LAKIREDDY BALI REDDY COLLEGE OF ENGINEERING

(AUTONOMOUS)
Accredited by NAAC & NBA (Under Tier - I), 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.
Phone: 08659-222933, Fax: 08659-222931

DEPARTMENT OF COMPUTER SCIENCE

COURSE HANDOUT

Part-A

PROGRAM	**:**	**B.Tech.(CSE),VI-Semester(Sec A)**
ACADEMIC YEAR	**:**	**2020-2021**
COURSE CODE&NAME	**:**	**17CI17 &**
		Data Communications and Computer Networks
L-T-P STRUCTURE	**:**	**3 - -**
COURSE CREDITS	**:**	**3**
COURSE INSTRUCTOR	**:**	**Dr M. Srinivasa Rao**
PRE-REQUISITES	**:**	**Computer Fundamentals.**

COURSE EDUCATIONAL OBJECTIVES (CEOs):

In this course, students will learn about Protocols, network standards, the OSI model, IP addressing, cabling, networking components and basic LAN design. Existing state of art in network protocols, architectures and its applications. Functionalities and Applications of Various OSI and TCP/IP layers.

COURSE OUTCOMES (COs):

On successful completion of the course, students will be able to:

CO1: Understand how the data is transmitted from point-to-point.

CO2: Summarize Data Link Layer Protocols.

CO3: Analyze different Medium Access Control protocols.

CO4: Evaluate different routing protocols and Transport layer protocols.

CO5: Understand the concepts of Presentation and Application Layer Protocols.

Course Articulation Matrix (Correlation between COs&POs,PSOs):

COs	PO1	PO2	PO3	PO4	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	2	-	-	-	-	-	-	-	-	1	-	2	-
CO2	1	2	2	-	-	-	-	-	-	-	-	1	-	2	-
CO3	1	3	3	-	-	-	-	-	-	-	-	1	-	2	-
CO4	2	3	3	1	-	-	-	-	-	-	-	1	-	2	-
CO5	2	2	2	-	-	-	-	-	-	-	-	1	-	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 A. S. Tanenbaum ―Computer Network: Second Ed. Prentice Hall, India (tan).

T2 B. A. Frouzan, Data Communication, Tata Mc Graw Hill.

BOS APPROVED REFERENCE BOOKS:

R1 D. Berekas an R. Gallager, ―Data Networks:, second Ed. Prentice Hall, India.

R2 D. E. Coner, ―Intertworking with TCP/IP‖, Vol-I.Prentice Hall India.

R3 G. E. Keiser, ―Local Area Network‖, Mc Graw Hill, International Ed.

R4 W. Stalling, ―Data & Computer Communications‖, Maxwell Macmillan Internation Ed.

R5 http://web.mit.edu/dimitrib/www/datanets.html

Part-B

COURSE DELIVERY PLAN (LESSON PLAN): Section-B

UNIT-I: INTRODUCTION TO DATA COMMUNICATION TECHNIQUES & PHYSICAL LAYER

S.No.	Topics to be covered	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	HOD Sign Weekly
1.	Discussion of Cos and CEOs of the course	1	31-3-2021		TLM1&2	
2.	Introduction to Data Communication and Computer Networks	1	3-4-2021		TLM1&2	
3.	Use of Computer Networks	1	7-4-2021		TLM1&2	
4.	Reference models: ISO OSI model, TCP/IP model	1	9-4-2021		TLM1&2	
5.	Reference models: ISO OSI model, TCP/IP model	1	10-4-2021		TLM1&2	
6.	Example Networks: The In Pulse Code Modulation (PCM)	1	16-4-2021		TLM1&2	
7.	Delta Modulation (DM), Multiplexing Techniques, Frequency Division	1	17-4-2021		TLM1&2	
8.	The theoretical basis for Data communication	1	23-4-2021		TLM1&2	
9.	Twisted pair, Coaxial cable, Fiber optics	1	24-4-2021		TLM1&2	
10.	Error detection and correction Single and Parity check codes, CRC, Hamming Code	1	24-4-2021		TLM1&2	
No. of classes required to complete UNIT-I 10				No. of classes taken:		

UNIT-II: DATA LINK LAYER PROTOCOLS

S.No.	Topics to be covered	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	HOD Sign Weekly
11.	Introduction to DLL	1	28-4-2021		TLM1&2	
12.	Data link layer design issues	1	30-4-2021		TLM1&2	
13.	Elementary data link protocols	1	1-5-2021		TLM1&2	
14.	Stop & Wait protocols	1	5-5-2021		TLM1&2	
15.	Sliding window protocols-one-bit,	1	7-5-2021		TLM1&2	
16.	go-back N, selective repeat	1	8-5-2021		TLM1&2	
17.	performance and efficiency, verification of protocol	1	12-5-2021		TLM1&2	
18.	HDLC data link protocol	1	15-5-2021		TLM1&2	
No. of classes required to complete UNIT-II 8				No. of classes taken:		

UNIT-III: MEDIUM ACCESS CONTROL SUB LAYER

S.No.	Topics to be covered	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	HOD Sign Weekly
19.	Concept of Random Access	1	21-5-2021		TLM1&2	
20.	Pure ALOHA throughput characteristics of ALOHA, S-ALOHA.	1	22-5-2021		TLM1&2	
21.	EEE 802.3, 802.4 and 802.5 Protocols	1	26-5-2021		TLM1&2	
22.	performance of Ethernet. Token Ring Protocol, FDDI Protocol	1	28-5-2021		TLM1&2	
23.	Virtual circuits and datagram‘s	1	29-5-2021		TLM1&2	
24.	Windows flow control, Packet Discarding,	1	2-6-2021		TLM1&2	
25.	Traffic Shaping, Choke RSVP	1	4-6-2021		TLM1&2	
26.	Bridges, Routers and Gateways	1	5-6-2021		TLM1&2	
No. of classes required to complete UNIT-III 8				No. of classes taken:		

UNIT-IV: NETWORK AND TRANSPORT LAYER PROTOCOLS

S.No.	Topics to be covered	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	HOD Sign Weekly
27.	Introduction to Transport Layer and Network Layer, Optimality principle	1	9-6-2021		TLM1&2	
28.	Dijkstra, Flooding and broadcasting	1	11-6-2021		TLM1&2	
29.	distance vector routing, link state routing	1	12-6-2021		TLM1&2	
30.	flow based routing, Multicasting routing, flow and congestion control	1	16-6-2021		TLM1&2	
31.	Internet Architecture and Addressing.	1	18-6-2021		TLM1&2	
32.	Design issues, Quality of Services	1	19-06-2021		TLM1&2	
33.	Connection Establishment and Releases, TCP,UDP	1	23-6-2021		TLM1&2	
No. of classes required to complete UNIT-IV 7				No. of classes taken:		

UNIT-V: PRESENTATION AND APPLICATION LAYER PROTOCOLS

S.No.	Topics to be covered	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	HOD Sign Weekly
34.	Introduction to Application Layer	1	25-6-2021		TLM1&2	
35.	Electronic Mail	1	26-6-2021		TLM1&2	
36.	SMTP	1	30-6-2021		TLM1&2	
37.	HTTP	1	2-7-2021		TLM1&2	
38.	Substitutions and Transposition Ciphers,) ,Data Encryption Standard (DES)	1	3-7-2021		TLM1&2	
39.	RSA algorithm	1	7-7-2021		TLM1&2	
No. of classes required to complete UNIT-V 6				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	HOD Sign
40.	DNS	1	7-7-2021		TLM1&2	

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	Marks
Assignment-I (Unit-I)	A1=5
Assignment-II (Unit-II)	A2=5
I-Mid Examination (Units-I & II)	M1=20
I-Quiz Examination (Units-I & II)	Q1=10
Assignment-III (Unit-III)	A3=5
Assignment-IV (Unit-IV)	A4=5
Assignment-V (Unit-V)	A5=5
II-Mid Examination (Units-III, IV & V)	M2=20
II-Quiz Examination (Units-III, IV & V)	Q2=10
Attendance	B=5
Assignment Marks = Best Four Average of A1, A2, A3, A4, A5	A=5
Mid Marks =75% of Max(M1,M2)+25% of Min(M1,M2)	M=20
Quiz Marks =75% of Max(Q1,Q2)+25% of Min(Q1,Q2)	B=10
Cumulative Internal Examination (CIE) : A+B+M+Q	40
Semester End Examination (SEE)	60
Total Marks = CIE + SEE	100

ACADEMIC CALENDAR:

Description	From	To	Weeks
Commencement of Class Work	29/03/2021		
I Phase of Instructions	29/03/2021	15/05/2021	7W
I Mid Examinations	17/05/2021	19/05/2021	1/2W
II Phase of Instructions	20/05/2021	07/07/2021	7W
II Mid Examinations	08/07/2021	10/07/21	1/2W
Preparation and Practical's	12/07/2021	17/07/2021	1W
Semester End Examinations	19/07/2021	31/07/2021	2W

PART-D

PROGRAMME OUTCOMES (POs):

PO 1	**Engineering knowledge**: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
PO 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.
PO 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.
PO 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.
PO 5	**Modern tool usage**: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations
PO 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
PO 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.
PO 8	**Ethic**s: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
PO 9	**Individual and team work**: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
PO 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.
PO 11	**Project management and finance**: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
PO 12	**Life-long learning**: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

PROGRAMME SPECIFIC OUTCOMES (PSOs)

The ability to apply Software Engineering practices and strategies in software project development using open source programming environment for the success of organization..
The ability to design and develop computer programs in networking, web applications and IoT as per the society needs.
To inculcate an ability to analyze, design and implement database applications.

Course Instructor	Course Coordinator	Module Coordinator	HOD
(Dr M.Srinivasa Rao)	(Dr O.Rama Devi)	(Dr D.JaganMohan Reddy)	(Dr D.Veeraiah)

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DEPARTMENT OF COMPUTER SCIENCE

COURSE HANDOUT

PART-A

Name of Course Instructor : P VAMSI NAIDU
Course Name & Code : ANDROID TECHNOLOGIES & 17CS05
L-T-P Structure : 2-2-0 **Credits:** 3
Program/Sem/Sec : B.Tech.–CSE/VI Sem/Sec-A **A.Y. :** 2020-21

PRE-REQUISITE: Knowledge in Java Programming

COURSE EDUCATIONAL OBJECTIVES (CEOs): This course is designed to learn the basics of Android platform and get to understand the application lifecycle and able implement applications using latest android concepts.

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

CO1	**Understand** the fundamentals of Android Platform
CO2	**Design** UI using various UI Components of Android Platform
CO3	**Develop** android apps using Intents & Broadcast receivers of Android Platform
CO4	**Analyze** different data repositories in Android Platform
CO5	**Explore** various advanced concepts in Android Platform

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

1 - Slight (Low) **2** – Moderate (Medium) **3** - Substantial (High)

TEXT BOOKS:

T1 Reto Meier, ―Professional Android 4 Application Development‖, Wiley India (Wrox), 2012.

T2 James C Sheusi, ―Android Application Development for Java Programmers‖, Cengage Learning, 2013.

REFERENCE BOOKS:

R1 Wei-Meng Lee, ―Beginning Android 4 Application Development‖, Wiley India (Wrox), 2013

R2 https://developer.android.com/index.html

R3 https://www.tutorialspoint.com/android/index.htm

PART-B

COURSE DELIVERY PLAN (LESSON PLAN):

UNIT-I: INTRODUCTION TO ANDROID PLATFORM

S. No.	Topics to be covered	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	HOD Sign Weekly
41.	Overview (Why Android?, Features, Applications, History)	1	30/03/2021			
42.	Environment Setup	1	31/03/2021			
43.	Architecture	1	01/04/2021			
44.	Emulator, Dalvik Virtual Machine	1	06/04/2021			
45.	Application Components	1	07/04/2021			
46.	Resources, Manifest File	1	08/04/2021			
47.	Android Application Life Cycle – Activities	1	12/04/2021			
48.	Activity Life Cycle	1	15/04/2021			
49.	States and its Monitoring	1	19/04/2021			
50.	Services – Services States	1	20/04/2021			
51.	Life Cycle of States	1	22/04/2021			
52.	**Tutorial – 1**	1	27/04/2021			
No. of classes required to complete UNIT-I: 12				**No. of classes taken:**		

UNIT-II: ANDROID USER INTERFACE

S. No.	Topics to be covered	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	HOD Sign Weekly
1.	**UI Components:** View, TextView, ImageView	1	28/04/2021			
2.	Button, EditText, Spinner, Check Box, Radio Button	1	29/04/2021			
3.	Rating Bar, Switch, Seek Bar, Search View	1	03/05/2021			
4.	**Measurements:** Device and Pixel Density Independent measuring units	1	04/05/2021			
5.	**UI Layouts:** Linear, Relative, Constraint Layouts	1	05/05/2021			
6.	Grid and Table Layouts, Styles and Themes.	1	06/05/2021			
7.	**Event Handling:** Handling clicks or changes of various UI components	1	10/05/2021			
8.	**Fragments:** Creating fragments, Lifecycle of fragments	1	11/05/2021			
9.	Types of fragments, Fragment states	1	12/05/2021			
10.	**Tutorial – 2**	1	13/05/2021			
No. of classes required to complete UNIT-II: 10				**No. of classes taken:**		

UNIT-III: INTENTS AND BROADCASTS

S. No.	Topics to be covered	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	HOD Sign Weekly
1.	**Intents** – Using intents to launch Activities, Explicitly starting new Activity	1	20/05/2021			
2.	Implicit Intents, Passing data to	1	24/05/2021			

	Intents, Getting results from Activities					

25

3.	Using Intent to dial a number and to send an SMS	1	25/05/2021			
4.	**Broadcast Receivers** – Using Intent filters to service implicit Intents	1	26/05/2021			
5.	Resolving Intent filters	1	27/05/2021			
6.	Finding and using Intents received within an Activity	1	31/05/2021			
7.	**Notifications** – Creating Notifications	1	01/06/2021			
8.	Displaying notifications	1	02/06/2021			
9.	Displaying Toasts	1	03/06/2021			
10.	**Tutorial – 3**	1	07/06/2021			
No. of classes required to complete UNIT-III: 10				**No. of classes taken:**		

UNIT-IV: DATA STORAGE

S. No.	Topics to be covered	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	HOD Sign Weekly
1.	**Shared Preferences:** Creating shared preferences	1	08/06/2021			
2.	Saving and retrieving data using Shared Preference	1	09/06/2021			
3.	**Files:** Using application specific folders and files, creating files	1	10/06/2021			
4.	Reading data from files, Listing contents of a directory	1	14/06/2021			
5.	**Database:** Introduction to SQLite database, creating and opening a database	1	15/06/2021			
6.	Creating Tables, Inserting, Retrieving and Deleting Data	1	16/06/2021			
7.	**Content Providers -** Registering Content Providers	1	17/06/2021			
8.	Using content Providers (insert, delete, retrieve and update)	1	21/06/2021			
9.	**Tutorial – 4**	1	22/06/2021			
No. of classes required to complete UNIT-IV: 09				**No. of classes taken:**		

UNIT-V: ADVANCED TOPICS

S. No.	Topics to be covered	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	HOD Sign Weekly
1.	**Location Based Services** - Finding Current Location and showing location on the Map	1	23/06/2021			
2.	Updating Location, RSS Feeds	1	24/06/2021			
3.	Alarms, Using Camera	1	28/06/2021			
4.	Gestures, Integrating PHP/MySQL	1	29/06/2021			
5.	**Using Internet Resources** – Connecting to Internet Resource	1	30/06/2021			
6.	Using Download Manager	1	01/07/2021			
7.	Publishing Android Application	2	05/07/2021 06/07/2021			
8.	**Tutorial – 5**	1	07/07/2021			
No. of classes required to complete UNIT-V: 09				**No. of classes taken:**		

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 (R17 Regulations):

Evaluation Task	Marks
Assignment-I (Unit-I)	A1=5
Assignment-II (Unit-II)	A2=5
I-Mid Examination (Units-I & II)	M1=20
I-Quiz Examination (Units-I & II)	Q1=10
Assignment-III (Unit-III)	A3=5
Assignment-IV (Unit-IV)	A4=5
Assignment-V (Unit-V)	A5=5
II-Mid Examination (Units-III, IV & V)	M2=20
II-Quiz Examination (Units-III, IV & V)	Q2=10
Attendance	B=5
Assignment Marks = Best Four Average of A1, A2, A3, A4, A5	A=5
Mid Marks =75% of Max(M1,M2)+25% of Min(M1,M2)	M=20
Quiz Marks =75% of Max(Q1,Q2)+25% of Min(Q1,Q2)	Q=10
Cumulative Internal Examination (CIE) : A+B+M+Q	40
Semester End Examination (SEE)	60
Total Marks = CIE + SEE	100

PART-D

PROGRAMME OUTCOMES (POs):

PO 1	**Engineering knowledge**: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
PO 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.
PO 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.
PO 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.
PO 5	**Modern tool usage**: Create, select, and apply appropriate techniques, resources, and modern

	engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations
PO 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
PO 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.
PO 8	**Ethic**s: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
PO 9	**Individual and team work**: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
PO 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.
PO 11	**Project management and finance**: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
PO 12	**Life-long learning**: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

PROGRAMME SPECIFIC OUTCOMES (PSOs):

PSO 1	The ability to apply Software Engineering practices and strategies in software project development using open-source programming environment for the success of organization.
PSO 2	The ability to design and develop computer programs in networking, web applications and IoT as per the society needs.
PSO 3	To inculcate an ability to analyze, design and implement database applications.

