	T2	
421.	Electronic Commerce with www/Internet	1	08-08-19		**TLM1**	CO3	T2	
422.	Commerce Net Advocacy, web Commerce Going Forward	1	10-08-19		**TLM1**	CO3	T2	
423.	Approaches to Safe Electronic Commerce: Secure Transport Protocols	1	20-08-19		**TLM1**	CO3	T2	
424.	Secure Transactions, Secure Electronic Payment Protocol (SEPP)	1	21-08-19		**TLM1**	CO3	T2	
425.	Secure Electronic Transaction (SET)	1	22-08-19		**TLM1**	CO3	T1	
426.	Certificates for authentication Security	1	27-08-19		**TLM1**	CO3	T1	
427.	Web Servers and Enterprise Networks.	1	28-08-19		**TLM1**	CO3	T2	
428.	**Quiz-3**	1	29-08-19		**TLM6**	CO3	T2	
429.	**Assignment Test-3**	1	31-08-19		**TLM6**	CO3	T2	
430.	**Tutorial Class-3**	1	31-08-19		**TLM3**	CO3	T2	
No. of classes required to complete UNIT-III		12			No. of classes taken:			

UNIT-IV:

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
431.	Electronic payment systems	1	03-09-19		**TLM1**	CO4	T2	
432.	Digital Token-Based	1	04-09-19		**TLM1**	CO4	T2	
433.	Smart Cards, Credit Cards	1	05-09-19		**TLM1**	CO4	T2	
434.	Risks in Electronic Payment systems	1	07-09-19		**TLM1**	CO4	T2	
435.	Security of e-commerce	1	11-09-19		**TLM1**	CO4	T2	

436.	Setting up Internet security	1	12-09-19		**TLM1**	CO4	T2	
437.	Security of e-commerce	1	14-09-19		**TLM1**	CO4	T2	
438.	Encryption	1	17-09-19		**TLM1**	CO4	T2	
439.	Digital signature	1	18-09-19		**TLM1**	CO4	T2	
440.	Digital signature	1	19-09-19		**TLM1**	CO4	T2	
441.	Methods of Digital Signature	1	21-09-19		**TLM1**	CO4	T2	
442.	Other Security Measures	1	24-09-19		**TLM1**	CO4	T2	
443.	Discussion on Security Measures.	1	25-09-19		**TLM1**	CO4	T2	
444.	**Quiz-4**	1	26-09-19		**TLM6**	CO4	T2	
445.	**Assignment Test-4**	1	28-09-19		**TLM6**	CO4	T2	
446.	**Tutorial Class-4**	1	28-09-19		**TLM3**	CO4	T2	
No. of classes required to complete UNIT-IV		16			No. of classes taken:			

UNIT-V:

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
447.	Introduction to UNIT-V	1	01-10-19		**TLM1**	CO5	T2	
448.	Internet Resources for Commerce: Introduction, Technologies for web Servers, Internet Tools Relevant to Commerce	1	03-10-19		**TLM1,TLM2**	CO5	T2	
449.	Internet Applications for Commerce, Internet Charges, Internet Access and Architecture	1	05-10-19		**TLM1,TLM2**	CO5	T2	
450.	Searching the Internet. Advertising on Internet: Issues and Technologies	1	12-10-19		**TLM1,TLM2**	CO5	T2	
451.	Advertising on the Web, Marketing creating web site, Electronic Publishing Issues	1	15-10-19		**TLM1,TLM2**	CO5	T2	
452.	Approaches and Technologies: EP and web	1	16-10-19		**TLM1,TLM2**	CO5	T2	

	based EP							
453.	**Quiz-5**	1	16-10-19		**TLM6**	CO5	T2	
454.	**Assignment Test-5**	1	17-10-19		**TLM6**	CO5	T2	
455.	**Tutorial Class-5**	1	17-10-19		**TLM3**	CO5	T2	
456.	Revision-Classes	1	19-10-19		**TLM1,TLM2**	CO5	T1	
No. of classes required to complete UNIT-V		13			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 Weekly
457.	Computer Networks	1	20-10-19		**TLM1**			
458.	Business Commerce	1	20-10-19		**TLM1**			
459.	Information Security and Privacy	1	20-10-19		**TLM1**			

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

Course Instructor **Course Coordinator** **Module Coordinator** **HOD**

PRE-REQUISITE: Knowledge of security concepts and also networking.

COURSE OBJECTIVE:

- Understanding of a broad range of Internet tools.
- Business models and applications and Benefits and risks

COURSE OUTCOMES (CO)

CO1: Evaluate electronic commerce frame work, features and functions of E-commerce.
CO2: Analyze Business model for e-commerce, Inter organizational, Intra organizational commerce and supply chain management.
CO3: Analyze modes of electronic commerce and Identify approaches for secure electronic commerce.
CO4: Categorize electronic payment systems and evaluate security of e-commerce.
CO5: Explore various approaches and technologies used in business over the internet.

COURSE DELIVERY PLAN (LESSON PLAN): Section-B

UNIT-I:

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
460.	Introduction to Subject	1	17-06-19		**TLM1**	CO1	T1	
461.	Course Outcomes	1	18-06-19		**TLM1**	CO1	T1	
462.	Introduction to UNIT-I	1	19-06-19		**TLM1**	CO1	T1	
463.	Overview of Electronic Commerce (EC)	1	21-06-19		**TLM1**	CO1	T1	
464.	Electronic Commerce-Frame work	1	24-06-19		**TLM1**	CO1	T1	
465.	Anatomy of E-Commerce applications	1	25-06-19		**TLM1**	CO1	T1	
466.	Features of e-commerce	1	26-06-19		**TLM1**	CO1	T1	
467.	Functions of e-commerce	1	28-06-19		**TLM1**	CO1	T1	
468.	E-commerce practices	1	01-07-19		**TLM1**	CO1	T1	
469.	Traditional Practices	1	02-07-19		**TLM1**	CO1	T1	
470.	scope and limitations of e-commerce	1	03-07-19		**TLM1**	CO1	T1	
471.	**Quiz-1**	1	05-07-19		**TLM6**	CO1	T1	
472.	**Assignment Test-1**	1	08-07-19		**TLM6**	CO1	T1	
473.	**Tutorial Class-1**	1	09-07-19		**TLM3**	CO1	T1	
No. of classes required to complete UNIT-I		14			No. of classes taken:			