Title	**Course Instructor**	**Course Coordinator**	**Module Coordinator**	**Head of the Department**
Name of the Faculty	**Mr. P. Vamsi Naidu**	**Mr. P. Vamsi Naidu**	**Dr. M. Srinivasa Rao**	**Dr. D. Veeraiah**
Signature				

	Lakireddy Bali Reddy College of Engineering	
	Department of CSE	
	Outcome Based Lesson Plan	
	Academic year: 2020-2021	Course: ANDROID TECHNOLOGIES LAB
	Programme: B.Tech	Exp No: 1 to 25
	Year & Sem: III & II (VI Sem)	Section: A

ANDROID TECHNOLOGIES LAB – 17CS63

Lecture : 2 Periods/week **Internal Marks : 40**

External Marks : 60

Credits : 1 **External Examinations : 3 Hrs**

Prerequisite: Knowledge in Java Programming

Course Educational Objective (CEO): This course facilitates students develop competence and confidence in android programming and understand the entire Android Apps Development Cycle, as well as it would also enable the students to independently create new Android Applications

Course Outcomes (COs): After the completion of this course, student will be able to:

CO1: Design basic Android Applications.

CO2: Develop applications that interact with SQLite Database.

CO3: Design applications that make use of Advanced Android Concepts.

CO4: Improve individual / team work skills, communication & report writing skills with ethical values.

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 Cycles	Industrial visit	Surprise Tests
5	Problems on environmental, economics,	Field work	Mid Exams

	health & safety		
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 Android Platform	01/04/2021		1	1,2	
2	Cycle-1,2	08/04/2021		1	1,2	
3	Cycle-3,4	15/04/2021		1	1,2	
4	Cycle-5,6	22/04/2021		1	1,2	
5	Cycle-7,8	29/04/2021		1	1,2	
6	Cycle-9,10	06/05/2021		1	1,2	2,4,6
7	Cycle-11,12, 13	13/05/2021		1	1,2	
8	Cycle-,14,15,16	20/05/2021		1	1,2	
09	Cycle-17,18	27/05/2021		1	1,2	
10	Cycle-19,20	03/06/2021		1	1,2,7	
11	Cycle-21, 22	10/06/2021		1	1,2,7	
12	Cycle-23	17/06/2021		1	1,2,7	
13	Cycle-24,25	24/06/2021		1	1,2,7	
14	Internal Exam	01/07/2021		1	1,2,7	

Assessment Summary:

Assessment Task	Weight age (Marks)	**Course Outcomes**			
		CO1	CO2	CO3	CO4
Day-Day Performance	20				
Viva	05				
Internal Test	10				
Attendance	5				
End Exam	60				

Total	100				

Mapping Course Outcomes with Programme Outcomes:

Course Code	Programme Outcomes															
	COs	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
17CS63	CO1	1	2	3	1	3	-	-	-	-	-	-	2	3	-	-
	CO2	2	2	3	1	3	-	-	-	-	-	-	2	3	3	-
	CO3	1	2	3	1	3	-	-	-	-	-	-	2	3	-	-
	CO4	-	-	-	-	-	-	-	2	2	2	-	2	-	-	-

1 = Slight (Low) 2 = Moderate (Medium) 3-Substantial (High)

Title	**Course Instructor**	**Course Coordinator**	**Module Coordinator**	**Head of the Department**
Name of the Faculty	**Mr. P. Vamsi Naidu**	**Mr. P. Vamsi Naidu**	**Dr. M. Srinivasa Rao**	**Dr. D. Veeraiah**
Signature				

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Phone: 08659-222933, Fax: 08659-222931

DEPARTMENT OF COMPUTER SCIENCE

COURSE HANDOUT

PART-A

Name of Course Instructor : B V N R Siva Kumar

Course Name & Code : Microprocessors and Microcontrollers - 17EC22

L-T-P Structure : 3-0-0 Credits: 3

Program/Sem/Sec : B.Tech., CSE., VI-Sem., Section- A & B A.Y: 2020-21

Pre-Requisites: Digital Circuits, Computer Organization

Course Objectives: In this course, student will learn about the Architecture of 8086 Microprocessor and 8051 Microcontroller and their Assembly Language Programming, interfacing Memory and various peripherals with 8086 microprocessor / 8051 Microcontroller and concepts of Interrupts and Serial communication in reference to 8086.

Course Outcomes (COs): At the end of the course, students are able to

CO1	**Understand** the architecture and operation of 8086 Microprocessor & 8051 Microcontroller
CO2	**Apply** the instructions of 8086 / 8051 for various applications
CO3	**Analyze** the operation of peripherals and devices for different applications.
CO4	**Design** a system by interfacing memory, peripherals and I/O devices to 8086 / 8051

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

TEXT BOOK(S):

T1 A. K. Ray and K.M. Bhurchandi, Advanced Microprocessor And Peripherals,2nd Edition

T2 Muhammad Ali Mazidi, Janice GillispieMazidi, Rolin D. Mckinlay ―Microcontrollers and Embedded System‖, Pearson Education Publishers, 2nd Edition

REFERENCE BOOK(S):

R1 Raj Kamal, Microcontrollers Architecture, Programming, Interfacing and System Design, Pearson Education Publishers.

R2 J. K. Uffenbeck, ―The 8088 and 8086 Micro Processors‖, PHI, 4th Edition, 2003

PART-B

COURSE DELIVERY PLAN (LESSON PLAN): Section-A

UNIT-I: Microprocessor Architecture, Instruction Set

S.No.	Topic/s	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	HOD Sign Weekly
53.	Introduction to subject, 0 – 20 Bits range in Hexa decimal	1	07-04-21			
54.	8086 specs, GPRs	1	10-04-21			
55.	Seg & Offset registers, 16 bit operations	1	12-04-21			
56.	MOV Instruction, Data Transfer Program	1	17-04-21			
57.	Addressing Modes	1	19-04-21			
58.	Data transfer group	1	24-04-21			
59.	Arithmatic group and programs	1	26-04-21			
60.	Arithmatic group and programs	1	28-04-21			
61.	Logical group and programs	1	01-05-21			
62.	Branching group and programs	1	03-05-21			
63.	Subroutines and programs,	1	08-05-21			
64.	8086 Architecture	1	10-05-21			
No. of classes required to complete UNIT-I		**12**	No. of classes taken			

UNIT-II: 8086 Memory and I/O Interfacing

S.No.	Topic/s	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	HOD Sign Weekly
65.	8086 Pins	1	12-05-21			
66.	Timing Diagram	1	15-05-21			
67.	8086 Pins Minimum mode	1	17-05-21			
68.	Memory I/F	1	19-05-21			
69.	EVEN & ODD Banks	1	22-05-21			
70.	8086 Maximum mode	1	24-05-21			
71.	Interrupts, Response, Types, IVT	1	26-05-21			
72.	Pre-Defined, Priority, ISR	1	29-05-21			
No. of classes required to complete UNIT-II		**08**	No. of classes taken			

UNIT-III: Peripherals and Devices

S.No.	Topic/s	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	HOD Sign Weekly
73.	8255, modes, port operation	1	31-05-21			
74.	DAC I/F, Waveform generation	1	02-06-21			
75.	ADC I/F	1	05-06-21			
76.	KEY BOARD I/F	1	07-06-21			
77.	8259 working,cascading	1	09-06-21			
78.	DMA, 8237 working	1	12-06-21			
79.	8251 working, IO I/F	1	14-06-21			
No. of classes required to complete UNIT-III			**07**	No. of classes taken		

UNIT-IV: Microcontroller

S.No.	Topic/s	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	HOD Sign Weekly
80.	8051 Architecture	1	16-06-21			
81.	Pin Function, SFR s	1	19-06-21			
82.	Addressing Modes, Instructions	1	21-06-21			
83.	Instructions & Program	1	23-06-21			
84.	Instructions & Program	1	26-06-21			
85.	Instructions & Program	1	28-06-21			
86.	Memory & IO I/F	1	30-06-21			
No. of classes required to complete UNIT-IV			**07**	No. of classes taken		

UNIT-V: 8051 Interfacing

S.No.	Topic/s	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	HOD Sign Weekly
87.	Interrupts, IVT	1	03-07-21			
88.	Timer operation	1	05-07-21			
89.	Serial Port operation	1	07-07-21			
90.	Stepper Motor I/F	1				
91.	Seven segment Display I/F	1				
92.	Parallel & Serial Printer I/F	1				
No. of classes required to complete UNIT-V		**06**	**No. of classes taken**			

Contents beyond the Syllabus

S.No.	Topic/s	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	HOD Sign Weekly
1.	Advanced Microcontrollers	**1**	07-07-21			

COURSE DELIVERY PLAN (LESSON PLAN): Section- B

UNIT-I: Microprocessor Architecture, Instruction Set

S.No.	Topic/s	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	HOD Sign Weekly
1.	Introduction to subject, 0 – 20 Bits range in Hexa decimal	1	07-04-21			
2.	8086 specs, GPRs	1	10-04-21			
3.	Seg & Offset registers, 16 bit operations	1	12-04-21			
4.	MOV Instruction, Data Transfer Program	1	19-04-21			
5.	Addressing Modes	1	20-04-21			
6.	Data transfer group	1	26-04-21			
7.	Arithmatic group and programs	1	27-04-21			
8.	Arithmatic group and programs	1	28-04-21			
9.	Logical group and programs	1	03-05-21			
10.	Branching group and programs	1	04-05-21			
11.	Subroutines and programs,	1	05-05-21			
12.	8086 Architecture	1	10-05-21			
No. of classes required to complete UNIT-I		**12**	No. of classes taken			

UNIT-II: 8086 Memory and I/O Interfacing

S.No.	Topic/s	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	HOD Sign Weekly
1.	8086 Pins	1	11-05-21			
2.	Timing Diagram	1	12-05-21			
3.	8086 Pins Minimum mode	1	17-05-21			
4.	Memory I/F	1	18-05-21			
5.	EVEN & ODD Banks	1	19-05-21			
6.	8086 Maximum mode	1	24-05-21			

7.	Interrupts, Response, Types, IVT	1	25-05-21			
8.	Pre-Defined, Priority, ISR	1	26-05-21			
No. of classes required to complete UNIT-II		**08**	No. of classes taken			

UNIT-III: Peripherals and Devices

S.No.	Topic/s	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	HOD Sign Weekly
1.	8255, modes, port operation	1	31-05-21			
2.	DAC I/F, Waveform generation	1	01-06-21			
3.	ADC I/F	1	02-06-21			
4.	KEY BOARD I/F	1	07-06-21			
5.	8259 working,cascading	1	08-06-21			
6.	DMA, 8237 working	1	09-06-21			
7.	8251 working, IO I/F	1	14-06-21			
No. of classes required to complete UNIT-III		**07**	No. of classes taken			

UNIT-IV: Microcontroller

S.No.	Topic/s	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	HOD Sign Weekly
1.	8051 Architecture	1	15-06-21			
2.	Pin Function, SFR s	1	16-06-21			
3.	Addressing Modes, Instructions	1	21-06-21			
4.	Instructions & Program	1	22-06-21			
5.	Instructions & Program	1	23-06-21			
6.	Instructions & Program	1	28-06-21			
7.	Memory & IO I/F	1	29-06-21			
No. of classes required to complete UNIT-IV			**07**	No. of classes taken		

UNIT-V: 8051 Interfacing

S.No.	Topic/s	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	HOD Sign Weekly
1.	Interrupts, IVT	1	30-06-21			
2.	Timer operation	1	05-07-21			

3.	Serial Port operation	1	06-07-21			
4.	Stepper Motor I/F	1	07-07-21			
5.	Seven segment Display I/F	1				
6.	Parallel & Serial Printer I/F	1				
No. of classes required to complete UNIT-V		**06**	**No. of classes taken**			

Contents beyond the Syllabus

S.No.	Topic/s	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	HOD Sign Weekly
1.	Advanced Microcontrollers	**1**	07-07-21			

Teaching Learning Methods			
TLM1	Chalk and Talk / E-PAD	**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	**Marks**
Assignment-I (Unit-I)	A1=5
Assignment-II (Unit-II)	A2=5
I-Mid Examination (Units-I & II)	M1=20
I-Quiz Examination (Units-I & II)	Q1=10
Assignment-III (Unit-III)	A3=5
Assignment-IV (Unit-IV)	A4=5
Assignment-V (Unit-V)	A5=5
II-Mid Examination (Units-III, IV & V)	M2=20
II-Quiz Examination (Units-III, IV & V)	Q2=10
Mid Marks =75% of Max(M1,M2) + 25% of Min(M1,M2)	M=20
Quiz Marks =75% of Max(Q1,Q2) + 25% of Min(Q1,Q2)	Q=10
Assignment Marks = Average of Best Four of A1, A2, A3, A4, A5	A=5
Attendance	B=5
Cumulative Internal Examination (CIE) : M+Q+A+B	40
Semester End Examination (SEE)	60
Total Marks = CIE + SEE	100

PART-D

PROGRAMME OUTCOMES (POs):

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

PO 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.

PO 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.

PO 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.

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

PO 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

PO 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.

PO 8: **Ethic**s: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

PO 9: **Individual and team work**: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

PO 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.

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

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

PROGRAMME SPECIFIC OUTCOMES (PSOs):

PSO 1: The ability to apply Software Engineering practices and strategies in software project development using open source programming environment for the success of organization..

PSO 2: The ability to design and develop computer programs in networking, web applications and IoT as per the society needs.

PSO 3: To inculcate an ability to analyze, design and implement database applications

Date:

Course Instructor	Course Coordinator	Module Coordinator	HOD
B V N R Siva Kumar	Dr. P. Lachi Reddy	Dr. P. Lachi Reddy	Dr. Y. Amar Babu

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DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

COURSE HANDOUT

PART-A

Name of Course Instructor : N. SrinivasaRao
Course Name & Code : PHP Programming - 17CS08
L-T-P Structure : 3-0-0 Credits : 3
Program/Sem/Sec : B.Tech., CSE., VI-Sem., A Sec. A.Y : 2020-21

PRE-REQUISITE: Students should have the knowledge of OOP language, web technologies.

COURSE EDUCATIONAL OBJECTIVES (CEOs): The main objective of the course is that the students will gain the knowledge necessary to design and develop dynamic, database-driven Web applications using PHP.

COURSE OUTCOMES (COs): At the end of the course, students are able to

CO 1	Identify the basic programming constructs of PHP.
CO 2	Develop programs using functions, strings and arrays.
CO 3	Apply object-oriented principles in PHP.
CO 4	Design interactive web pages by using jQuery & AJAX.
CO 5	Design data driven applications by using PHP.

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

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

TEXTBOOKS:

T1 Steven Holzner, - "PHP: The Complete Reference", McGraw-Hill Education, 2007.

T2 Kevin Tatroe, Peter MacIntyre, Rasmus Lerdorf,- "Programming in PHP", O'Reilly, 3rd Edition, 2013.

REFERENCE BOOKS:

R1 HTML 5 Black Book, Covers CSS 3, JavaScript, XML, XHTML, AJAX, PHP and jQuery DT Editorial Services Dreamtech Publications.