UNIT-II:

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
474.	Introduction to UNIT-II	1	10-07-19		**TLM1**	CO2	T1	
475.	Business Model for E-Commerce	1	12-07-19		**TLM1**	CO2	T1	
476.	B2B, B2C,	1	15-07-19		**TLM1**	CO2	T1	
477.	C2C, C2B	1	16-07-19		**TLM1**	CO2	T1	
478.	Inter Organizational Commerce - EDI, EDI Implementation	1	17-07-19		**TLM1**	CO2	T1	
479.	Value added networks	1	19-07-19		**TLM1**	CO2	T1	
480.	Intra Organizational Commerce - work Flow	1	22-07-19		**TLM1**	CO2	T1	
481.	Automation	1	23-07-19		**TLM1**	CO2	T1	
482.	Customization	1	24-07-19		**TLM1**	CO2	T1	
483.	Internal Commerce	1	26-07-19		**TLM1**	CO2	T1	
484.	Supplychain Management.	1	29-07-19		**TLM1**	CO2	T1	
485.	**Quiz-2**	1	30-07-19		**TLM6**	CO2	T1	
486.	**Assignment Test-2**	1	31-07-19		**TLM6**	CO2	T1	
487.	**Tutorial Class-2**	1	02-08-19		**TLM3**	CO2	T1	
No. of classes required to complete UNIT-II		14			No. of classes taken:			

UNIT-III:

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
488.	Introduction to UNIT-III	1	19-08-19		**TLM1**	CO3	T2	
489.	Modes of Electronic Commerce: Electronic Data Interchange	1	20-08-19		**TLM1**	CO3	T2	
490.	Electronic Commerce with www/Internet	1	21-08-19		**TLM1**	CO3	T2	
491.	Commerce Net Advocacy, web Commerce Going Forward	1	23-08-19		**TLM1**	CO3	T2	
492.	Approaches to Safe Electronic Commerce: Secure Transport Protocols	1	26-08-19		**TLM1**	CO3	T2	

493.	Secure Transactions, Secure Electronic Payment Protocol (SEPP)	1	27-08-19		**TLM1**	CO3	T2	
494.	Secure Electronic Transaction (SET)	1	28-08-19		**TLM1**	CO3	T1	
495.	Certificates for authentication Security	1	30-08-19		**TLM1**	CO3	T1	
496.	Web Servers and Enterprise Networks.	1	03-09-19		**TLM1**	CO3	T2	
497.	**Quiz-3**	1	04-09-19		**TLM6**	CO3	T2	
498.	**Assignment Test-3**	1	06-09-19		**TLM6**	CO3	T2	
499.	**Tutorial Class-3**	1	09-09-19		**TLM3**	CO3	T2	
No. of classes required to complete UNIT-III		12			No. of classes taken:			

UNIT-IV:

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
500.	Introduction to Electronic payment systems	1	11-09-19		**TLM1**	CO4	T2	
501.	Digital Token-Based	1	13-09-19		**TLM1**	CO4	T2	
502.	Smart Cards, Credit Cards	1	16-09-19		**TLM1**	CO4	T2	
503.	Risks in Electronic Payment systems	1	17-09-19		**TLM1**	CO4	T2	
504.	Security of e-commerce	1	18-09-19		**TLM1**	CO4	T2	
505.	Setting up Internet security	1	20-09-19		**TLM1**	CO4	T2	
506.	Encryption	1	23-09-19		**TLM1**	CO4	T2	
507.	Digital signature	1	24-09-19		**TLM1**	CO4	T2	
508.	Methods of Digital Signature	1	25-09-19		**TLM1**	CO4	T2	
509.	Other Security Measures, Discussion on Security Measures.	1	27-09-19		**TLM1**	CO4	T2	
510.	**Assignment Test-4**	1	30-09-19		**TLM6**	CO4	T2	
511.	**Quiz-4/Tutorial Class-4**	1	01-10-19		**TLM3**	CO4	T2	
No. of classes required to complete UNIT-IV		12			No. of classes taken:			

UNIT-V:

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
512.	Introduction to UNIT-V, Internet Resources for	1	04-10-19		**TLM1**	CO5	T2	

	Commerce: Introduction, Technologies for web Servers, Internet Tools Relevant to Commerce							
513.	Internet Applications for Commerce, Internet Charges, Internet Access and Architecture	1	07-10-19		**TLM1,TLM2**	CO5	T2	
514.	Searching the Internet. Advertising on Internet: Issues and Technologies	1	09-10-19		**TLM1,TLM2**	CO5	T2	
515.	Advertising on the Web, Marketing creating web site, Electronic Publishing Issues	1	11-10-19		**TLM1,TLM2**	CO5	T2	
516.	Approaches and Technologies: EP and web based EP	1	13-10-19		**TLM1,TLM2**	CO5	T2	
517.	**Quiz-5/Assignment Test-5**	1	16-10-19		**TLM6**	CO5	T2	
518.	**Tutorial Class-5**	1	17-10-19		**TLM3**	CO5	T2	
519.	**Revision**	1	18-10-19		**TLM1,TLM2**	CO5	T2	
No. of classes required to complete UNIT-IV		8			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 Weekly
520.	Computer Networks	1	19-10-18		**TLM1**			
521.	Business Commerce	1	21-10-18		**TLM1**			
522.	Information Security and Privacy	1	22-10-18		**TLM1**			

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

Course Instructor **Course Coordinator** **Module Coordinator** **HOD**

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

COURSE HANDOUT

Part-A

PROGRAM : B.Tech. VII-Sem, CSE-SEC-A

ACADEMIC YEAR : 2019-20

COURSE NAME & CODE : INDUSRIAL MANAGEMENT & S270

L-T-P STRUCTURE : 3-1-0

COURSE CREDITS : 3

COURSE INSTRUCTOR : **U.RAMBABU**

COURSE COORDINATOR : **U.RAMBABU**

- **PRE-REQUISITES: NIL**

Course Objectives:

1. To make students understand management, its principles, contribution to management, organization, and its basic issues and types.
2. To make students understand the concept of plant location and its factors and plant layout and types, method of production and work study importance.
3. To understand the purpose and function of statistical quality control and material management techniques.
4. To make students understand the concept of HRM and its functions.
5. To make students understand PERT & CPM methods in effective project management and need of project crashing and its consequence on cost of project.

Course Outcomes:

Upon The Successful Completion of This Course Students Will Able To:

1. Apply management principles to the particle situations to be in a position to know which type of business organisation structure suits
2. Determine decision making relating to the problems in operations and production activities thereby improving the productivity by proper utilisation input factors by designing the better working methods and with better work study techniques.
3. Apply SQC techniques and to take effective decision making relating to reduce the investment in materials through better control of inventory
4. Ability to manage people in working environment with the practices of HRM across corporate businesses
5. Identify the PERT & CPM techniques in effective project management.

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

COs	PO1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO10	PO11	PO 12	PSO 1	PSO 2	PSO 3
CO1	3							2	2			3			
CO2												3			
CO3		3										3			
CO4								3	2			3			
CO5											2	3			

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:

Text Books:

T1:Dr. A.R.Aryasri, Management Science, TMH, 10th edition, 2012

References:

R1: Koontz & weihrich – Essentials of management, TMH, 10th edition, 2015
R2: Stoner, Freeman, Gilbert, Management, 6th edition Pearson education, New Delhi, 2004
R3:O.P. Khana, Industrial engineering and Management
R4:L.S.Srinath, PERT & CPM

Part-B

COURSE DELIVERY PLAN (LESSON PLAN):

UNIT-I : Introduction Management

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
523	Introduction to Subject	1	17-06-2019		TLM1	CO1	T1	
524	Course Outcomes	1	19-06-2019		TLM2	CO1	T1	
525	Introduction to UNIT-I: Management Introduction and Definition	1	20-06-2019		TLM1	CO1	T1	
526	Nature Importance of management & Functions	1	22-06-2019		TLM1	CO1	T1	
527	Taylor's scientific management theory	1	24-06-2019		TLM1	CO1	T1	
528	Fayal's principles of management	1	26-06-2019		TLM1	CO1	T1	
529	TUTORIAL-1	1	27-06-2019		TLM1	CO1	T1	
530	Contribution of Elton mayo	1	29-06-2019		TLM3	CO1	T1	
531	MASLOW theory & Herzberg theory of motivation	1	01-07-2019		TLM1	CO1	T1	
532	Douglas MC Gregor theory of motivation	1	03-07-2019		TLM1	CO1	T1	
533	TUTORIAL-2	1	04-07-2019		TLM1	CO1		

							T1	
534	Organization Basic concept: Authority & responsibility	1	06-07-2019		TLM3	CO1	T1	
535	Delegation of Authority	1	08-07-2019		TLM3	CO1	T1	
536	Span of control & Departmentation and Decentralization	1	10-07-2019		TLM1	CO1	T1	
537	Organization structure :line organization structure,	1	11-07-2019		TLM1	CO1	T1	
538	TUTORIAL-3	1	15-07-2019		TLM1	CO1	T1	
539	Line and staff organization	1	17-07-2019		TLM3	CO1	T1	
540	Functional organization	1	18-07-2019		TLM2	CO1	T1	
541	Committee & Matrix organization	1	20-07-2019		TLM2	CO1	T1	
No. of classes required to complete UNIT-I		19			No. of classes taken:			

UNIT-II : Operations Management

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
542.	**UNIT II Operations Management :introduction** Plant location and Factors influencing location	1	22-07-2019		TLM1	CO2	T1 or R3	
543.	Objectives and Principles of plant layout	1	24-07-2019		TLM1	CO2	T1 or R3	
544.	types of plant layouts	1	25-07-2019		TLM1	CO2	T1 or R3	
545.	TUTORIAL-4	1	27-07-2019		TLM3	CO2	T1 or R3	
546.	Methods of production : job batch and mass production	1	29-07-2019		TLM2	CO2	T1 or R3	
547.	Work study: Basic procedure involved in method study	1	31-07-2019		TLM2	CO2	T1 or R3	
548.	Work measurement Objectives and Importance	1	01-08-2019		TLM2	CO2	T1 or R3	
549.	Basic procedure involved in work measurement	1	03-08-2019		TLM2	CO2	T1 or R3	
550.	Career Guidance Training	1	05-08-2019					
551.	Career Guidance Training	1	07-08-2019					
552.	Career Guidance Training	1	08-08-2019					
553.	**I MID**		12-08-2019					
554.	**I MID**		14-08-2019					
555.	**I MID**		17-08-2019					
No. of classes required to complete UNIT-II		13			No. of classes taken:			

UNIT-III : Quality and materials management

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
556.	**Quality and materials management**	1	19-08-2019		TLM1	CO3	T1 or R3	
557.	Statistical quality control Meaning	1	21-08-2019		TLM1	CO3	T1 or R3	

558.	Variables and attributes	1	22-08-2019		TLM1	CO3	T1 or R3	
559.	X chart problems and R	1	24-08-2019		TLM1	CO3	T1 or R3	
560.	TUTORIAL-5	1	26-08-2019		TLM3			
561.	C Chart problems AND P Chart problems	1	28-08-2019		TLM1	CO3	T1 or R3	
562.	Acceptance sampling & Sampling plans	1	29-08-2019		TLM1	CO3	T1 or R3	
563.	Deming's contribution to quality	1	31-08-2019		TLM1	CO3	T1 or R3	
564.	TUTORIAL-6	1	02-09-2019		TLM3	CO3		
565.	Materials management :Objectives of Materials management	1	04-09-2019		TLM1	CO3	T1 or R3	
566.	Need for inventory control	1	05-09-2019		TLM1	CO3	T1 or R3	
567.	Purchase procedure, Store records	1	07-09-2019		TLM1	CO3	T1 or R3	
568.	TUTORIAL-7	1	09-09-2019		TLM3	CO3	T1 or R3	
569.	Methods of inventory control :ABC analysis & EOQ analysis	1	11-09-2019		TLM1	CO3	T1 or R3	
570.	EOQ Problems & Stock levels & Problems on stock levels	1	12-09-2019		TLM1	CO3	T1 or R3	
No. of classes required to complete UNIT-III		14				No. of classes taken:		