R2 Lynn Beighley, Michael Morrison, - "Head First PHP & MySQL: A Brain-Friendly Guide", O'Reilly, 1st Edition.

PART-B

COURSE DELIVERY PLAN (LESSON PLAN):

UNIT-I: INTRODUCTION TO PHP

S.No.	Topics to be covered	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	HOD Sign Weekly
1.	Introduction to Course and COs	1	30/03/2021		**TLM2 TLM5**	
2.	Introduction to PHP	1	03/04/2021		**TLM2 TLM5**	
3.	Evaluation of PHP	1	06/04/2021		**TLM2 TLM5**	
4.	Defining variable and constants, PHP Data types	1	10/04/2021		**TLM2 TLM5**	
5.	Operators and Expressions.	1	12/04/2021		**TLM2 TLM5**	
6.	Making Decisions, Assignment I	1	17/04/2021		**TLM2 TLM5,6**	
7.	doing Repetitive task with looping	1	19/04/2021		**TLM2 TLM5**	
8.	Mixing decisions and looping with HTML	1	20/04/2021		**TLM2 TLM5**	
No. of classes required to complete UNIT-I: 08				No. of classes taken:		

UNIT-II: FUNCTIONS, STRING & ARRAY

S.No.	Topics to be covered	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	HOD Sign Weekly
9.	Function, Define a function,	1	24/04/2021		**TLM2 TLM5**	
10.	Call by value & Call by reference	1	26/04/2021		**TLM2 TLM5**	
11.	Recursive functions	1	27/04/2021		**TLM2 TLM5**	
12.	Creating and accessing String, Searching & Replacing String	1	01/05/2021		**TLM2 TLM5**	
13.	Formatting String, String Related Library functions	1	03/05/2021		**TLM2 TLM5**	
14.	Anatomy of an Array,	1	04/05/2021		**TLM2**	

	Assignment II				**TLM5,6**	
15.	Creating Index based and Associative array & Looping	1	08/05/2021		**TLM2 TLM5**	
16.	Some useful library functions.	1	10/05/2021		**TLM2 TLM5**	
No. of classes required to complete UNIT-II: 08				No. of classes taken:		

UNIT-III: ADVANCE PHP

S.No.	Topics to be covered	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	HOD Sign Weekly
17.	Objects, Declaring a class, new keyword, constructor and Destructor	1	11/05/2021		**TLM2 TLM5**	
18.	Access method and properties using $this variable, Public, private, protected properties and methods	1	15/05/2021		**TLM2 TLM5**	
19.	Class constant, Inheritance	1	22/05/2021		**TLM2 TLM5**	
20.	Polymorphism, Parent :: & self :: keyword, Instance of operator	1	24/05/2021		**TLM2 TLM5**	
21.	Abstract method and class	1	25/05/2021		**TLM2 TLM5**	
22.	Interface, Final. Assignment III	1	29/05/2021		**TLM2 TLM5,6**	
23.	Understanding Exceptions	1	31/05/2021		**TLM2 TLM5**	
No. of classes required to complete UNIT-III: 07				No. of classes taken:		

UNIT-IV: PHP WITH SCRIPT

S.No.	Topics to be covered	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	HOD Sign Weekly
24.	Introduction to JQuery	1	01/06/2021		**TLM2 TLM5**	
25.	Validation using JQuery	1	05/06/2021		**TLM2 TLM5**	
26.	JQuery Forms	1	07/06/2021		**TLM2 TLM5**	
27.	JQuery Examples	1	08/06/2021		**TLM2 TLM5**	
28.	Introduction to AJAX	1	12/06/2021		**TLM2 TLM5**	
29.	PHP with AJAX, Assignment IV	1	14/06/2021		**TLM2 TLM5,6**	
30.	Working with database.	1	15/06/2021		**TLM2 TLM5**	
No. of classes required to complete UNIT-IV: 07				No. of classes taken:		

UNIT-V: PHP WEB SERVICES

S.No.	Topics to be covered	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	HOD Sign Weekly
31.	Capturing Form Data	1	19/06/2021		**TLM2 TLM5**	
32.	Dealing with Multi-value file	1	21/06/2021		**TLM2 TLM5**	

33.	generating File uploaded form, redirecting a form after submission	1	22/06/2021		**TLM2 TLM5**	
34.	Sessions, Forms GET and POST data	1	26/06/2021		**TLM2 TLM5**	
35.	Cookies, HTTP Headers	1	28/06/2021		**TLM2 TLM5**	
36.	Introduction to RDBMS	1	29/06/2021		**TLM2 TLM5**	
37.	Connection with MySQL Database	1	03/07/2021		**TLM2 TLM5**	
38.	Performing basic database operations (DML), Assignment V	1	05/07/2021		**TLM2 TLM5,6**	
39.	Setting query parameter, Executing query	1	06/07/2021		**TLM2 TLM5**	
No. of classes required to complete UNIT-V: 09				No. of classes taken:		

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

PART-C

EVALUATION PROCESS (R17 Regulations):

Evaluation Task	**Marks**
Assignment-I (Unit-I)	A1=5
Assignment-II (Unit-II)	A2=5
I-Mid Examination (Units-I & II)	M1=20
I-Quiz Examination (Units-I & II)	Q1=10
Assignment-III (Unit-III)	A3=5
Assignment-IV (Unit-IV)	A4=5
Assignment-V (Unit-V)	A5=5
II-Mid Examination (Units-III, IV & V)	M2=20
II-Quiz Examination (Units-III, IV & V)	Q2=10
Attendance	B=5
Assignment Marks = Average of A1, A2, A3, A4, A5	A=5
Mid Marks =75% of Max(M1,M2)+25% of Min(M1,M2)	M=20
Quiz Marks =75% of Max(Q1,Q2)+25% of Min(Q1,Q2)	Q=10
Cumulative Internal Examination (CIE) : A+B+M+Q	40
Semester End Examination (SEE)	60
Total Marks = CIE + SEE	100

PART-D

PROGRAMME OUTCOMES (POs):

PO 1	**Engineering knowledge**: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
PO 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.
PO 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.
PO 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.
PO 5	**Modern tool usage**: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations
PO 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
PO 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.
PO 8	**Ethic**s: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
PO 9	**Individual and teamwork**: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
PO 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.
PO 11	**Project management and finance**: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
PO 12	**Life-long learning**: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

PROGRAMME SPECIFIC OUTCOMES (PSOs):

PSO 1	The ability to apply Software Engineering practices and strategies in software project development using open-source programming environment for the success of organization.
PSO 2	The ability to design and develop computer programs in networking, web applications and IoT as per the society needs.
PSO 3	To inculcate an ability to analyze, design and implement database applications.

Course Instructor	Course Coordinator	Module Coordinator	HOD
(Mr. N. SrinivasaRao)	(Mr. N. SrinivasaRao)	(Dr. M. SrinivasaRao)	(Dr. D. Veeraiah)

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DEPARTMENT OF COMPUTER SCIENCE

COURSE HANDOUT
PART-A

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

ACADEMIC YEAR : 2020-21

COURSE NAME & CODE : Data Mining and Data Warehousing (DMDW) – 17CI16

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

COURSE CREDITS : 3

COURSE INSTRUCTOR : Mr. A. S. R. C. Murthy

COURSE COORDINATOR: Mr. A. S. R. C. Murthy

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): At the end of the course, students are able to

CO 1	Understand the basic concepts of data warehouse & data mining.
CO 2	Apply data pre-processing, generalization and data characterization techniques to provide suitable input for a range of data mining algorithms.
CO 3	Analyze and provide solutions for real world problems using mining association techniques.
CO 4	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

PART-B

COURSE DELIVERY PLAN (LESSON PLAN): Section-A & B

UNIT-I: Introduction to Data mining and 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	HOD Sign Weekly
1.	Fundamentals of data mining	1	30/03/21		**TLM1**	CO1	
2.	Data Mining functionalities and classification of data mining systems	1	01/04/21		**TLM1**	CO1	
3.	Major issues in data mining, Applications of data Mining	1	06/04/21		**TLM1**	CO1	
4.	Introduction to Data warehouse	1	09/04/21		**TLM1**	CO1	
5.	Introduction-Data, Info. Importance of DMDW	1	12/04/21		**TLM1**	CO1	
6.	Data warehouse Need, OLTP vs OLAP	1	15/04/21		**TLM1**	CO1	
7.	Multidimensional data models	1	16/04/21		**TLM1**	CO1	
8.	DWH Architecture	1	19/04/21		**TLM1**	CO1	

9.	Data warehouse Implementation	1	22/04/21		**TLM2**	CO1	
10.	Further development of data cube Technology, From DWH TO Data Mining	1	23/04/21		**TLM2**	CO1	
No. of classes required to complete UNIT-I		10	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	HOD Sign Weekly
11.	Why we need pre-processing	1	26/04/21		**TLM1**	CO2	
12.	Data Cleaning	1	27/04/21		**TLM1**	CO2	
13.	Data Integration	1	29/04/21		**TLM1**	CO2	
14.	Data Transformation	1	30/04/21		**TLM1**	CO2	
15.	Data Reduction	1	03/05/21		**TLM2**	CO2	
16.	Discretization & Concept hierarchy generation	1	04/05/21		**TLM3**	CO2	
17.	Data mining primitives	1	06/05/21		**TLM2**	CO2	
18.	DMQL,Concept description and Characterizations	1	07/05/21		**TLM2**	CO2	
19.	Class Comparisons, Data generalization and summarization based on characterization	1	10/05/21		**TLM2**	CO2	
20.	Analytical characterization Discrimination between different classes	1	11/05/21		**TLM2**	CO2	
21.	Descriptive Statistical Measures	1	13/05/21		**TLM2**	CO2	

No. of classes required to complete UNIT-II	11	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	HOD Sign Weekly
22.	Association rule mining,	1	20/05/21		**TLM1**	CO3	
23.	Frequent pattern, support and confidence	1	21/05/21		**TLM2**	CO3	
24.	Apriori algorithm	2	24/05/21 25/05/21		**TLM1**	CO3	
25.	FP growth algorithm	2	27/05/21 28/05/21		**TLM1**	CO3	
26.	Single dimensional Boolean association from transitional database	1	31/05/21		**TLM3**	CO3	
27.	Multi-level association rules from transitional databases	1	01/06/21		**TLM1**	CO3	
28.	From association rule mining to correlation analysis	1	03/06/21		**TLM2**	CO3	
29.	Constraint based association rule mining	1	04/06/21		**TLM2**	CO3	
No. of classes required to complete UNIT-III		10	No. of classes taken:				

UNIT-IV: Classification and Perdition 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	HOD Sign Weekly
30.	Issues regarding classification and	1	07/06/21		**TLM1**	CO4	
31.	Classification by decision tree induction	2	08/06/21		**TLM1**	CO4	
32.	Bayesian classification	1	10/06/21		**TLM1**	CO4	

33.	Support vector machine	1	11/06/21		**TLM2**	CO4	
34.	Classification based on concepts from association rule mining	1	14/06/21		**TLM1**	CO4	
35.	Rule based induction algorithm	1	15/06/21		**TLM1**	CO4	
36.	Prediction	1	17/06/21		**TLM1**	CO4	
37.	Classifier accuracy	1	18/06/21		**TLM1**	CO4	
38.	No. of classes required to complete UNIT-IV	9	No. of classes taken:				

UNIT-V: clustering and applications of data 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	HOD Sign Weekly
39.	Types of data in cluster analysis	1	21/06/21		**TLM2**	CO5	
40.	A categorization of major clustering methods	1	22/06/21		**TLM2**	CO5	
41.	Partitioning methods	1	24/06/21		**TLM2**	CO5	
42.	Density based methods	1	25/06/21		**TLM2**	CO5	
43.	Grid based methods	1	28/06/21		**TLM2**	CO5	
44.	Model based clustering methods	1	29/06/21		**TLM2**	CO5	
45.	Outlier analysis	1	01/07/21		**TLM3**		
46.	Overview of data mining applications	1	02/07/21		**TLM2**	CO5	
47.	Web mining introduction, terminology and characteristics	1	05/07/21		**TLM2**	CO5	
48.	Web content mining, Web usage mining	1	06/07/21		**TLM2**	CO5	

	and Web structure mining						
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
49.	Advanced topics in mining , Research topics related to social networking	1	04/04/2020					

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 Task	**Marks**
Assignment-I (Unit-I)	A1=5
Assignment-II (Unit-II)	A2=5
I-Mid Examination (Units-I & II)	M1=20
I-Quiz Examination (Units-I & II)	Q1=10
Assignment-III (Unit-III)	A3=5
Assignment-IV (Unit-IV)	A4=5
Assignment-V (Unit-V)	A5=5
II-Mid Examination (Units-III, IV & V)	M2=20
II-Quiz Examination (Units-III, IV & V)	Q2=10
Attendance	B=5
Assignment Marks = Best Four Average of A1, A2, A3, A4, A5	A=5
Mid Marks =75% of Max(M1,M2)+25% of Min(M1,M2)	M=20
Quiz Marks =75% of Max(Q1,Q2)+25% of Min(Q1,Q2)	B=10
Cumulative Internal Examination (CIE) : A+B+M+Q	40
Semester End Examination (SEE)	60

Total Marks = CIE + SEE	100

PART-D

PROGRAMME OUTCOMES (POs):

PO 1	**Engineering knowledge**: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
PO 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.
PO 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.
PO 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.
PO 5	**Modern tool usage**: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations
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PO 12	**Life-long learning**: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

PROGRAMME SPECIFIC OUTCOMES (PSOs):

PSO 1	The ability to apply Software Engineering practices and strategies in software project development using open-source programming environment for the success of organization.
PSO 2	The ability to design and develop computer programs in networking, web applications and IoT as per the society needs.
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Course Instructor **Course Coordinator** **Module Coordinator** **HOD**

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DEPARTMENT OF COMPUTER SCIENCE

COURSE HANDOUT

PART A

Name of Course Instructor : M. Sri Bala

Course Name & Code : Software Testing Methodologies- 17CS91

L-T-P Structure : 3-0-0 Credits : 3

Program/Sem/Sec : B.Tech., CSE., VI-Sem., Sections- A A.Y : 2020-21

PRE-REQUISITE **:** Software Engineering and UML

COURSE EDUCATIONAL OBJECTIVES (CEOs): The primary objective of this course is to know the importance of automation testing compared with manual testing and importance of testing in real life while developing any product/project which reduces the risk of a developer. To know how to prepare testing techniques by using flow graph, transition flows and reduction of path expressions. To study fundamental concepts in software testing including software testing objectives, process, criteria, strategies, and methods.

COURSE OUTCOMES (COs): After the completion of this course, student will be able to

CO1: Interpret a model for testing and understand the process of testing

CO2: Visualize control flow graph and demonstrate complete path testing to achieve C1+C2 and identify the complications in a transaction flow testing and anomalies in data flow testing.

CO3: Apply domain testing strategies for different domains..

CO4: Apply reduction procedures to control flow graph and simplify it into a single path expression and understand the use of decision tables in test case design.

CO5: Identify effective approach for node reduction.

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

COs	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2	PSO 3
CO1	3	2	-	-	-	-	-	-	-	-	-	-	-	-	3
CO2	2	3	2	-	-	-	-	-	-	-	-	-	-	-	3
CO3	3	2	1	-	-	-	-	-	-	-	-	-	-	-	3
CO4	2	3	1	-	-	-	-	-	-	-	-	-	-	-	3
CO5	2	3	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).

TEXT BOOKS:

T1 A Boris Biezer; "Software Testing Techniques"; International Thomson computer Press, Second edition

REFERENCE BOOKS:

R1 Brain Marick; "The Craft of Software Testing"; Prentice Hall Series in innovative technology.

R2 Renu Rajani Pradeep Oak, "Software Testing, Effective methods, Tools and Techniques", TMHI.

R3 Dr.K.V.K.K.Prasad, "Software Testing Tools", Dreamtech

R4 "Software Testing in the Real World ", Edward Kit, Pearson.

R5 Perry, John Wiley, "Effective methods of Software Testing".

R6 https://www.youtube.com/watch?v=gPE9emPFrwo

R7 https://freevideolectures.com › Computer Science › IIT Bombay

R8 NPTEL videos : https://nptel.ac.in/courses/106105150

PART – B

COURSE DELIVERY PLAN (LESSON PLAN):

UNIT-I : Purpose of Testing, Taxonomy of bugs.

S.No.	Topics to be covered	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	HOD Sign Weekly
1.	Introduction to Subject	1	30-03-2021		**TLM1**	
2.	Course Outcomes	1	09-04-2021		**TLM1**	
3.	Introduction to UNIT-I	1	10-04-2021		**TLM1**	
4.	Purpose of Testing	1	13-04-2021		**TLM1/ TLM2**	
5.	Dichotomies	1	16-04-2021		**TLM1/ TLM2**	
6.	model for testing	1	17-04-2021		**TLM1/ TLM2**	
7.	consequences of bugs	1	20-04-2021		**TLM1/ TLM2**	
8.	Taxonomy of bugs	1	23-04-2021		**TLM1/ TLM2**	
9.	TUTORIAL-1	1	24-04-2021		**TLM3**	
No. of classes required to complete UNIT-I: 9				No. of classes taken:		

UNIT-II : Flow Graphs and Path testing, Transaction flow and Data flow testing

S.No.	Topics to be covered	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	HOD Sign Weekly
10.	Introduction to UNIT-II	1	27-04-2021		**TLM1**	
11.	Basics concepts of path testing	1	27-04-2021		**TLM1**	
12.	predicates, path predicates and achievable paths	1	30-04-2021		**TLM1/ TLM2**	
13.	path sensitizing	1	01-05-2021		**TLM1**	
14.	path instrumentation, application of path testing	1	07-05-2021		**TLM1/ TLM2**	
15.	Transaction flow testing techniques	1	07-05-2021		**TLM1/ TLM2**	
16.	Basics of Data flow testing	1	08-05-2021		**TLM1/ TLM2**	
17.	strategies in dataflow testing	1	11-05-2021		**TLM1/ TLM2**	
18.	Application of dataflow testing	1	14-05-2021		**TLM1/ TLM2**	
19.	TUTORIAL-2	1	15-05-2021		**TLM3**	
No. of classes required to complete UNIT-II: 10				No. of classes taken:		
I MID EXAMINATIONS FROM 17-05-2021 TO 19-05-2021.						

UNIT-III : Domain Testing

S.No.	Topics to be covered	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	HOD Sign Weekly
20.	Introduction to UNIT-III	1	21-05-2021		**TLM1**	
21.	Domains and paths	1	22-05-2021		**TLM1/ TLM2**	
22.	Nice & ugly domains	1	25-05-2021		**TLM1/ TLM2**	
23.	domain testing	1	28-05-2021		**TLM1/ TLM2**	
24.	domains and interfaces testing	1	29-05-2021		**TLM1/ TLM2**	
25.	domains and testability	1	01-06-2021		**TLM1/ TLM2**	

26.	TUTORIAL-3	1	04-06-2021		**TLM3**	
No. of classes required to complete UNIT-III: 7				No. of classes taken:		

UNIT-IV : Paths, path products and Regular expressions, Logic Based Testing

S.No.	Topics to be covered	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	HOD Sign Weekly
27.	Introduction to UNIT-IV	1	05-06-2021		**TLM1**	
28.	Path products & path expression	1	08-06-2021		**TLM1/ TLM2**	
29.	Reduction Procedure	1	11-06-2021		**TLM1/ TLM2**	
30.	Applications	1	12-06-2021		**TLM1/ TLM2**	
31.	regular expressions & flow anomaly detection	1	15-06-2021		**TLM1/ TLM2**	
32.	Logic based testing Overview	1	18-06-2021		**TLM1/ TLM2**	
33.	decision tables , path expressions	1	19-06-2021		**TLM1/ TLM5**	
34.	kv charts, specifications	1	22-06-2021		**TLM1/ TLM2**	
35.	TUTORIAL-4	1	22-06-2021		**TLM3**	
No. of classes required to complete UNIT-IV: 9				No. of classes taken:		

UNIT-V : State, state graphs and Transition Testing, Graph matrices and Application

S.No.	Topics to be covered	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	HOD Sign Weekly
36.	Introduction to UNIT-V	1	25-06-2021		**TLM1**	
37.	State graphs	1	25-06-2021		**TLM1/ TLM2**	
38.	Good & Bad state graphs	1	26-06-2021		**TLM1/ TLM2**	
39.	State testing, Testability tips	1	29-06-2021		**TLM1/ TLM2**	
40.	Matrix of graph, Relations, power of a matrix	1	02-07-2021		**TLM1/ TLM2**	
41.	Node reduction algorithm Building Tools	1	03-07-2021		**TLM1/ TLM2**	
42.	Building tools	1	06-07-2021		**TLM1/ TLM2**	

No. of classes required to complete UNIT-V: 7	No. of classes taken:
II MID EXAMINATIONS FROM 08-07-2021 TO 10-07-2021	

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 (R17 Regulations):

Evaluation Task	**Marks**
Assignment-I (Unit-I)	A1=5
Assignment-II (Unit-II)	A2=5
I-Mid Examination (Units-I & II)	M1=20
I-Quiz Examination (Units-I & II)	Q1=10
Assignment-III (Unit-III)	A3=5
Assignment-IV (Unit-IV)	A4=5
Assignment-V (Unit-V)	A5=5
II-Mid Examination (Units-III, IV & V)	M2=20
II-Quiz Examination (Units-III, IV & V)	Q2=10
Attendance	B=5
Assignment Marks = Best Four Average of A1, A2, A3, A4, A5	A=5
Mid Marks =75% of Max(M1,M2)+25% of Min(M1,M2)	M=20
Quiz Marks =75% of Max(Q1,Q2)+25% of Min(Q1,Q2)	B=10
Cumulative Internal Examination (CIE) : A+B+M+Q	40
Semester End Examination (SEE)	60
Total Marks = CIE + SEE	100

PART-D

PROGRAMME OUTCOMES (POs):

PO 1	**Engineering knowledge**: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
PO 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.
PO 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.
PO 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.
PO 5	**Modern tool usage**: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations
PO 6	**The engineer and society**: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice
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PO 8	**Ethic**s: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
PO 9	**Individual and team work**: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
PO 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.
PO 11	**Project management and finance**: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
PO 12	**Life-long learning**: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

PROGRAMME SPECIFIC OUTCOMES (PSOs):

PSO 1	**Programming Paradigms:** To inculcate algorithmic thinking, formulation techniques and visualization, leading to problem solving skills using different programming paradigms.
PSO 2	**Data Engineering:** To inculcate an ability to analyze, design and implement data driven applications into the students.
PSO 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
(M. Sri Bala)	(M. Sri Bala)	(Dr.Ch.V.Narayana)	(Dr. D. Veeraiah)

LAKIREDDY BALI REDDY COLLEGE OF ENGINEERING

(AUTONOMOUS)
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L.B. REDDY NAGAR, MYLAVARAM, KRISHNA DIST., A.P.-521 230.
Phone: 08659-222933, Fax: 08659-222931

DEPARTMENT OF COMPUTER SCIENCE

COURSE HANDOUT

PART-A

Name of Course Instructor : U. RAMBABU
Course Name & Code : Industrial Engineering and management
L-T-P Structure : 3-0-0 Credits : 3
Program/Sem/Sec : B.Tech., CSE., VI-Sem., Sections- A A.Y : 2019-20

PRE-REQUISITE:

Course Objectives: NIL

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 be Able To:

1. Apply management principles to the particle situations to be able to know which type of business organisation structure suits.
2. Determine decision making relating to the problems in operations and production activities.
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	1						2	2	2	1		1			
CO2					2							1			
CO3		2					2				2	1			
CO4								2	2	2		1			
CO5					2		2				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).

Textbooks:

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. Khanna, Industrial engineering and Management

R4: L.S. Srinath, PERT & CPM

PART-B

COURSE DELIVERY PLAN (LESSON PLAN):

UNIT-I: introduction to Management

S.No.	Topics to be covered	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	HOD Sign Weekly
93.	Introduction to Subject & Course Outcomes	1	29-03-2021		TLM1	
94.	Management Introduction and Definition	1	01-04-2021		TLM1	
95.	Nature Importance of management	1	08-04-2021		TLM2	
96.	Functions	1	09-04-2021		TLM2	
97.	Taylor's scientific management theory	1	12-04-2021		TLM2	
98.	Fayal's principles of management	1	15-04-2021		TLM2	
99.	Contribution of Elton mayo & MASLOW theory	1	16-04-2021		TLM2	
100.	Herzberg theory of motivation & Douglas MC Gregor theory of motivation	1	19-04-2021		TLM2	
101.	Organization Basic concept: Authority & responsibility & Delegation of Authority	1	22-04-2021		TLM2	
102.	Span of control & Departmentation and Decentralization	1	23-04-2021		TLM2	
103.	Organization structure: line organization structure, Line, and staff organization &	1	26-04-2021		TLM2	
104.	Functional organization, Committee & Matrix organization	1	29-04-2021		TLM2	
No. of classes required to complete UNIT-I:12				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	HOD Sign Weekly
11.	Plant location and Factors influencing location	1	30-04-2021		TLM2	
12.	Objectives and Principles of plant layout	1	03-05-2021		TLM2	
13.	types of plant layouts	1	06-05-2021		TLM2	
14.	Methods of production: job batch and mass production	1	07-05-2021		TLM2	
15.	Work study: Basic procedure involved in method study work measurement	1	10-05-2021		TLM2	
16.	Basic procedure involved in method study work measurement	1	13-05-2021		TLM2	
17.	Time study problems	1	14-05-2021		TLM2	
18.	I MID EXAM	1	17-05-2021			
No. of classes required to complete UNIT-II:07				No. of classes taken:		

UNIT-III: Statistical quality control & Materials Management

S.No.	Topics to be covered	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	HOD Sign Weekly
11.	Statistical quality control Meaning	1	20-05-2021		TLM2	
12.	Variables and attributes & X chart problems and R	1	21-05-2021		TLM2	
13.	C Chart problems AND P Chart problems	1	24-05-2021		TLM1	
14.	Acceptance sampling & Sampling plans & Deming's contribution to quality	1	27-05-2021		TLM2	
15.	Materials management: Objectives of Materials management, Need for inventory control	1	28-05-2021		TLM1	
16.	Purchase procedure, Store records	1	31-05-2021		TLM2	
17.	Methods of inventory control: ABC analysis & EOQ analysis EOQ Problems	1	03-06-2021		TLM2	
18.	Stock levels & Problems on stock levels	1	04-06-2021		TLM2	
No. of classes required to complete UNIT-III:08				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	HOD Sign Weekly
10.	Concepts of HRM: Basic functions of HR manager	1	07-06-2021		TLM2	
11.	Manpower planning	1	10-06-2021		TLM2	
12.	Recruitment & Selection & Training and development	1	11-06-2021		TLM2	
13.	Placement, Wage, and salary administration	1	14-06-2021		TLM2	
14.	Promotion, Transfer & Separation &	1	17-06-2021		TLM2	
15.	Performance Appraisal	1	18-06-2021		TLM2	
16.	Job evaluation & Merit rating	1	21-06-2021		TLM2	
No. of classes required to complete UNIT-IV:07				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	HOD Sign Weekly
9.	**Project management: Introduction** Early techniques in project management	1	24-06-2021		TLM2	
10.	Network analysis & Rules for drawing of networks and Critical path method	1	25-06-2021		TLM2	
11.	Problems on CPM & Identifying critical path	1	28-06-2021		TLM1	
12.	Programme evaluation and review technique (PERT)	1	01-07-2021		TLM1	
13.	Project cost analysis, project crashing	1	02-07-2021		TLM1	
14.	Content beyond the syllabus (online trading)	1	05-07-2021		TLM1	
15.	II MID EXAM	1	08-07-2021			
16.	II MID EXAM	1	09-07-2021			
No. of classes required to complete UNIT-V:06				No. of classes taken:		

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 (R17 Regulations):

Evaluation Task	**Marks**
Assignment-I (Unit-I)	A1=5
Assignment-II (Unit-II)	A2=5
I-Mid Examination (Units-I & II)	M1=20
I-Quiz Examination (Units-I & II)	Q1=10
Assignment-III (Unit-III)	A3=5
Assignment-IV (Unit-IV)	A4=5
Assignment-V (Unit-V)	A5=5
II-Mid Examination (Units-III, IV & V)	M2=20
II-Quiz Examination (Units-III, IV & V)	Q2=10
Attendance	B=5
Assignment Marks = Best Four Average of A1, A2, A3, A4, A5	A=5
Mid Marks =75% of Max(M1,M2)+25% of Min(M1,M2)	M=20
Quiz Marks =75% of Max(Q1,Q2)+25% of Min(Q1,Q2)	B=10
Cumulative Internal Examination (CIE) : A+B+M+Q	40
Semester End Examination (SEE)	60
Total Marks = CIE + SEE	100

PART-D

PROGRAMME OUTCOMES (POs):

PO 1	**Engineering knowledge**: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
PO 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.
PO 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.
PO 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.
PO 5	**Modern tool usage**: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations

PO 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
PO 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.
PO 8	**Ethic**s: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
PO 9	**Individual and team work**: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
PO 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.
PO 11	**Project management and finance**: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
PO 12	**Life-long learning**: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

PROGRAMME SPECIFIC OUTCOMES (PSOs):

PSO 1	The ability to apply Software Engineering practices and strategies in software project development using open-source programming environment for the success of organization.
PSO 2	The ability to design and develop computer programs in networking, web applications and IoT as per the society needs.
PSO 3	To inculcate an ability to analyze, design and implement database applications.

Course Instructor	Course Coordinator	Module Coordinator	HOD
(U.RAMBABU)	(U.RAMBABU)	(U.RAMBABU)	(Dr.A.Adisesha Reddy)

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DEPARTMENT OF COMPUTER SCIENCE

ONLINE - COURSE HANDOUT
Part-A

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

ACADEMIC YEAR : 2020-21

COURSE NAME & CODE : PRESENTATION SKILLS - 17FE61
L-T-P STRUCTURE : 0-0-2

COURSE CREDITS : 1

COURSE INSTRUCTOR : Anuradha Matta
Mrs. K. Sridevi

COURSE COORDINATOR : Dr.B.Samrajya Lakshmi

PRE-REQUISITES : Students should have fundamental knowledge in making conversations in English and be with readiness to speak

Course Educational Objective : To help students make oral presentations, power point presentations, participate in group discussions and write project/research/technical reports/formal letters by gathering information and organizing ideas relevantly and coherently.

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

CO1 : Make power point presentations and oral presentations
CO2 : Use standard vocabulary contextually
CO3 : Manage skillfully through group discussions.
CO4 : Negotiate skillfully for better placement.

Course Articulation Matrix:

Course		Program Outcomes (POs)											
17FE61	POs→	1	2	3	4	5	6	7	8	9	10	11	12
	CO1		1		3		2			3	3		2
	CO2		1		3		2			3	3		2
	CO3		1		3		2			3	3		2
	CO4		1		3		2			3	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 Lab Manual:

- Board of Editors, "ELCS Lab Manual – A Workbook of CALL and ICS Lab Activities", Orient Black Swan Pvt. Ltd., Hyderabad, 2016.

Part-B

COURSE DELIVERY PLAN (LESSON PLAN):

S.No.	Activity	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	Learning Outcome COs	HOD Sign Weekly
1.	Self Introduction	2	26/3/21& 30/3/21		TLM4		
2.	JAM- I	2	06/4/21 & 09/4/21		TLM4	CO1	
3.	JAM-II (Extempore/ Public Speech)	2	16/4/21& 23/4/21		TLM4	CO1	
4.	Vocabulary(Synonyms/Antonyms	2	27/4/21 & 30/4/21		TLM4, TLM6	CO3	
5.	One word substitutes, idioms	2	4/5/21& 7/5/21		TLM4, TLM6	CO3	
6.	Reading Comprehension/Listening Comprehension	2	11/5/21&18/5/21		TLM3	CO2	
7.	Poster Presentation	2	21/5/21&25/5/21		TLM2, TLM4	CO1	
8.	Power point Presentation	2	28/5/21 & 2/6/21		TLM2, TLM4	CO1	
9.	Vocabulary(Synonyms/Antonyms /one-word substitutes/analogy/ idioms)	2	4/6/21& 8/6/21		TLM1, TLM3	CO2	
10.	Group Discussion	2	11/6/21&15/6/21		TLM4, TLM6	CO3	
11.	Group Discussion	2	18/6/21		TLM4, TLM6	CO3	
12.	Letter & Résumé writing	1	22/6/21		TLM1, TLM3	CO4	
13.	Mock Interviews	1	29/6/21		TLM6	CO4	
14.	Internal Lab Exam	1	2/7/21				
15.	Total	26					

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:

According to Academic Regulations of R17 Distribution and Weightage of Marks For Laboratory Courses is as follows.