UNIT-IV : Human Resource management (HRM)

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
571.	Concepts of HRM: Basic functions of HR manager	1	16-09-2019		**TLM1**	CO4	T1	
572.	Man power planning	1	18-09-2019		**TLM1**	CO4	T1	
573.	Recruitment & Selection	1	19-09-2019		**TLM2**	CO4	T1	
574.	TUTORIAL-8	1	21-09-2019		**TLM3**	CO4	T1	
575.	Training and development	1	23-09-2019		**TLM2**	CO4	T1	
576.	Placement, Wage and salary administration	1	25-09-2019		**TLM1**	CO4	T1	
577.	Promotion,Transfer & Separation & Performance Appraisal	1	26-09-2019		**TLM1**	CO4	T1	
578.	TUTORIAL-09	1	28-09-2019		**TLM3**	CO4	T1	
579.	Job evaluation & Merit raring	1	30-09-2019		**TLM1**	CO4	T1	
No. of classes required to complete UNIT-IV		09			No. of classes taken:			

UNIT-V : Project management

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
580.	**Project management:**	1	02-10-2019		TLM2	CO5	T1 or R4	

	Introduction Early techniques in project management							
581.	Network analysis & Rules for drawing of networks and Critical path method	1	03-10-2019		TLM2	CO5	T1 or R4	
582.	Problems on CPM & Identifying critical path	1	05-10-2019		TLM2	CO5	T1 or R4	
583.	TUTORIAL-10	1	07-10-2019		TLM3	CO5	T1 or R4	
584.	Programme evaluation and review technique (PERT)	1	09-10-2019		TLM1	CO5	T1 or R4	
585.	Problems on PERT	1	10-10-2019		TLM1	CO5	T1 or R4	
586.	Problems on PERT	1	14-10 -2019		TLM1	CO5	T1 or R4	
587.	Project cost analysis project crashing	1	16-10 -2019		TLM1	CO5	T1 or R4	
588.	Project cost analysis project crashing	1	17-10-2019		TLM1	CO5	T1 or R4	
No. of classes required to complete UNIT-V		10				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
589.	Online trading	1	19-10-2019		TLM4		ZERODHA WEB SITE	
590.	II MID EXAM		21-10-2019					
591.	II MID EXAM		23-10-2019					
592.	II MID EXAM		24-10-2019					
593.	II MID EXAM		26-10-2019					

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	**COs**	**Marks**
Assignment/Quiz – 1	1	A1=5
Assignment/Quiz – 2	2	A2=5
I-Mid Examination	1,2	B1=20
Assignment/Quiz – 3	3	A3=5
Assignment/Quiz – 4	4	A4=5
Assignment/Quiz – 5	5	A5=5

II-Mid Examination	3,4,5	B2=20
Evaluation of Assignment/Quiz Marks: A=(A1+A2+A3+A4+A5)/5	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
Cumulative Internal Examination : A+B	**1,2,3,4,5**	**A+B=25**
Semester End Examinations	**1,2,3,4,5**	**C=75**
Total Marks: A+B+C	**1,2,3,4,5**	**100**

PROGRAM OUTCOMES (POs)

I. Engineering knowledge

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

II. 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.

III. 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.

IV. 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.

V. 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.

VI. 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.

VII. 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.

VIII. Ethics

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

IX. Individual and team work

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

X. 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.

XI. 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.

XII. 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.

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PROGRAM EDUCATIONAL OBJECTIVES (PEOs)

I. PEO

To inculcate the investigating and adaptability skills into the students to carryout research on recent trends in Computer Science and Engineering Technology.

II. PEO

To empower the student with the qualities of effective communication, technical document writing, team work, lifelong learning attitude,and leadership needed for a successful career.

III. PEO

Enlighten the students on analyzing engineering issues in a broader perspective with ethical responsibility towards sustainable development to satisfy the societal needs.

IV. PEO

Equip the students with all-round knowledge to adapt the evolving technical challenges and changing career opportunities in par with global competency.

U.RAMBABU	U.RAMBABU	U.RAMBABU	Dr.A.ADISESHA REDDY
Course Instructor	Course Coordinator	Module Coordinator	HOD

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L B Reddy Nagar, Mylavaram-521 230, Krishna District, Andhra Pradesh.

COURSE HANDOUT

Part-A

PROGRAM : B.Tech. VII-Sem, CSE –SEC-B

ACADEMIC YEAR : 2019-20

COURSE NAME & CODE : INDUSRIAL MANAGEMENT & S270

L-T-P STRUCTURE : 3-1-0

COURSE CREDITS : 3

COURSE INSTRUCTOR : **U.RAMBABU**

COURSE COORDINATOR : **U.RAMBABU**

- **PRE-REQUISITES: NIL**

Course Objectives:

1. To make students understand management, its principles, contribution to management, organization, and its basic issues and types.
2. To make students understand the concept of plant location and its factors and plant layout and types, method of production and work study importance.
3. To understand the purpose and function of statistical quality control and material management techniques.
4. To make students understand the concept of HRM and its functions.
5. To make students understand PERT & CPM methods in effective project management and need of project crashing and its consequence on cost of project.

Course Outcomes:

Upon The Successful Completion of This Course Students Will Able To:

1. Apply management principles to the particle situations to be in a position to know which type of business organisation structure suits
2. Determine decision making relating to the problems in operations and production activities thereby improving the productivity by proper utilisation input factors by designing the better working methods and with better work study techniques.
3. Apply SQC techniques and to take effective decision making relating to reduce the investment in materials through better control of inventory
4. Ability to manage people in working environment with the practices of HRM across corporate businesses
5. Identify the PERT & CPM techniques in effective project management.