(a) Continuous Internal Evaluation (CIE):

- ✓ The continuous internal evaluation for laboratory courses (including Computer aided engineering drawing, computer aided engineering graphics, Computer aided machine drawing etc.) is based on the following parameters:

Parameter		Marks
Day – to – Day Work	Observation	10 Marks
	Record	10 Marks
Internal Test		10 Marks
Attendance		05 Marks
Viva – Voce During Regular Lab Sessions		05 Marks
Total		**40 Marks**

(b) Semester End Examinations (SEE:

- ✓ The performance of the student in laboratory courses shall be evaluated jointly by internal and external examiners for 3 hours duration as per the parameters indicated below:

% of Attendance	Marks
≥ 95	05 Marks
90 to < 95	04 Marks
85 to < 90	03 Marks
80 to < 85	02 Marks
75 to < 80	01 Mark

Parameter	Marks

Phonemes	05 Marks
Short answers on phonetics	05 Marks
Transcription	10 Marks
Dialogue writing	10 Marks
Presentation	10 Marks
Interview	20 Marks
Total	**60 Marks**

Rubrics For Evaluation of Laboratory Courses

Day-To-Day Lab (Observation) Performance Evaluation (R-17)					**Record Performance Evaluation (R-17)**			
S.N	**Criteria**	**Poor**	**Average**	**Good**	**Criteria**	**Poor**	**Average**	**Good**
1	Language suitability **(4 Marks)**	Wrong usage of words Grammatical errors **(2 Marks)**	Some points are missing from the data written Wrong usage of grammar & vocabulary. **(3 Marks)**	Well-written & spoken Language is error free **(4 Marks)**	Language **(4 Marks)**	Language used is not suitable Full of incorrect vocabulary **(2 Marks)**	Some words are inappropriately used / wrongly spelt **(3Marks)**	Language used is good No word/ spelling errors **(4 Marks)**
2	Content **(4Marks)**	Unable to Deliver all the pints Delivering Irrelevant point **(2 Marks)**	Some points are not given Point analysis is not upto the mark **(3 Marks)**	All the points are analysed properly More content was delivered. **(4 Marks)**	Content **(4 Marks)**	Very less points were written Points were not analysed properly **(2 Marks)**	Some of the points were missing Some points are not properly analysed **(3 Marks)**	Complete information is provided for the topic Important information is provided with illustrations/ exaamples **(4 Marks)**
3	Style of Presentation **(2 Marks)**	Inappropriate body language Improper prentation **(0 Marks)**	Prentation is not upto the mark **(1 Mark)**	Presented well with appropriate ettiquett All important conclusions have been clearly made, student shows good understanding of the topic. **(2 Marks)**	Grammar & Neatness **(2 Mark)**	Frequent grammar and/r spelling errors writing style is rough and immature **(1/2 Mark)**	Some grammatical errors **(1 Marks)**	No grammar/ spelling corrections are found and well-written **(2 Marks)**

PROGRAMME EDUCATIONAL OBJECTIVES (PEOs)

PEO1: To Attain a solid foundation in Electronics & Communication Engineering fundamentals with an attitude to pursue continuing education.

PEO2: To Function professionally in the rapidly changing world with advances in technology

PEO3: To Contribute to the needs of the society in solving technical problems using Electronics & Communication Engineering principles, tools and practices.

PEO4: To Exercise leadership qualities, at levels appropriate to their experience, this addresses issues in a responsive, ethical, and innovative manner

PROGRAMME OUTCOMES (POs)

PO1. **Engineering knowledge**: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

PO2. **Problem analysis**: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

PO3. **Design/development of solutions**: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

PO4. **Conduct investigations of complex problems**: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

PO5. **Modern tool usage**: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.

PO6. **The engineer and society**: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

PO7: **Environment and sustainability**: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

PO8: Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

PO9: Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

PO10: Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

PO11: Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

PO12: Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

Name of the Faculty	Name of Module Coordinator	HOD
1. M.Anuradha 2. Mrs. K. Sridevi	Dr. B. Samrajya Lakshmi	Dr. A. Rami Reddy

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DEPARTMENT OF COMPUTER SCIENCE

	LESSON PLAN	Date:
	Sub. Name : DMDW LAB **Branch: CSE: Semester & Section: VI A&B**	**29/03/2021** **To** **07/07/2021**

DMDW LAB – 17CI67

Lecture : 2 Periods/week **Internal Marks : 40**

External Marks : 60

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

Course Educational Objectives:

The main objective of the course is, student will be familiar with different data mining algorithms and able to learn the supervised and unsupervised techniques with various data mining tools.

Course Outcomes:

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

CO1: Understand the need of data mining and the details of different algorithms made available by popular commercial data mining software.

CO2: Solve real data mining problems by using association mining techniques with modern tools / programming.

CO3: Solve real data mining problems by using Supervised/Unsupervised mining techniques with modern tools / programming.

CO4: Improve individual / team work skills, communication & report writing skills with ethical values.

Pre requisite: DBMS, probability and statistics

	Lakireddy Bali Reddy College of Engineering	
	Department of CSE	
	Outcome based lesson plan	
	Academic year: 2019-2020	Course: DMDW LAB
	Programme: B.Tech	Exp No: 1 to 14
	Year & Sem: III & II (VI 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 Cycles	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-A sec

S.NO	TOPIC TO BE COVERED	Date		TLP	DM	AM
		Tentative	Actual			
1	Introduction to Weka tool	31/03/21		1	1,2	2,4,6
2	Cycle-1	07/04/21		1	1,2	
3	Cycle-2	28/04/21		1	1,2	
4	Cycle-3	05/05/21		1	1,2	
5	Cycle-4	12/05/21		1	1,2	
6	Cycle-5	19/05/21		1	1,2	
7	Cycle-6	26/05/21		1	1,2	
8	Cycle-7	02/07/21		1	1,2	
09	Cycle-8	09/07/21		1	1,2	
10	Cycle-9	16/07/21		1	1,2,7	
11	Cycle-10	23/07/21		1	1,2,7	

12	Cycle-11	30/07/21		1	1,2,7	
13	Internal Exam	07/07/21		1	1,2,7	

Detailed Lesson Plan-B sec

S.NO	TOPIC TO BE COVERED	Date		TLP	DM	AM
		Tentative	Actual			
1	Introduction to Weka tool	03/04/21		1	1,2	2,4,6
2	Cycle-1	10/04/21		1	1,2	
3	Cycle-2	17/04/21		1	1,2	
4	Cycle-3	24/04/21		1	1,2	
5	Cycle-4	01/05/21		1	1,2	
6	Cycle-5	08/05/21		1	1,2	
7	Cycle-6	15/05/21		1	1,2	
8	Cycle-7	22/05/21		1	1,2	
09	Cycle-8	29/05/21		1	1,2	
10	Cycle-9	05/06/21		1	1,2,7	
11	Cycle-10	12/06/21		1	1,2,7	
12	Cycle-11	19/06/21		1	1,2,7	
13	Cycle-12	26/06/21		1	1,2,7	
14	Internal Exam	03/07/21				

Assessment Summary:

Assessment Task	Weight age (Marks)	**Course Outcomes**			
		CO1	CO2	CO3	CO4
Day-Day Performance	20				

Viva	05				
Internal Test	10				
Attendance	5				
End Exam	60				
Total	100				

Mapping Course Outcomes with Programme Outcomes:

Course Code	Programme Outcomes														
	COs	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
17CI66	CO1	2	3	1	-	3	-	-	-	-	-	-	2	2	3	-
	CO2	2	2	3	2	3	2	-	-	-	-	-	2	2	3	-
	CO3	2	2	3	2	3	2	-	-	-	-	-	2	2	3	-
	CO4	-	-	-	-	-	-	-	2	2	2	-	-	-	-	-

1 = Slight (Low) 2 = Moderate (Medium) 3-Substantial (High)

	Instructor	Course Coordinator	Module Coordinator	HOD
Name	A S R C MURTHY	A S R C MURTHY	Dr. M. S. Rao	Dr. D. Veeraiah
Sign with Date				

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DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

DEPARTMENT OF COMPUTER SCIENCE &ENGINEERING

COURSE HANDOUT

Part-A

PROGRAM	**:**	**B.Tech.(CSE),VI-Semester(Sec B)**
ACADEMIC YEAR	**:**	**2020-2021**
COURSE CODE&NAME	**:**	**17CI17 &**
		Data Communications and Computer Networks
L-T-P STRUCTURE	**:**	**3 - -**
COURSE CREDITS	**:**	**3**
COURSE INSTRUCTOR	**:**	**Dr O.Rama Devi**
PRE-REQUISITES	**:**	**Computer Fundamentals**

COURSE EDUCATIONAL OBJECTIVES (CEOs):

In this course, students will learn about Protocols, network standards, the OSI model, IP addressing, cabling, networking components and basic LAN design. Existing state of art in network protocols, architectures and its applications. Functionalities and Applications of Various OSI and TCP/IP layers.

COURSE OUTCOMES (COs):

On successful completion of the course, students will be able to:

CO1: Understand how the data is transmitted from point-to-point.

CO2: Summarize Data Link Layer Protocols.

CO3: Analyze different Medium Access Control protocols.

CO4: Evaluate different routing protocols and Transport layer protocols.

CO5: Understand the concepts of Presentation and Application Layer Protocols.

Course Articulation Matrix (Correlation between COs&POs,PSOs):

COs	PO1	PO2	PO3	PO4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PS O1	PS O2	PS O3
CO1	2	2	2	-	-	-	-	-	-	-	-	1	-	2	-
CO2	1	2	2	-	-	-	-	-	-	-	-	1	-	2	-
CO3	1	3	3	-	-	-	-	-	-	-	-	1	-	2	-
CO4	2	3	3	1	-	-	-	-	-	-	-	1	-	2	-
CO5	2	2	2	-	-	-	-	-	-	-	-	1	-	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 A. S. Tanenbaum ―Computer Network: Second Ed. Prentice Hall, India (tan).

T2 B. A. Frouzan, Data Communication, Tata Mc Graw Hill.

BOS APPROVED REFERENCE BOOKS:

R1 D. Berekas an R. Gallager, ―Data Networks:, second Ed. Prentice Hall, India.

R2 D. E. Coner, ―Intertworking with TCP/IP‖, Vol-I.Prentice Hall India.

R3 G. E. Keiser, ―Local Area Network‖, Mc Graw Hill, International Ed.

R4 W. Stalling, ―Data & Computer Communications‖, Maxwell Macmillan Internation Ed.

R5 http://web.mit.edu/dimitrib/www/datanets.html

Part-B

COURSE DELIVERY PLAN (LESSON PLAN): Section-B

UNIT-I: INTRODUCTION TO DATA COMMUNICATION TECHNIQUES & PHYSICAL LAYER

S.No.	Topics to be covered	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	HOD Sign Weekly
1.	Discussion of Cos and CEOs of the course	1	30-3-2021		TLM1&2	
2.	Introduction to Data Communication and Computer Networks	1	1-4-2021		TLM1&2	
3.	Use of Computer Networks	1	6-4-2021		TLM1&2	
4.	Reference models: ISO OSI model, TCP/IP model	1	8-4-2021		TLM1&2	
5.	Reference models: ISO OSI model, TCP/IP model	1	9-4-2021		TLM1&2	
6.	Example Networks: The In Pulse Code Modulation (PCM)	1	15-4-2021		TLM1&2	
7.	Delta Modulation (DM), Multiplexing Techniques, Frequency Division	1	16-4-2021		TLM1&2	
8.	The theoretical basis for Data communication	1	20-4-2021		TLM1&2	
9.	Twisted pair, Coaxial cable, Fiber optics	1	22-4-2021		TLM1&2	
10.	Error detection and correction Single and Parity check codes, CRC, Hamming Code	1	23-4-2021		TLM1&2	
No. of classes required to complete UNIT-I 10				No. of classes taken:		

UNIT-II: DATA LINK LAYER PROTOCOLS

S.No.	Topics to be covered	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	HOD Sign Weekly
11.	Introduction to DLL	1	27-4-2021		TLM1&2	
12.	Data link layer design issues	1	29-4-2021		TLM1&2	
13.	Elementary data link protocols	1	30-4-2021		TLM1&2	
14.	Stop & Wait protocols	1	4-5-2021		TLM1&2	
15.	Sliding window protocols-one-bit,	1	6-5-2021		TLM1&2	
16.	go-back N, selective repeat	1	7-5-2021		TLM1&2	
17.	performance and efficiency, verification of protocol	1	11-5-2021		TLM1&2	
18.	HDLC data link protocol	1	13-5-2021		TLM1&2	
No. of classes required to complete UNIT-II 8				No. of classes taken:		

UNIT-III: MEDIUM ACCESS CONTROL SUB LAYER

S.No.	Topics to be covered	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	HOD Sign Weekly
19.	Concept of Random Access	1	20-5-2021		TLM1&2	
20.	Pure ALOHA throughput characteristics of ALOHA, S-ALOHA.	1	21-5-2021		TLM1&2	
21.	EEE 802.3, 802.4 and 802.5 Protocols	1	25-5-2021		TLM1&2	
22.	performance of Ethernet. Token Ring Protocol, FDDI Protocol	1	27-5-2021		TLM1&2	
23.	Virtual circuits and datagram‘s	1	28-5-2021		TLM1&2	
24.	Windows flow control, Packet Discarding,	1	1-6-2021		TLM1&2	
25.	Traffic Shaping, Choke RSVP	1	3-6-2021		TLM1&2	

26.	Bridges, Routers and Gateways	1	4-6-2021		TLM1&2	
No. of classes required to complete UNIT-III 8			No. of classes taken:			

UNIT-IV: NETWORK AND TRANSPORT LAYER PROTOCOLS

S.No.	Topics to be covered	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	HOD Sign Weekly
27.	Introduction to Transport Layer and Network Layer, Optimality principle	1	8-6-2021		TLM1&2	
28.	Dijkstra, Flooding and broadcasting	1	10-6-2021		TLM1&2	
29.	distance vector routing, link state routing	1	11-6-2021		TLM1&2	
30.	flow based routing, Multicasting routing, flow and congestion control	1	15-6-2021		TLM1&2	
31.	Internet Architecture and Addressing.	1	17-6-2021		TLM1&2	
32.	Design issues, Quality of Services	1	18-06-2021		TLM1&2	
33.	Connection Establishment and Releases, TCP,UDP	1	22-6-2021		TLM1&2	
No. of classes required to complete UNIT-IV 7			No. of classes taken:			

UNIT-V: PRESENTATION AND APPLICATION LAYER PROTOCOLS

S.No.	Topics to be covered	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	HOD Sign Weekly
34.	Introduction to Application Layer	1	24-6-2021		TLM1&2	
35.	Electronic Mail	1	25-6-2021		TLM1&2	
36.	SMTP	1	29-6-2021		TLM1&2	
37.	HTTP	1	1-7-2021		TLM1&2	
38.	Substitutions and Transposition Ciphers,) ,Data	1	2-7-2021		TLM1&2	

	Encryption Standard (DES)					
39.	RSA algorithm	1	6-7-2021		TLM1&2	
No. of classes required to complete UNIT-V 6				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	HOD Sign
40.	DNS	1	6-7-2021		TLM1&2	

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	Marks
Assignment-I (Unit-I)	A1=5
Assignment-II (Unit-II)	A2=5
I-Mid Examination (Units-I & II)	M1=20
I-Quiz Examination (Units-I & II)	Q1=10
Assignment-III (Unit-III)	A3=5
Assignment-IV (Unit-IV)	A4=5
Assignment-V (Unit-V)	A5=5
II-Mid Examination (Units-III, IV & V)	M2=20
II-Quiz Examination (Units-III, IV & V)	Q2=10
Attendance	B=5
Assignment Marks = Best Four Average of A1, A2, A3, A4, A5	A=5
Mid Marks =75% of Max(M1,M2)+25% of Min(M1,M2)	M=20
Quiz Marks =75% of Max(Q1,Q2)+25% of Min(Q1,Q2)	B=10
Cumulative Internal Examination (CIE) : A+B+M+Q	40
Semester End Examination (SEE)	60
Total Marks = CIE + SEE	100

ACADEMIC CALENDAR:

Description	From	To	Weeks
Commencement of Class Work	29/03/2021		
I Phase of Instructions	29/03/2021	15/05/2021	7W
I Mid Examinations	17/05/2021	19/05/2021	1/2W
II Phase of Instructions	20/05/2021	07/07/2021	7W
II Mid Examinations	08/07/2021	10/07/21	1/2W
Preparation and Practical's	12/07/2021	17/07/2021	1W
Semester End Examinations	19/07/2021	31/07/2021	2W

PART-D

PROGRAMME OUTCOMES (POs):

PO 1	**Engineering knowledge**: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
PO 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.
PO 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.
PO 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.
PO 5	**Modern tool usage**: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations
PO 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
PO 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.
PO 8	**Ethic**s: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
PO 9	**Individual and team work**: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
PO 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.
PO 11	**Project management and finance**: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
PO 12	**Life-long learning**: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

PROGRAMME SPECIFIC OUTCOMES (PSOs)

The ability to apply Software Engineering practices and strategies in software project development using open source programming environment for the success of organization..
The ability to design and develop computer programs in networking, web applications and IoT as per the society needs.
To inculcate an ability to analyze, design and implement database applications.

Course Instructor	Course Coordinator	Module Coordinator	HOD
(Dr O.Rama Devi)	(Dr O.Rama Devi)	(Dr D.JaganMohan Reddy)	(Dr D.Veeraiah)

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DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

COURSE HANDOUT
PART-A

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

ACADEMIC YEAR : 2020-21

COURSE NAME & CODE : Data Mining and Data Warehousing (DMDW) – 17CI16

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

COURSE CREDITS : 3

COURSE INSTRUCTOR : Mr. A. S. R. C. Murthy

COURSE COORDINATOR: Mr. A. S. R. C. Murthy

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): At the end of the course, students are able to

CO 1	Understand the basic concepts of data warehouse & data mining.
CO 2	Apply data pre-processing, generalization and data characterization techniques to provide suitable input for a range of data mining algorithms.
CO 3	Analyze and provide solutions for real world problems using mining association techniques.
CO 4	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

PART-B

COURSE DELIVERY PLAN (LESSON PLAN): Section-A & B

UNIT-I: Introduction to Data mining and 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	HOD Sign Weekly
1.	Fundamentals of data mining	1	30/03/21		**TLM1**	CO1	
2.	Data Mining functionalities and classification of data mining systems	1	01/04/21		**TLM1**	CO1	
3.	Major issues in data mining, Applications of data Mining	1	06/04/21		**TLM1**	CO1	
4.	Introduction to Data warehouse	1	09/04/21		**TLM1**	CO1	
5.	Introduction-Data, Info. Importance of DMDW	1	12/04/21		**TLM1**	CO1	
6.	Data warehouse Need, OLTP vs OLAP	1	15/04/21		**TLM1**	CO1	
7.	Multidimensional data models	1	16/04/21		**TLM1**	CO1	
8.	DWH Architecture	1	19/04/21		**TLM1**	CO1	
9.	Data warehouse Implementation	1	22/04/21		**TLM2**	CO1	

10.	Further development of data cube Technology, From DWH TO Data Mining	1	23/04/21		**TLM2**	CO1	
No. of classes required to complete UNIT-I		10	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	HOD Sign Weekly
11.	Why we need pre-processing	1	26/04/21		**TLM1**	CO2	
12.	Data Cleaning	1	27/04/21		**TLM1**	CO2	
13.	Data Integration	1	29/04/21		**TLM1**	CO2	
14.	Data Transformation	1	30/04/21		**TLM1**	CO2	
15.	Data Reduction	1	03/05/21		**TLM2**	CO2	
16.	Discretization & Concept hierarchy generation	1	04/05/21		**TLM3**	CO2	
17.	Data mining primitives	1	06/05/21		**TLM2**	CO2	
18.	DMQL,Concept description and Characterizations	1	07/05/21		**TLM2**	CO2	
19.	Class Comparisons, Data generalization and summarization based on characterization	1	10/05/21		**TLM2**	CO2	
20.	Analytical characterization Discrimination between different classes	1	11/05/21		**TLM2**	CO2	
21.	Descriptive Statistical Measures	1	13/05/21		**TLM2**	CO2	
No. of classes required to complete UNIT-II		11	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	HOD Sign Weekly
22.	Association rule mining,	1	20/05/21		**TLM1**	CO3	
23.	Frequent pattern, support and confidence	1	21/05/21		**TLM2**	CO3	
24.	Apriori algorithm	2	24/05/21 25/05/21		**TLM1**	CO3	
25.	FP growth algorithm	2	27/05/21 28/05/21		**TLM1**	CO3	
26.	Single dimensional Boolean association from transitional database	1	31/05/21		**TLM3**	CO3	
27.	Multi-level association rules from transitional databases	1	01/06/21		**TLM1**	CO3	
28.	From association rule mining to correlation analysis	1	03/06/21		**TLM2**	CO3	
29.	Constraint based association rule mining	1	04/06/21		**TLM2**	CO3	
No. of classes required to complete UNIT-III		10	No. of classes taken:				

UNIT-IV: Classification and Perdition 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	HOD Sign Weekly
30.	Issues regarding classification and	1	07/06/21		**TLM1**	CO4	
31.	Classification by decision tree induction	2	08/06/21		**TLM1**	CO4	
32.	Bayesian classification	1	10/06/21		**TLM1**	CO4	
33.	Support vector machine	1	11/06/21		**TLM2**	CO4	

34.	Classification based on concepts from association rule mining	1	14/06/21		**TLM1**	CO4	
35.	Rule based induction algorithm	1	15/06/21		**TLM1**	CO4	
36.	Prediction	1	17/06/21		**TLM1**	CO4	
37.	Classifier accuracy	1	18/06/21		**TLM1**	CO4	
38.	No. of classes required to complete UNIT-IV	9	No. of classes taken:				

UNIT-V: clustering and applications of data 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	HOD Sign Weekly
39.	Types of data in cluster analysis	1	21/06/21		**TLM2**	CO5	
40.	A categorization of major clustering methods	1	22/06/21		**TLM2**	CO5	
41.	Partitioning methods	1	24/06/21		**TLM2**	CO5	
42.	Density based methods	1	25/06/21		**TLM2**	CO5	
43.	Grid based methods	1	28/06/21		**TLM2**	CO5	
44.	Model based clustering methods	1	29/06/21		**TLM2**	CO5	
45.	Outlier analysis	1	01/07/21		**TLM3**		
46.	Overview of data mining applications	1	02/07/21		**TLM2**	CO5	
47.	Web mining introduction, terminology and characteristics	1	05/07/21		**TLM2**	CO5	
48.	Web content mining, Web usage mining and Web structure mining	1	06/07/21		**TLM2**	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
49.	Advanced topics in mining , Research topics related to social networking	1	04/04/2020					

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 Task	**Marks**
Assignment-I (Unit-I)	A1=5
Assignment-II (Unit-II)	A2=5
I-Mid Examination (Units-I & II)	M1=20
I-Quiz Examination (Units-I & II)	Q1=10
Assignment-III (Unit-III)	A3=5
Assignment-IV (Unit-IV)	A4=5
Assignment-V (Unit-V)	A5=5
II-Mid Examination (Units-III, IV & V)	M2=20
II-Quiz Examination (Units-III, IV & V)	Q2=10
Attendance	B=5
Assignment Marks = Best Four Average of A1, A2, A3, A4, A5	A=5
Mid Marks =75% of Max(M1,M2)+25% of Min(M1,M2)	M=20
Quiz Marks =75% of Max(Q1,Q2)+25% of Min(Q1,Q2)	B=10
Cumulative Internal Examination (CIE) : A+B+M+Q	40

Semester End Examination (SEE)	60
Total Marks = CIE + SEE	100

PART-D

PROGRAMME OUTCOMES (POs):

PO 1	**Engineering knowledge**: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
PO 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.
PO 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.
PO 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.
PO 5	**Modern tool usage**: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations
PO 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
PO 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.
PO 8	**Ethic**s: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
PO 9	**Individual and team work**: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
PO 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.
PO 11	**Project management and finance**: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
PO 12	**Life-long learning**: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

PROGRAMME SPECIFIC OUTCOMES (PSOs):

PSO 1	The ability to apply Software Engineering practices and strategies in software project development using open-source programming environment for the success of organization.
PSO 2	The ability to design and develop computer programs in networking, web applications and IoT as per the society needs.
PSO 3	To inculcate an ability to analyze, design and implement database applications.

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

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DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

COURSE HANDOUT
PART-A

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

ACADEMIC YEAR : 2020-21

COURSE NAME & CODE : Data Mining and Data Warehousing (DMDW) – 17CI16

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

COURSE CREDITS : 3

COURSE INSTRUCTOR : Mr. A. S. R. C. Murthy

COURSE COORDINATOR: Mr. A. S. R. C. Murthy

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): At the end of the course, students are able to

CO 1	Understand the basic concepts of data warehouse & data mining.
CO 2	Apply data pre-processing, generalization and data characterization techniques to provide suitable input for a range of data mining algorithms.
CO 3	Analyze and provide solutions for real world problems using mining association techniques.
CO 4	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

PART-B

COURSE DELIVERY PLAN (LESSON PLAN): Section-A & B

UNIT-I: Introduction to Data mining and 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	HOD Sign Weekly
1.	Fundamentals of data mining	1	30/03/21		**TLM1**	CO1	
2.	Data Mining functionalities and classification of data mining systems	1	01/04/21		**TLM1**	CO1	
3.	Major issues in data mining, Applications of data Mining	1	06/04/21		**TLM1**	CO1	
4.	Introduction to Data warehouse	1	09/04/21		**TLM1**	CO1	
5.	Introduction-Data, Info. Importance of DMDW	1	12/04/21		**TLM1**	CO1	
6.	Data warehouse Need, OLTP vs OLAP	1	15/04/21		**TLM1**	CO1	
7.	Multidimensional data models	1	16/04/21		**TLM1**	CO1	
8.	DWH Architecture	1	19/04/21		**TLM1**	CO1	
9.	Data warehouse Implementation	1	22/04/21		**TLM2**	CO1	

10.	Further development of data cube Technology, From DWH TO Data Mining	1	23/04/21		**TLM2**	CO1	
No. of classes required to complete UNIT-I		10	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	HOD Sign Weekly
11.	Why we need pre-processing	1	26/04/21		**TLM1**	CO2	
12.	Data Cleaning	1	27/04/21		**TLM1**	CO2	
13.	Data Integration	1	29/04/21		**TLM1**	CO2	
14.	Data Transformation	1	30/04/21		**TLM1**	CO2	
15.	Data Reduction	1	03/05/21		**TLM2**	CO2	
16.	Discretization & Concept hierarchy generation	1	04/05/21		**TLM3**	CO2	
17.	Data mining primitives	1	06/05/21		**TLM2**	CO2	
18.	DMQL,Concept description and Characterizations	1	07/05/21		**TLM2**	CO2	
19.	Class Comparisons, Data generalization and summarization based on characterization	1	10/05/21		**TLM2**	CO2	
20.	Analytical characterization Discrimination between different classes	1	11/05/21		**TLM2**	CO2	
21.	Descriptive Statistical Measures	1	13/05/21		**TLM2**	CO2	
No. of classes required to complete UNIT-II		11	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	HOD Sign Weekly
22.	Association rule mining,	1	20/05/21		**TLM1**	CO3	
23.	Frequent pattern, support and confidence	1	21/05/21		**TLM2**	CO3	
24.	Apriori algorithm	2	24/05/21 25/05/21		**TLM1**	CO3	
25.	FP growth algorithm	2	27/05/21 28/05/21		**TLM1**	CO3	
26.	Single dimensional Boolean association from transitional database	1	31/05/21		**TLM3**	CO3	
27.	Multi-level association rules from transitional databases	1	01/06/21		**TLM1**	CO3	
28.	From association rule mining to correlation analysis	1	03/06/21		**TLM2**	CO3	
29.	Constraint based association rule mining	1	04/06/21		**TLM2**	CO3	
No. of classes required to complete UNIT-III		10	No. of classes taken:				

UNIT-IV: Classification and Perdition 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	HOD Sign Weekly
30.	Issues regarding classification and	1	07/06/21		**TLM1**	CO4	
31.	Classification by decision tree induction	2	08/06/21		**TLM1**	CO4	
32.	Bayesian classification	1	10/06/21		**TLM1**	CO4	
33.	Support vector machine	1	11/06/21		**TLM2**	CO4	

34.	Classification based on concepts from association rule mining	1	14/06/21		**TLM1**	CO4	
35.	Rule based induction algorithm	1	15/06/21		**TLM1**	CO4	
36.	Prediction	1	17/06/21		**TLM1**	CO4	
37.	Classifier accuracy	1	18/06/21		**TLM1**	CO4	
38.	No. of classes required to complete UNIT-IV	9	No. of classes taken:				

UNIT-V: clustering and applications of data 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	HOD Sign Weekly
39.	Types of data in cluster analysis	1	21/06/21		**TLM2**	CO5	
40.	A categorization of major clustering methods	1	22/06/21		**TLM2**	CO5	
41.	Partitioning methods	1	24/06/21		**TLM2**	CO5	
42.	Density based methods	1	25/06/21		**TLM2**	CO5	
43.	Grid based methods	1	28/06/21		**TLM2**	CO5	
44.	Model based clustering methods	1	29/06/21		**TLM2**	CO5	
45.	Outlier analysis	1	01/07/21		**TLM3**		
46.	Overview of data mining applications	1	02/07/21		**TLM2**	CO5	
47.	Web mining introduction, terminology and characteristics	1	05/07/21		**TLM2**	CO5	
48.	Web content mining, Web usage mining and Web structure mining	1	06/07/21		**TLM2**	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
49.	Advanced topics in mining , Research topics related to social networking	1	04/04/2020					

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 Task	**Marks**
Assignment-I (Unit-I)	A1=5
Assignment-II (Unit-II)	A2=5
I-Mid Examination (Units-I & II)	M1=20
I-Quiz Examination (Units-I & II)	Q1=10
Assignment-III (Unit-III)	A3=5
Assignment-IV (Unit-IV)	A4=5
Assignment-V (Unit-V)	A5=5
II-Mid Examination (Units-III, IV & V)	M2=20
II-Quiz Examination (Units-III, IV & V)	Q2=10
Attendance	B=5
Assignment Marks = Best Four Average of A1, A2, A3, A4, A5	A=5
Mid Marks =75% of Max(M1,M2)+25% of Min(M1,M2)	M=20
Quiz Marks =75% of Max(Q1,Q2)+25% of Min(Q1,Q2)	B=10
Cumulative Internal Examination (CIE) : A+B+M+Q	40

Semester End Examination (SEE)	60
Total Marks = CIE + SEE	100

PART-D

PROGRAMME OUTCOMES (POs):

PO 1	**Engineering knowledge**: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
PO 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.
PO 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.
PO 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.
PO 5	**Modern tool usage**: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations
PO 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
PO 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.
PO 8	**Ethic**s: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
PO 9	**Individual and team work**: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
PO 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.
PO 11	**Project management and finance**: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
PO 12	**Life-long learning**: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

PROGRAMME SPECIFIC OUTCOMES (PSOs):

PSO 1	The ability to apply Software Engineering practices and strategies in software project development using open-source programming environment for the success of organization.
PSO 2	The ability to design and develop computer programs in networking, web applications and IoT as per the society needs.
PSO 3	To inculcate an ability to analyze, design and implement database applications.

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

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
L.B.REDDY NAGAR, MYLAVARAM, KRISHNA DIST., A.P.-521 230.
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DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

COURSE HANDOUT

PART-A

Name of Course Instructor : N. SrinivasaRao
Course Name & Code : PHP Programming - 17CS08
L-T-P Structure : 3-0-0 Credits : 3
Program/Sem/Sec : B.Tech., CSE., VI-Sem., B Sec. A.Y : 2020-21

PRE-REQUISITE: Students should have the knowledge of OOP language, web technologies.