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

COs	PO1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO10	PO11	PO 12	PSO 1	PSO 2	PSO 3
CO1	3							2	2			3			
CO2												3			
CO3		3										3			
CO4								3	2			3			
CO5											2	3			

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:

Text Books:

T1:Dr. A.R.Aryasri, Management Science, TMH, 10th edition, 2012

References:

R1: Koontz & weihrich – Essentials of management, TMH, 10th edition, 2015
R2: Stoner, Freeman, Gilbert, Management, 6th edition Pearson education, New Delhi, 2004
R3:O.P. Khana, Industrial engineering and Management
R4:L.S.Srinath, PERT & CPM

Part-B

COURSE DELIVERY PLAN (LESSON PLAN):

UNIT-I : Introduction Management

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
594	Introduction to Subject	1	17-06-2019		TLM1	CO1	T1	
595	Course Outcomes	1	18-06-2019		TLM2	CO1	T1	
596	Introduction to UNIT-I: Management Introduction and Definition	1	19-06-2019		TLM1	CO1	T1	
597	Nature Importance of management & Functions	1	21-06-2019		TLM1	CO1	T1	
598	Taylor's scientific management theory	1	24-06-2019		TLM1	CO1	T1	
599	Fayal's principles of management	1	25-06-2019		TLM1	CO1	T1	
600	TUTORIAL-1	1	26-06-2019		TLM1	CO1	T1	
601	Contribution of Elton mayo	1	28-06-2019		TLM3	CO1	T1	
602	MASLOW theory & Herzberg theory of motivation	1	01-07-2019		TLM1	CO1	T1	

603	Douglas MC Gregor theory of motivation	1	02-07-2019		TLM1	CO1	T1	
604	TUTORIAL-2	1	03-07-2019		TLM1	CO1	T1	
605	Organization Basic concept: Authority & responsibility	1	05-07-2019		TLM3	CO1	T1	
606	Delegation of Authority	1	08-07-2019		TLM3	CO1	T1	
607	Span of control & Departmentation and Decentralization	1	09-07-2019		TLM1	CO1	T1	
608	Organization structure :line organization structure,	1	10-07-2019		TLM1	CO1	T1	
609	TUTORIAL-3	1	12-07-2019		TLM1	CO1	T1	
610	Line and staff organization	1	15-07-2019		TLM3	CO1	T1	
611	Functional organization	1	16-07-2019		TLM2	CO1	T1	
612	Committee & Matrix organization	1	17-07-2019		TLM2	CO1	T1	
No. of classes required to complete UNIT-I		19			No. of classes taken:			

UNIT-II : Operations Management

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
613.	**UNIT II Operations Management :introduction** Plant location and Factors influencing location	1	19-07-2019		TLM1	CO2	T1 or R3	
614.	Objectives and Principles of plant layout	1	22-07-2019		TLM1	CO2	T1 or R3	
615.	types of plant layouts	1	23-07-2019		TLM1	CO2	T1 or R3	
616.	TUTORIAL-4	1	24-07-2019		TLM3	CO2	T1 or R3	
617.	Methods of production : job batch and mass production	1	26-07-2019		TLM2	CO2	T1 or R3	
618.	Work study: Basic procedure involved in method study	1	29-07-2019		TLM2	CO2	T1 or R3	
619.	Work measurement Objectives and Importance	1	30-07-2019		TLM2	CO2	T1 or R3	
620.	Basic procedure involved in work measurement	1	31-07-2019		TLM2	CO2	T1 or R3	
621.	Time study problems	1	02-08-2019					
622.	Career Guidance Training	1	05-08-2019					
623.	Career Guidance Training	1	06-08-2019					
624.	Career Guidance Training	1	07-08-2019					
625.	Career Guidance Training	1	09-08-2019					
626.	**I MID**		12-08-2019					
627.	**I MID**		13-08-2019					
628.	**I MID**		14-08-2019					
629.	**I MID**		16-08-2019					
No. of classes required to		16			No. of classes taken:			

complete UNIT-II		

UNIT-III : Quality and materials management

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
630.	**Quality and materials management**	1	19-08-2019		TLM1	CO3	T1 or R3	
631.	Statistical quality control Meaning	1	20-08-2019		TLM1	CO3	T1 or R3	
632.	Variables and attributes	1	21-08-2019		TLM1	CO3	T1 or R3	
633.	X chart problems and R	1	23-08-2019		TLM1	CO3	T1 or R3	
634.	TUTORIAL-5	1	26-08-2019		TLM3			
635.	C Chart problems AND P Chart problems	1	27-08-2019		TLM1	CO3	T1 or R3	
636.	Acceptance sampling & Sampling plans	1	28-08-2019		TLM1	CO3	T1 or R3	
637.	Deming's contribution to quality	1	30-08-2019		TLM1	CO3	T1 or R3	
638.	TUTORIAL-6	1	02-09-2019		TLM3	CO3		
639.	Materials management :Objectives of Materials management	1	03-09-2019		TLM1	CO3	T1 or R3	
640.	Need for inventory control	1	04-09-2019		TLM1	CO3	T1 or R3	
641.	Purchase procedure, Store records	1	06-09-2019		TLM1	CO3	T1 or R3	
642.	TUTORIAL-7	1	09-09-2019		TLM3	CO3	T1 or R3	
643.	Methods of inventory control :ABC analysis & EOQ analysis	1	10-09-2019		TLM1	CO3	T1 or R3	
644.	EOQ Problems & Stock levels & Problems on stock levels	1	11-09-2019		TLM1	CO3	T1 or R3	
No. of classes required to complete UNIT-III		14				No. of classes taken:		

UNIT-IV : Human Resource management (HRM)

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
645.	Concepts of HRM: Basic functions of HR manager	1	13-09-2019		**TLM1**	CO4	T1	
646.	Man power planning	1	16-09-2019		**TLM1**	CO4	T1	
647.	Recruitment & Selection	1	17-09-2019		**TLM2**	CO4	T1	
648.	TUTORIAL-8	1	19-09-2019		**TLM3**	CO4	T1	
649.	Training and development	1	20-09-2019		**TLM2**	CO4	T1	
650.	Placement, Wage and salary administration	1	23-09-2019		**TLM1**	CO4	T1	
651.	Promotion,Transfer & Separation & Performance Appraisal	1	24-09-2019		**TLM1**	CO4	T1	

652.	TUTORIAL-09	1	25-09-2019		**TLM3**	CO4	T1	
653.	Job evaluation & Merit raring	1	27-09-2019		**TLM1**	CO4	T1	
No. of classes required to complete UNIT-IV		09			No. of classes taken:			