COURSE EDUCATIONAL OBJECTIVES (CEOs): The main objective of the course is that the students will gain the knowledge necessary to design and develop dynamic, database-driven Web applications using PHP.

COURSE OUTCOMES (COs): At the end of the course, students are able to

CO 1	Identify the basic programming constructs of PHP.
CO 2	Develop programs using functions, strings and arrays.
CO 3	Apply object-oriented principles in PHP.
CO 4	Design interactive web pages by using jQuery & AJAX.
CO 5	Design data driven applications by using PHP.

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

TEXTBOOKS:

T1 Steven Holzner, - "PHP: The Complete Reference", McGraw-Hill Education, 2007.

T2 Kevin Tatroe, Peter MacIntyre, Rasmus Lerdorf,- "Programming in PHP", O'Reilly, 3rd Edition, 2013.

REFERENCE BOOKS:

R1 HTML 5 Black Book, Covers CSS 3, JavaScript, XML, XHTML, AJAX, PHP and jQuery DT Editorial Services Dreamtech Publications.

R2 Lynn Beighley, Michael Morrison, - "Head First PHP & MySQL: A Brain-Friendly Guide", O'Reilly, 1st Edition.

PART-B

COURSE DELIVERY PLAN (LESSON PLAN):

UNIT-I: INTRODUCTION TO PHP

S.No.	Topics to be covered	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	HOD Sign Weekly
1.	Introduction to Course and COs	1	30/03/2021		**TLM2 TLM5**	
2.	Introduction to PHP	1	03/04/2021		**TLM2 TLM5**	
3.	Evaluation of PHP	1	06/04/2021		**TLM2 TLM5**	
4.	Defining variable and constants, PHP Data types	1	10/04/2021		**TLM2 TLM5**	
5.	Operators and Expressions.	1	12/04/2021		**TLM2 TLM5**	
6.	Making Decisions, Assignment I	1	17/04/2021		**TLM2 TLM5,6**	
7.	doing Repetitive task with looping	1	19/04/2021		**TLM2 TLM5**	
8.	Mixing decisions and looping with HTML	1	20/04/2021		**TLM2 TLM5**	
No. of classes required to complete UNIT-I:08				No. of classes taken:		

UNIT-II: FUNCTIONS, STRING & ARRAY

S.No.	Topics to be covered	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	HOD Sign Weekly
9.	Function, Define a function,	1	24/04/2021		**TLM2 TLM5**	
10.	Call by value & Call by reference	1	26/04/2021		**TLM2 TLM5**	
11.	Recursive functions	1	27/04/2021		**TLM2 TLM5**	

12.	Creating and accessing String, Searching & Replacing String	1	01/05/2021		**TLM2 TLM5**	
13.	Formatting String, String Related Library functions	1	03/05/2021		**TLM2 TLM5**	
14.	Anatomy of an Array, Assignment II	1	04/05/2021		**TLM2 TLM5,6**	
15.	Creating Index based and Associative array & Looping	1	08/05/2021		**TLM2 TLM5**	
16.	Some useful library functions.	1	10/05/2021		**TLM2 TLM5**	
No. of classes required to complete UNIT-II:08				No. of classes taken:		

UNIT-III: ADVANCE PHP

S.No.	Topics to be covered	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	HOD Sign Weekly
17.	Objects, Declaring a class, new keyword,constructor and Destructor	1	11/05/2021		**TLM2 TLM5**	
18.	Access method and properties using $this variable, Public, private, protected properties and methods	1	15/05/2021		**TLM2 TLM5**	
19.	Class constant, Inheritance	1	22/05/2021		**TLM2 TLM5**	
20.	Polymorphism, Parent::& self:: keyword, Instance of operator	1	24/05/2021		**TLM2 TLM5**	
21.	Abstract method and class	1	25/05/2021		**TLM2 TLM5**	
22.	Interface, Final. Assignment III	1	29/05/2021		**TLM2 TLM5,6**	
23.	Understanding Exceptions	1	31/05/2021		**TLM2 TLM5**	
No. of classes required to complete UNIT-III:07				No. of classes taken:		

UNIT-IV:PHP WITH SCRIPT

S.No.	Topics to be covered	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	HOD Sign Weekly
24.	Introduction to JQuery	1	01/06/2021		**TLM2 TLM5**	
25.	Validation using JQuery	1	05/06/2021		**TLM2 TLM5**	
26.	JQuery Forms	1	07/06/2021		**TLM2 TLM5**	
27.	JQuery Examples	1	08/06/2021		**TLM2 TLM5**	
28.	Introduction to AJAX	1	12/06/2021		**TLM2 TLM5**	
29.	PHP with AJAX, Assignment IV	1	14/06/2021		**TLM2 TLM5,6**	
30.	Working with database.	1	15/06/2021		**TLM2 TLM5**	
No. of classes required to complete UNIT-IV: 07				No. of classes taken:		

UNIT-V:PHP WEB SERVICES

S.No.	Topics to be covered	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	HOD Sign Weekly
31.	Capturing Form Data	1	19/06/2021		**TLM2 TLM5**	
32.	Dealing with Multi-value file	1	21/06/2021		**TLM2**	

					TLM5	
33.	generating File uploaded form, redirecting a form after submission	1	22/06/2021		**TLM2 TLM5**	
34.	Sessions, Forms GET and POST data	1	26/06/2021		**TLM2 TLM5**	
35.	Cookies, HTTP Headers	1	28/06/2021		**TLM2 TLM5**	
36.	Introduction to RDBMS	1	29/06/2021		**TLM2 TLM5**	
37.	Connection with MySQL Database	1	03/07/2021		**TLM2 TLM5**	
38.	Performing basic database operations (DML), Assignment V	1	05/07/2021		**TLM2 TLM5,6**	
39.	Setting query parameter, Executing query	1	06/07/2021		**TLM2 TLM5**	
No. of classes required to complete UNIT-V: 09				No. of classes taken:		

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

PART-C

EVALUATION PROCESS (R17 Regulations):

Evaluation Task	**Marks**
Assignment-I (Unit-I)	A1=5
Assignment-II (Unit-II)	A2=5
I-Mid Examination (Units-I & II)	M1=20
I-Quiz Examination (Units-I & II)	Q1=10
Assignment-III (Unit-III)	A3=5
Assignment-IV (Unit-IV)	A4=5
Assignment-V (Unit-V)	A5=5
II-Mid Examination (Units-III, IV & V)	M2=20
II-Quiz Examination (Units-III, IV & V)	Q2=10
Attendance	B=5
Assignment Marks = Average of A1, A2, A3, A4, A5	A=5
Mid Marks =75% of Max(M1,M2)+25% of Min(M1,M2)	M=20
Quiz Marks =75% of Max(Q1,Q2)+25% of Min(Q1,Q2)	Q=10
Cumulative Internal Examination (CIE) : A+B+M+Q	40
Semester End Examination (SEE)	60
Total Marks = CIE + SEE	100

PART-D

PROGRAMME OUTCOMES (POs):

PO 1	**Engineering knowledge**: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
PO 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.
PO 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.
PO 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.
PO 5	**Modern tool usage**: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations
PO 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
PO 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.
PO 8	**Ethic**s: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
PO 9	**Individual and teamwork**: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
PO 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.
PO 11	**Project management and finance**: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
PO 12	**Life-long learning**: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

PROGRAMME SPECIFIC OUTCOMES (PSOs):

PSO 1	The ability to apply Software Engineering practices andstrategies in software project development using open-source programmingenvironment for the success of organization.
PSO 2	The ability to design and develop computerprograms in networking, web applications and IoT as per the society needs.
PSO 3	To inculcate an ability to analyze, design and implement database applications.

Course Instructor	Course Coordinator	Module Coordinator	HOD
(Mr. N. SrinivasaRao)	(Mr. N. SrinivasaRao)	(Dr. M. SrinivasaRao)	(Dr. D. Veeraiah)

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

COURSE HANDOUT

PART A

Name of Course Instructor : M. Sri Bala

Course Name & Code : Software Testing Methodologies- 17CS91

L-T-P Structure : 3-0-0 Credits : 3

Program/Sem/Sec : B.Tech., CSE., VI-Sem., Sections- B A.Y : 2020-21

PRE-REQUISITE **:** Software Engineering and UML

COURSE EDUCATIONAL OBJECTIVES (CEOs): The primary objective of this course is to know the importance of automation testing compared with manual testing and importance of testing in real life while developing any product/project which reduces the risk of a developer. To know how to prepare testing techniques by using flow graph, transition flows and reduction of path expressions. To study fundamental concepts in software testing including software testing objectives, process, criteria, strategies, and methods.

COURSE OUTCOMES (COs): After the completion of this course, student will be able to

CO1: Interpret a model for testing and understand the process of testing

CO2: Visualize control flow graph and demonstrate complete path testing to achieve C1+C2 and identify the complications in a transaction flow testing and anomalies in data flow testing.

CO3: Apply domain testing strategies for different domains..

CO4: Apply reduction procedures to control flow graph and simplify it into a single path expression and understand the use of decision tables in test case design.

CO5: Identify effective approach for node reduction.

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

COs	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2	PSO 3
CO1	3	2	-	-	-	-	-	-	-	-	-	-	-	-	3
CO2	2	3	2	-	-	-	-	-	-	-	-	-	-	-	3
CO3	3	2	1	-	-	-	-	-	-	-	-	-	-	-	3
CO4	2	3	1	-	-	-	-	-	-	-	-	-	-	-	3
CO5	2	3	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).

TEXT BOOKS:

T1 A Boris Biezer; "Software Testing Techniques"; International Thomson computer Press, Second edition

REFERENCE BOOKS:

R1 Brain Marick; "The Craft of Software Testing"; Prentice Hall Series in innovative technology.

R2 Renu Rajani Pradeep Oak, "Software Testing, Effective methods, Tools and Techniques", TMHI.

R3 Dr.K.V.K.K.Prasad, "Software Testing Tools", Dreamtech

R4 "Software Testing in the Real World ", Edward Kit, Pearson.

R5 Perry, John Wiley, "Effective methods of Software Testing".

R6 https://www.youtube.com/watch?v=gPE9emPFrwo

R7 https://freevideolectures.com › Computer Science › IIT Bombay

R8 NPTEL videos : https://nptel.ac.in/courses/106105150

PART – B

COURSE DELIVERY PLAN (LESSON PLAN):

UNIT-I : Purpose of Testing, Taxonomy of bugs.

S.No.	Topics to be covered	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	HOD Sign Weekly
1.	Introduction to Subject	1	31-03-2021		**TLM1**	
2.	Course Outcomes	1	01-04-2021		**TLM1**	
3.	Introduction to UNIT-I	1	03-04-2021		**TLM1**	
4.	Purpose of Testing	1	07-04-2021		**TLM1/ TLM2**	
5.	Dichotomies	1	08-04-2021		**TLM1/ TLM2**	
6.	model for testing	1	14-04-2021		**TLM1/ TLM2**	
7.	consequences of bugs	1	15-04-2021		**TLM1/ TLM2**	
8.	Taxonomy of bugs	1	17-04-2021		**TLM1/ TLM2**	
9.	TUTORIAL-1	1	21-04-2021		**TLM3**	
No. of classes required to complete UNIT-I: 9				No. of classes taken:		

UNIT-II : Flow Graphs and Path testing, Transaction flow and Data flow testing

S.No.	Topics to be covered	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	HOD Sign Weekly
10.	Introduction to UNIT-II	1	22-04-2021		**TLM1**	
11.	Basics concepts of path testing	1	24-04-2021		**TLM1**	
12.	predicates, path predicates and achievable paths	1	28-04-2021		**TLM1/ TLM2**	
13.	path sensitizing	1	29-04-2021		**TLM1**	
14.	path instrumentation, application of path testing	1	05-05-2021		**TLM1/ TLM2**	
15.	Transaction flow testing techniques	1	06-05-2021		**TLM1/ TLM2**	
16.	Basics of Data flow testing	1	12-05-2021		**TLM1/ TLM2**	
17.	strategies in dataflow testing, application of dataflow testing	1	13-05-2021		**TLM1/ TLM2**	
18.	TUTORIAL-2	1	15-05-2021		**TLM3**	
No. of classes required to complete UNIT-II: 9				No. of classes taken:		
I MID EXAMINATIONS FROM 17-05-2021 TO 19-05-2021						

UNIT-III : Domain Testing

S.No.	Topics to be covered	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	HOD Sign Weekly
19.	Introduction to UNIT-III	1	20-05-2021		**TLM1**	
20.	Domains and paths	1	20-05-2021		**TLM1/ TLM2**	
21.	Nice & ugly domains	1	22-05-2021		**TLM1/ TLM2**	
22.	domain testing	1	26-05-2021		**TLM1/ TLM4**	
23.	domains and interfaces testing	1	27-05-2021		**TLM1/ TLM2**	
24.	domains and testability	1	29-05-2021		**TLM1/ TLM2**	

25.	TUTORIAL-3	1	02-06-2021		**TLM3**	
No. of classes required to complete UNIT-III: 7				No. of classes taken:		

UNIT-IV : Paths, path products and Regular expressions, Logic Based Testing

S.No.	Topics to be covered	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	HOD Sign Weekly
26.	Introduction to UNIT-IV	1	03-06-2021		**TLM1**	
27.	Path products & path expression	1	03-06-2021		**TLM1/ TLM2**	
28.	Reduction Procedure	1	05-06-2021		**TLM1/ TLM2**	
29.	Applications	1	09-06-2021		**TLM1/ TLM2**	
30.	regular expressions & flow anomaly detection	1	10-06-2021		**TLM1/ TLM2**	
31.	Logic based testing Overview	1	12-06-2021		**TLM1/ TLM2**	
32.	decision tables	1	16-06-2021		**TLM1/ TLM5**	
33.	path expressions	1	17-06-2021		**TLM1/ TLM2**	
34.	kv charts, specifications	1	19-06-2021		**TLM1/ TLM2**	
35.	TUTORIAL-4	1	23-06-2021		**TLM3**	
No. of classes required to complete UNIT-IV: 10				No. of classes taken:		

UNIT-V : State, state graphs and Transition Testing, Graph matrices and Application

S.No.	Topics to be covered	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	HOD Sign Weekly
36.	Introduction to UNIT-V	1	24-06-2021		**TLM1**	
37.	State graphs	1	24-06-2021		**TLM1/ TLM2**	
38.	Good & Bad state graphs	1	26-06-2021		**TLM1/ TLM2**	
39.	State testing, Testability tips	1	30-06-2021		**TLM1/ TLM2**	
40.	Matrix of graph, Relations, power of a matrix	1	01-07-2021		**TLM1**	
41.	Node reduction algorithm Building Tools	1	03-07-2021		**TLM1/ TLM2**	
42.	Building tools	1	07-07-2021		**TLM1/ TLM2**	
No. of classes required to complete UNIT-V: 7				No. of classes taken:		

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 (R17 Regulations):

Evaluation Task	**Marks**
Assignment-I (Unit-I)	A1=5
Assignment-II (Unit-II)	A2=5
I-Mid Examination (Units-I & II)	M1=20
I-Quiz Examination (Units-I & II)	Q1=10
Assignment-III (Unit-III)	A3=5
Assignment-IV (Unit-IV)	A4=5
Assignment-V (Unit-V)	A5=5
II-Mid Examination (Units-III, IV & V)	M2=20
II-Quiz Examination (Units-III, IV & V)	Q2=10
Attendance	B=5
Assignment Marks = Best Four Average of A1, A2, A3, A4, A5	A=5
Mid Marks =75% of Max(M1,M2)+25% of Min(M1,M2)	M=20
Quiz Marks =75% of Max(Q1,Q2)+25% of Min(Q1,Q2)	B=10
Cumulative Internal Examination (CIE) : A+B+M+Q	40
Semester End Examination (SEE)	60
Total Marks = CIE + SEE	100

PART-D

PROGRAMME OUTCOMES (POs):

PO 1	**Engineering knowledge**: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
PO 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.
PO 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.
PO 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.
PO 5	**Modern tool usage**: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations
PO 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
PO 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.
PO 8	**Ethic**s: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
PO 9	**Individual and team work**: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
PO 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.
PO 11	**Project management and finance**: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
PO 12	**Life-long learning**: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

PROGRAMME SPECIFIC OUTCOMES (PSOs):

PSO 1	**Programming Paradigms:** To inculcate algorithmic thinking, formulation techniques and visualization, leading to problem solving skills using different programming paradigms.
PSO 2	**Data Engineering:** To inculcate an ability to analyze, design and implement data driven applications into the students.
PSO 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
(M. Sri Bala)	(M. Sri Bala)	(Dr.Ch.V.Narayana)	(Dr. D. Veeraiah)

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DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

COURSE HANDOUT

PART-A

Name of Course Instructor : P VAMSI NAIDU
Course Name & Code : ANDROID TECHNOLOGIES & 17CS05
L-T-P Structure : 2-2-0 **Credits:** 3
Program/Sem/Sec : B.Tech.–CSE/VI Sem/Sec B **A.Y. :** 2020-21

PRE-REQUISITE: Knowledge in Java Programming

COURSE EDUCATIONAL OBJECTIVES (CEOs): This course is designed to learn the basics of Android platform and get to understand the application lifecycle and able implement applications using latest android concepts.