UNIT-V : Project management

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
654.	**Project management: Introduction** Early techniques in project management	1	29-09-2019		TLM2	CO5	T1 or R4	
655.	Network analysis & Rules for drawing of networks and Critical path method	1	30-09-2019		TLM2	CO5	T1 or R4	
656.	Problems on CPM & Identifying critical path	1	01-10-2019		TLM2	CO5	T1 or R4	
657.	Problems on CPM & Identifying critical path	1	02-10-2019					
658.	TUTORIAL-10	1	04-10-2019		TLM3	CO5	T1 or R4	
659.	Programme evaluation and review technique (PERT)	1	07-10-2019		TLM1	CO5	T1 or R4	
660.	Problems on PERT	1	08-10 -2019		TLM1	CO5	T1 or R4	
661.	Problems on PERT	1	09-10 -2019		TLM1	CO5	T1 or R4	
662.	Project cost analysis project crashing	1	11-10-2019		TLM1	CO5	T1 or R4	
663.	Project cost analysis project crashing	1	14-10-2019		TLM1	CO5	T1 or R4	
664.	Project cost analysis project crashing	1	15-10-2019		TLM1	CO5	T1 or R4	
665.	TUTORIAL -11	1	16-10-2019		TLM1	CO5	T1 or R4	
No. of classes required to complete UNIT-V		12				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
666.	Online trading	1	18-10-2019		TLM4		ZERODHA WEB SITE	
667.	II MID EXAM		23-10-2019					
668.	II MID EXAM		24-10-2019					
669.	II MID EXAM		26-10-2019					
670.	II MID EXAM		28-10-2019					

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	COs	Marks
Assignment/Quiz – 1	1	A1=5
Assignment/Quiz – 2	2	A2=5
I-Mid Examination	1,2	B1=20
Assignment/Quiz – 3	3	A3=5
Assignment/Quiz – 4	4	A4=5
Assignment/Quiz – 5	5	A5=5
II-Mid Examination	3,4,5	B2=20
Evaluation of Assignment/Quiz Marks: A=(A1+A2+A3+A4+A5)/5	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
Cumulative Internal Examination : A+B	**1,2,3,4,5**	**A+B=25**
Semester End Examinations	**1,2,3,4,5**	**C=75**
Total Marks: A+B+C	**1,2,3,4,5**	**100**

PROGRAM OUTCOMES (POs)

I. Engineering knowledge

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

II. 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.

III. 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.

IV. 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.

V. 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.

VI. 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.

VII. 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.

VIII. Ethics

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

IX. Individual and team work

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

X. 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.

XI. 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.

XII. 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 EDUCATIONAL OBJECTIVES (PEOs)

I. PEO

To inculcate the investigating and adaptability skills into the students to carryout research on recent trends in Computer Science and Engineering Technology.

II. PEO

To empower the student with the qualities of effective communication, technical document writing, team work, lifelong learning attitude,and leadership needed for a successful career.

III. PEO

Enlighten the students on analyzing engineering issues in a broader perspective with ethical responsibility towards sustainable development to satisfy the societal needs.

IV. PEO

Equip the students with all-round knowledge to adapt the evolving technical challenges and changing career opportunities in par with global competency.

U.RAMBABU	U.RAMBABU	U.RAMBABU	Dr.A.ADISESHA REDDY
Course Instructor	Course Coordinator	Module Coordinator	HOD

	LESSON PLAN	Date: 17/06/2019 To 19/10/2019
	Sub. Name : Mobile Computing Lab **Branch: CSE Semester & Section: VII & A**	

L165 – Mobile Computing Lab

Lecture : 2 Periods/week **Internal Marks : 25**

External Marks : 50

Credits : 2 **External Examinations : 3 Hrs**

Course Educational Objectives:

The main objective of this course is to enable the student to develop applications on both J2ME and Android Platforms. Student got introduced with all the constructs necessary for developing applications on both the platforms.

Course Outcomes

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

CO 1 Create simple mobile applications using J2ME for low constraint devices

CO 2 Design and Develop simple android applications for smart phones

CO 3 Deployment of applications in stores (ex: Google play store)

CO 4 Improve individual / team work skills, communication & report writing skills with ethical values.

Pre requisite: Knowledge in Java and XML

	Lakireddy Bali Reddy College of Engineering	
	Department of CSE	
	Outcome based lesson plan	
	Academic year: 2019-2020	Course: Mobile Computing Lab
	Programme: B.Tech	Exp No: 1 to 14
	Year & Sem: IV & I (VII 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 J2ME Platform and its API	21-06-19		1	1,2	2,4,6
2	Experiment-1	28-06-19		1	1	
3	Experiment-2	05-07-19		1	1	
4	Experiment-3	12-07-19		1	1	
5	Experiment-4	19-07-19		1	1	
6	Experiment-5	26-07-19		1	1	
7	Experiment-6	02-08-19		1	1	
8	Experiment-7	22-08-19		1	1,2	
09	Experiment-8	29-08-19		1	1	
10	Experiment-9	05-09-19		1	1	
11	Experiment-10	12-09-19		1	1,2,9	
12	Experiment-11	19-09-19		1	1,2,9	
13	Experiment-12	26-09-19		1	1	
14	Experiment-13	03-10-19		1	1,2,9	

15	Experiment-14	10-10-19		1	1,2,9
16	Internal Exam	17-10-19			

Assessment Summary:

Assessment Task	Weight age (Marks)	Course Outcomes			
		CO1	CO2	CO3	CO4
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	4	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
L130					-	-	1	1	3	-	-	-	-	-	-	1	2	-	-
					-	-	2	1	3	-	-	-	-	-	-	1	2	-	-
					-	-	2	1	3	-	-	-	-	-	-	1	2	-	-
					-	-	-	-	-	-	-	2	2	2	-	-	-	-	-

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

	Instructor	Course Coordinator	Module Coordinator	HOD
Name	P Vamsi Naidu	P Vamsi Naidu		Dr. Ch.V.Narayana
Sign with Date				

	LESSON PLAN	Date: 17/06/2019 To 19/10/2019
	Sub. Name : Mobile Computing Lab **Branch: CSE Semester & Section: VII & B**	

L165 – Mobile Computing Lab

Lecture : 2 Periods/week **Internal Marks : 25**

External Marks : 50

Credits : 2 **External Examinations : 3 Hrs**

Course Educational Objectives:

The main objective of this course is to enable the student to develop applications on both J2ME and Android Platforms. Student got introduced with all the constructs necessary for developing applications on both the platforms.

Course Outcomes

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

CO 1 Create simple mobile applications using J2ME for low constraint devices

CO 2 Design and Develop simple android applications for smart phones

CO 3 Deployment of applications in stores (ex: Google play store)

CO 4 Improve individual / team work skills, communication & report writing skills with ethical values.

Pre requisite: Knowledge in Java and XML

	Lakireddy Bali Reddy College of Engineering	
	Department of CSE	
	Outcome based lesson plan	
	Academic year: 2019-2020	Course: Mobile Computing Lab
	Programme: B.Tech	Exp No: 1 to 14
	Year & Sem: IV & I (VII sem)	Section: B

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

Detailed Lesson Plan

S.NO	TOPIC TO BE COVERED	Date		TLP	DM	AM
		Tentative	Actual			
1	Introduction to J2ME Platform and its API	19-06-19		1	1,2	2,4,6
2	Experiment-1	26-06-19		1	1	
3	Experiment-2	03-07-19		1	1	
4	Experiment-3	10-07-19		1	1	
5	Experiment-4	17-07-19		1	1	
6	Experiment-5	24-07-19		1	1	
7	Experiment-6	31-07-19		1	1	
8	Experiment-7	21-08-19		1	1,2	
09	Experiment-8	28-08-19		1	1	
10	Experiment-9	04-09-19		1	1	
11	Experiment-10	11-09-19		1	1,2,9	
12	Experiment-11	18-09-19		1	1,2,9	
13	Experiment-12	25-09-19		1	1	
14	Experiment-13	02-10-19		1	1,2,9	

15	Experiment-14	09-10-19		1	1,2,9
16	Internal Exam	16-10-19			

Assessment Summary:

Assessment Task	Weight age (Marks)	Course Outcomes			
		CO1	CO2	CO3	CO4
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	4	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
L130					-	-	1	1	3	-	-	-	-	-	-	1	2	-	-
					-	-	2	1	3	-	-	-	-	-	-	1	2	-	-
					-	-	2	1	3	-	-	-	-	-	-	1	2	-	-
					-	-	-	-	-	-	-	2	2	2	-	-	-	-	-

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

	Instructor	Course Coordinator	Module Coordinator	HOD
Name	P Vamsi Naidu	P Vamsi Naidu		Dr. Ch.V.Narayana
Sign with Date				

LAKIREDDY BALI REDDY COLLEGE OF ENGINEERING

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

(Autonomous & Affiliated to JNTUK, Kakinada & Approved by AICTE, New Delhi, Accredited by NAAC & NBA, Certified by ISO 9001:2015)
L B Reddy Nagar, Mylavaram-521 230, Krishna District, Andhra Pradesh.

COURSE HANDOUT

PROGRAM : B.Tech. VII-Sem., CSE - A Sec

ACADEMIC YEAR : 2019-20

COURSE NAME & CODE : **C# AND .NET Programming Lab** – L116

L-T-P STRUCTURE : 3-1-0

COURSE CREDITS : 3

COURSE INSTRUCTOR : A.SUDHAKAR

COURSE COORDINATOR : A.SUDHAKAR

PRE-REQUISITE: C, C++, JAVA Languages

COURSE OBJECTIVE: This course will cover the practical aspects of multi-tier application development using the .NET framework. The goal of this course is to introduce the basics of distributed application development. Technologies covered include the Common Language Runtime (CLR), .NET framework classes, C#, ASP.NET, and ADO.NET.

COURSE OUTCOMES (CO)

CO1: Demonstrate programs to solve real world problems with the help of C# and .NET framework.

CO2: Apply ADO.NET to design real world applications.

CO3: Develop ASP.NET Web Services, secure web services, and .NET remoting 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	1	2	3	1	3	-	-	-	-	-	-	1	3	1	-
CO2	1	2	3	1	3	-	-	-	-	-	-	1	3	3	-
CO3	1	2	3	1	3	-	-	-	-	-	-	1	3	3	-
CO4	-	-	-	-	-	-	-	2	2	2	-	-	-	-	-

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	Herbert Schildt, "The Complete Reference: C# 4.0", TMH, 2012.
T2	Christian Nagel et al. "Professional C# 2012 with .NET 4.5", Wiley India, 2012.

BOS APPROVED REFERENCE BOOKS:

R1	Andrew Troelsen , "Pro C# 2010 and the .NET 4 Platform", Fifth edition, A Press, 2010.
R2	Ian Griffiths, Matthew Adams, Jesse Liberty, "Programming C# 4.0", O_Reilly,6 th Edition 2010.

COURSE DELIVERY PLAN (LESSON PLAN): Section-B

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 .NET Framework & Visual studio	2	17.06.2019		TLM8	CO1,CO2 & C3	T1, R1	
2.	Lab Cycle-1 Programs	2	01.07.2019		TLM5 &TLM8	CO1,CO2 & C3	T1, R1	
3.	Lab Cycle-2 Programs	2	08.07.2019		TLM5 &TLM8	CO1,CO2 & C3	T1, R1	
4.	Lab Cycle-3 Programs	2	15.07.2019		TLM5 &TLM8	CO1,CO2 & C3	T1, R1	
5.	Lab Cycle-4 Programs	2	22.07.2019		TLM5 &TLM8	CO1,CO2 & C3	T1, R1	
6.	Lab Cycle-5 Programs	2	29.07.2019		TLM5 &TLM8	CO1,CO2 & C3	T1, R1	
7.	Lab Cycle-6 Programs	2	05.08.2019		TLM5 &TLM8	CO1,CO2 & C3	T1, R1	
8.	Lab Cycle-7 Programs	2	19.08.2019		TLM5 &TLM8	CO1,CO2 & C3	T1, R1	
9.	Lab Cycle-8 Programs	2	26.08.2019		TLM5 &TLM8	CO1,CO2 & C3	T1, R1	
10.	Lab Cycle-10 Programs	2	09.09.2019		TLM5 &TLM8	CO1,CO2 & C3	T1, R1	
11.	Lab Cycle-11 Programs	2	16.09.2019		TLM5 &TLM8	CO1,CO2 & C3	T1, R1	
12.	Lab Cycle-12 Programs	2	23.09.2019		TLM5 &TLM8	CO1,CO2 & C3	T1, R1	
13.	Window based Applications	2	30.09.2019		TLM5 &TLM8	CO1,CO2 & C3	T1, R1	
14.	Window based Applications	2	07.10.2019		TLM5 &TLM8	CO1,CO2 & C3	T1, R1	
15.	Web Applications using C#	2	14.10.2019		TLM5 &TLM8	CO1,CO2 & C3	T1, R1	
No. of classes required to complete Lab		28	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 Weekly
16.	ADO.net complex programs							
17.	AJAX programs							

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
I Phase of Instructions + CRT Classes	17-06-2019	10-08-2019	7 W + 1 W
I Mid Examinations	12-08-2019	17-08-2019	1 W
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EVALUATION PROCESS:

Evaluation Task	COs	Marks
Day to Day Evaluations (Viva-2, Program Development-4 & Program Execution-4) Total – 10 Marks	CO1, CO2 & CO3	A = 10
Record Marks- 5	CO1, CO2 & CO3	B = 5
Lab Internal Examination – 10 Marks	CO1, CO2 & CO3	C = 10
Cumulative Internal Examination: A+B+C	**CO1, CO2 & CO3**	**D=A+B+C D = 25**
Lab External Examination	**CO1, CO2 & CO3**	**E = 50**
Total Marks: D+E	**CO1, CO2 & CO3**	**75**

Course Instructor **Course Coordinator** **Module Coordinator** **HOD**

LAKIREDDY BALI REDDY COLLEGE OF ENGINEERING (AUTONOMOUS)
Accredited by NAAC with " A " Grade, ISO 9001:2015 Certified Institution
Approved by AICTE, New Delhi and Affiliated to JNTUK, Kakinada
L.B.REDDY NAGAR, MYLAVARAM, KRISHNA DIST., A.P., 521 230.
http://www.lbrce.ac.in, cselbreddy@gmail.com, Phone: 08659-222933, Fax: 08659-222931

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

COURSE HANDOUT

PROGRAM : B.Tech. VII-Sem., CSE - B/Sec

ACADEMIC YEAR : 2019-20

COURSE NAME & CODE : **C# AND .NET Programming Lab** – L116

L-T-P STRUCTURE : 3-1-0

COURSE CREDITS : 3

COURSE INSTRUCTOR : S.GOVINDU

COURSE COORDINATOR : A.SUDHAKAR

PRE-REQUISITE: C, C++, JAVA Languages

COURSE OBJECTIVE: This course will cover the practical aspects of multi-tier application development using the .NET framework. The goal of this course is to introduce the basics of distributed application development. Technologies covered include the Common Language Runtime (CLR), .NET framework classes, C#, ASP.NET, and ADO.NET.

COURSE OUTCOMES (CO)

CO1: Demonstrate programs to solve real world problems with the help of C# and .NET framework.

CO2: Apply ADO.NET to design real world applications.

CO3: Develop ASP.NET Web Services, secure web services, and .NET remoting 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	1	2	3	1	3	-	-	-	-	-	-	1	3	1	-
CO2	1	2	3	1	3	-	-	-	-	-	-	1	3	3	-
CO3	1	2	3	1	3	-	-	-	-	-	-	1	3	3	-

CO4	-	-	-	-	-	-	-	2	2	2	-	-	-	-	-

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	Herbert Schildt, "The Complete Reference: C# 4.0", TMH, 2012.
T2	Christian Nagel et al. "Professional C# 2012 with .NET 4.5", Wiley India, 2012.

BOS APPROVED REFERENCE BOOKS:

R1	Andrew Troelsen , "Pro C# 2010 and the .NET 4 Platform", Fifth edition, A Press, 2010.
R2	Ian Griffiths, Matthew Adams, Jesse Liberty, "Programming C# 4.0", O_Reilly,6 th Edition 2010.

COURSE DELIVERY PLAN (LESSON PLAN): Section-B

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 .NET Framework & Visual studio	2	20.06.2019		TLM8	CO1,CO2 & C3	T1, R1	
2.	Lab Cycle-1 Programs	2	04.07.2019		TLM5 &TLM8	CO1,CO2 & C3	T1, R1	
3.	Lab Cycle-2 Programs	2	11.07.2019		TLM5 &TLM8	CO1,CO2 & C3	T1, R1	
4.	Lab Cycle-3 Programs	2	18.07.2019		TLM5 &TLM8	CO1,CO2 & C3	T1, R1	
5.	Lab Cycle-4 Programs	2	25.07.2019		TLM5 &TLM8	CO1,CO2 & C3	T1, R1	
6.	Lab Cycle-5 Programs	2	01.08.2019		TLM5 &TLM8	CO1,CO2 & C3	T1, R1	
7.	Lab Cycle-6 Programs	2	08.08.2019		TLM5 &TLM8	CO1,CO2 & C3	T1, R1	
8.	Lab Cycle-7 Programs	2	22.08.2019		TLM5 &TLM8	CO1,CO2 & C3	T1, R1	
9.	Lab Cycle-8 Programs	2	29.08.2019		TLM5 &TLM8	CO1,CO2 & C3	T1, R1	
10.	Lab Cycle-10 Programs	2	05.09.2019		TLM5 &TLM8	CO1,CO2 & C3	T1, R1	
11.	Lab Cycle-11 Programs	2	12.09.2019		TLM5 &TLM8	CO1,CO2 & C3	T1, R1	
12.	Lab Cycle-12 Programs	2	19.09.2019		TLM5 &TLM8	CO1,CO2 & C3	T1, R1	
13.	Window based Applications	2	26.09.2019		TLM5 &TLM8	CO1,CO2 & C3	T1, R1	
14.	Window based Applications	2	03.10.2019		TLM5 &TLM8	CO1,CO2 & C3	T1, R1	
15.	Web Applications using C#	2	10.10.2019		TLM5 &TLM8	CO1,CO2 & C3	T1, R1	
16.	Web Applications using C#	2	17.10.2019		TLM5 &TLM8	CO1,CO2 & C3	T1, R1	
No. of classes required to complete Lab		28	No. of classes taken:					

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18.								

Teaching Learning Methods					
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Course Instructor **Course Coordinator** **Module Coordinator** **HOD**