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

CO1	**Understand** the fundamentals of Android Platform
CO2	**Design** UI using various UI Components of Android Platform
CO3	**Develop** android apps using Intents & Broadcast receivers of Android Platform
CO4	**Analyze** different data repositories in Android Platform
CO5	**Explore** various advanced concepts in Android Platform

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

1 - Slight (Low) **2** – Moderate (Medium) **3** - Substantial (High)

TEXT BOOKS:

T1 Reto Meier, ―Professional Android 4 Application Development‖, Wiley India (Wrox), 2012.

T2 James C Sheusi, ―Android Application Development for Java Programmers‖, Cengage Learning, 2013.

REFERENCE BOOKS:

R1 Wei-Meng Lee, ―Beginning Android 4 Application Development‖, Wiley India (Wrox), 2013

R2 https://developer.android.com/index.html

R3 https://www.tutorialspoint.com/android/index.htm

PART-B

COURSE DELIVERY PLAN (LESSON PLAN):

UNIT-I: INTRODUCTION TO ANDROID PLATFORM

S. No.	Topics to be covered	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	HOD Sign Weekly
41.	Overview (Why Android?, Features, Applications, History)	1	30/03/2021			
42.	Environment Setup	1	31/03/2021			
43.	Architecture	1	01/04/2021			
44.	Emulator, Dalvik Virtual Machine	1	06/04/2021			
45.	Application Components	1	07/04/2021			
46.	Resources, Manifest File	1	08/04/2021			
47.	Android Application Life Cycle – Activities	1	12/04/2021			
48.	Activity Life Cycle	1	15/04/2021			
49.	States and its Monitoring	1	19/04/2021			
50.	Services – Services States	1	20/04/2021			
51.	Life Cycle of States	1	22/04/2021			
52.	**Tutorial – 1**	1	27/04/2021			
No. of classes required to complete UNIT-I: 12				**No. of classes taken:**		

UNIT-II: ANDROID USER INTERFACE

S. No.	Topics to be covered	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	HOD Sign Weekly
1.	**UI Components:** View, TextView, ImageView	1	28/04/2021			
2.	Button, EditText, Spinner, Check Box, Radio Button	1	29/04/2021			
3.	Rating Bar, Switch, Seek Bar, Search View	1	03/05/2021			
4.	**Measurements:** Device and Pixel Density Independent measuring units	1	04/05/2021			
5.	**UI Layouts:** Linear, Relative, Constraint Layouts	1	05/05/2021			
6.	Grid and Table Layouts, Styles and Themes.	1	06/05/2021			
7.	**Event Handling:** Handling clicks or changes of various UI components	1	10/05/2021			
8.	**Fragments:** Creating fragments, Lifecycle of fragments	1	11/05/2021			
9.	Types of fragments, Fragment states	1	12/05/2021			
10.	**Tutorial – 2**	1	13/05/2021			
No. of classes required to complete UNIT-II: 10				**No. of classes taken:**		

UNIT-III: INTENTS AND BROADCASTS

S. No.	Topics to be covered	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	HOD Sign Weekly
1.	**Intents** – Using intents to launch Activities, Explicitly starting new Activity	1	20/05/2021			

2.	Implicit Intents, Passing data to Intents, Getting results from Activities	1	24/05/2021			

25

3.	Using Intent to dial a number and to send an SMS	1	25/05/2021			
4.	**Broadcast Receivers** – Using Intent filters to service implicit Intents	1	26/05/2021			
5.	Resolving Intent filters	1	27/05/2021			
6.	Finding and using Intents received within an Activity	1	31/05/2021			
7.	**Notifications** – Creating Notifications	1	01/06/2021			
8.	Displaying notifications	1	02/06/2021			
9.	Displaying Toasts	1	03/06/2021			
10.	**Tutorial – 3**	1	07/06/2021			
No. of classes required to complete UNIT-III: 10				**No. of classes taken:**		

UNIT-IV: DATA STORAGE

S. No.	Topics to be covered	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	HOD Sign Weekly
1.	**Shared Preferences:** Creating shared preferences	1	08/06/2021			
2.	Saving and retrieving data using Shared Preference	1	09/06/2021			
3.	**Files:** Using application specific folders and files, creating files	1	10/06/2021			
4.	Reading data from files, Listing contents of a directory	1	14/06/2021			
5.	**Database:** Introduction to SQLite database, creating and opening a database	1	15/06/2021			
6.	Creating Tables, Inserting, Retrieving and Deleting Data	1	16/06/2021			
7.	**Content Providers -** Registering Content Providers	1	17/06/2021			
8.	Using content Providers (insert, delete, retrieve and update)	1	21/06/2021			
9.	**Tutorial – 4**	1	22/06/2021			
No. of classes required to complete UNIT-IV: 09				**No. of classes taken:**		

UNIT-V: ADVANCED TOPICS

S. No.	Topics to be covered	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	HOD Sign Weekly
1.	**Location Based Services** - Finding Current Location and showing location on the Map	1	23/06/2021			
2.	Updating Location, RSS Feeds	1	24/06/2021			
3.	Alarms, Using Camera	1	28/06/2021			
4.	Gestures, Integrating PHP/MySQL	1	29/06/2021			
5.	**Using Internet Resources** – Connecting to Internet Resource	1	30/06/2021			
6.	Using Download Manager	1	01/07/2021			
7.	Publishing Android Application	2	05/07/2021 06/07/2021			
8.	**Tutorial – 5**	1	07/07/2021			
No. of classes required to complete UNIT-V: 09				**No. of classes taken:**		

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 (R17 Regulations):

Evaluation Task	**Marks**
Assignment-I (Unit-I)	A1=5
Assignment-II (Unit-II)	A2=5
I-Mid Examination (Units-I & II)	M1=20
I-Quiz Examination (Units-I & II)	Q1=10
Assignment-III (Unit-III)	A3=5
Assignment-IV (Unit-IV)	A4=5
Assignment-V (Unit-V)	A5=5
II-Mid Examination (Units-III, IV & V)	M2=20
II-Quiz Examination (Units-III, IV & V)	Q2=10
Attendance	B=5
Assignment Marks = Best Four Average of A1, A2, A3, A4, A5	A=5
Mid Marks =75% of Max(M1,M2)+25% of Min(M1,M2)	M=20
Quiz Marks =75% of Max(Q1,Q2)+25% of Min(Q1,Q2)	Q=10
Cumulative Internal Examination (CIE) : A+B+M+Q	40
Semester End Examination (SEE)	60
Total Marks = CIE + SEE	100

PART-D

PROGRAMME OUTCOMES (POs):

PO 1	**Engineering knowledge**: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
PO 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.
PO 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.
PO 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.
PO 5	**Modern tool usage**: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations
PO 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
PO 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.
PO 8	**Ethic**s: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
PO 9	**Individual and team work**: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
PO 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.
PO 11	**Project management and finance**: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
PO 12	**Life-long learning**: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

PROGRAMME SPECIFIC OUTCOMES (PSOs):

PSO 1	The ability to apply Software Engineering practices and strategies in software project development using open-source programming environment for the success of organization.
PSO 2	The ability to design and develop computer programs in networking, web applications and IoT as per the society needs.
PSO 3	To inculcate an ability to analyze, design and implement database applications.

Title	**Course Instructor**	**Course Coordinator**	**Module Coordinator**	**Head of the Department**
Name of the Faculty	**Mr. P. Vamsi Naidu**	**Mr. P. Vamsi Naidu**	**Dr. M. Srinivasa Rao**	**Dr. D. Veeraiah**
Signature				

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DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

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COURSE HANDOUT

PART-A

Name of Course Instructor : U. RAMBABU
Course Name & Code : Industrial Engineering and management
L-T-P Structure : 3-0-0 Credits : 3
Program/Sem/Sec : B.Tech., CSE., VI-Sem., Sections-B A.Y : 2020-21

PRE-REQUISITE:

Course Objectives: NIL

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 be Able To:

1. Apply management principles to the particle situations to be able to know which type of business organisation structure suits.
2. Determine decision making relating to the problems in operations and production activities.
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	1						2	2	2	1		1			
CO2					2							1			
CO3		2					2				2	1			
CO4								2	2	2		1			
CO5					2		2				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).

Textbooks:

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.Khanna, Industrial engineeringand Management

R4: L.S. Srinath, PERT & CPM

PART-B

COURSE DELIVERY PLAN (LESSON PLAN):

UNIT-I: introduction to Management

S.No.	Topics to be covered	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	HOD Sign Weekly
53.	Introduction to Subject& Course Outcomes	1	31-03-2021		TLM1	
54.	Management Introduction and Definition	1	03-04-2021		TLM1	
55.	Nature Importance of management	1	07-04-2021		TLM2	
56.	Functions	1	09-04-2021		TLM2	
57.	Taylor's scientific management theory	1	10-04-2021		TLM2	
58.	Fayal's principles of management	1	16-04-2021		TLM2	
59.	Contribution of Elton mayo&MASLOW theory	1	17-04-2021		TLM2	
60.	Herzberg theory of motivation &Douglas MC Gregor theory of motivation	1	21-04-2021		TLM2	
61.	Organization Basic concept: Authority &responsibility & Delegation of Authority	1	23-04-2021		TLM2	
62.	Span of control &Departmentation and Decentralization	1	24-04-2021		TLM2	
63.	Organization structure: line organization structure, Line, and staff organization &	1	28-04-2021		TLM2	
64.	Functional organization, Committee & Matrix organization	1	30-04-2021		TLM2	
No. of classes required to complete UNIT-I:12				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	HOD Sign Weekly
11.	Plant location and Factors influencing location	1	01-05-2021		TLM2	
12.	Objectives and Principles of plant layout	1	05-05-2021		TLM2	
13.	types of plant layouts	1	07-05-2021		TLM2	
14.	Methods of production: job batch and mass production	1	08-05-2021		TLM2	
15.	Work study: Basic procedure involved in method study work measurement	1	12-05-2021		TLM2	
16.	Basic procedure involved in method study work measurement	1	13-05-2021		TLM2	

17.	Time study problems	1	15-05-2021		TLM2	
18.	I MID EXAM	1	19-05-2021			
No. of classes required to complete UNIT-II:07				No. of classes taken:		

UNIT-III: Statistical quality control& Materials Management

S.No.	Topics to be covered	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	HOD Sign Weekly
11.	Statistical quality control Meaning	1	21-05-2021		TLM2	
12.	Variables and attributes& X chart problems and R	1	22-05-2021		TLM2	
13.	C Chart problems AND P Chart problems	1	26-05-2021		TLM1	
14.	Acceptance sampling & Sampling plans&Deming's contribution to quality	1	27-05-2021		TLM2	
15.	Materials management: Objectives of Materials management, Need for inventory control	1	29-05-2021		TLM1	
16.	Purchase procedure, Store records	1	02-06-2021		TLM2	
17.	Methods of inventory control: ABC analysis & EOQ analysis EOQ Problems	1	04-06-2021		TLM2	
18.	Stock levels & Problems on stock levels	1	05-06-2021		TLM2	
No. of classes required to complete UNIT-III:08				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	HOD Sign Weekly
10.	Concepts of HRM: Basic functions of HR manager	1	09-06-2021		TLM2	
11.	Manpower planning	1	11-06-2021		TLM2	
12.	Recruitment &Selection& Training and development	1	12-06-2021		TLM2	
13.	Placement, Wage, and salary administration	1	16-06-2021		TLM2	
14.	Promotion, Transfer & Separation& Performance Appraisal	1	18-06-2021		TLM2	
15.	Job evaluation&Merit rating	1	19-06-2021		TLM2	
No. of classes required to complete UNIT-IV:06				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	HOD Sign Weekly
9.	**Project management: Introduction** Early techniques in project management	1	23-06-2021		TLM2	
10.	Network analysis&Rules for drawing of networks and Critical path method	1	25-06-2021		TLM2	
11.	Problems on CPM &Identifying critical path	1	26-06-2021		TLM1	
12.	Programme evaluation and review technique (PERT)	1	30-06-2021		TLM1	
13.	Problems on PERT	1	02-07-2021		TLM1	
14.	Project cost analysis, project crashing	1	03-07-2021		TLM1	
15.	Content beyond the syllabus (online trading)	1	07-07-2021		TLM1	

16.	II MID EXAM	1	09-07-2021			
17.	II MID EXAM	1	10-07-2021			
No. of classes required to complete UNIT-V:07				No. of classes taken:		

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 (R17 Regulations):

Evaluation Task	**Marks**
Assignment-I (Unit-I)	A1=5
Assignment-II (Unit-II)	A2=5
I-Mid Examination (Units-I & II)	M1=20
I-Quiz Examination (Units-I & II)	Q1=10
Assignment-III (Unit-III)	A3=5
Assignment-IV (Unit-IV)	A4=5
Assignment-V (Unit-V)	A5=5
II-Mid Examination (Units-III, IV & V)	M2=20
II-Quiz Examination (Units-III, IV & V)	Q2=10
Attendance	B=5
Assignment Marks = Best Four Average of A1, A2, A3, A4, A5	A=5
Mid Marks =75% of Max(M1,M2)+25% of Min(M1,M2)	M=20
Quiz Marks =75% of Max(Q1,Q2)+25% of Min(Q1,Q2)	B=10
Cumulative Internal Examination (CIE) : A+B+M+Q	40
Semester End Examination (SEE)	60
Total Marks = CIE + SEE	100

PART-D

PROGRAMME OUTCOMES (POs):

PO 1	**Engineering knowledge**: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
PO 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.
PO 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.
PO 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.
PO 5	**Modern tool usage**: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations
PO 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
PO 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.
PO 8	**Ethic**s: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
PO 9	**Individual and team work**: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
PO 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.
PO 11	**Project management and finance**: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
PO 12	**Life-long learning**: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

PROGRAMME SPECIFIC OUTCOMES (PSOs):

PSO 1	The ability to apply Software Engineering practices and strategies in software project development using open-source programming environment for the success of organization.
PSO 2	The ability to design and develop computer programs in networking, web applications and IoT as per the society needs.
PSO 3	To inculcate an ability to analyze, design and implement database applications.

Course Instructor	Course Coordinator	Module Coordinator	HOD
(U.RAMBABU)	Dr.A.Adisesha Reddy)	(Dr.A.Adisesha Reddy)	(Dr.A.Adisesha Reddy)

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DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

COURSE HANDOUT
Part-A

PROGRAM :B.Tech. VI-Sem., CSE (B), R17 Regulations

ACADEMIC YEAR : 2020-21

COURSE NAME & CODE : PRESENTATION SKILLS - 17FE61

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

COURSE CREDITS : 1

COURSE INSTRUCTOR :K. Sridevi, Asst. Prof.

Ms. M. Anuradha, Asst. Prof

COURSE COORDINATOR : Dr.B.Samrajya Lakshmi, Prof.

PRE-REQUISITES : Students should have fundamental knowledge in making conversations in English and be with readiness to speak.

Course Educational Objective : To help students make oral presentations, power point presentations, participate in group discussions and write project/research/technical reports/formal letters by gathering information and organizing ideas relevantly and coherently.

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

CO1 : Make power point presentations and oral presentations.
CO2 : Use standard vocabulary contextually.
CO3 : Manage skillfully through group discussions.
CO4 : Negotiate skillfully for better placement.

Course Articulation Matrix:

Course		Program Outcomes (POs)											
	POs→	1	2	3	4	5	6	7	8	9	10	11	12
17FE61	CO1		1		3		2			3	3		2
	CO2		1		3		2			3	3		2
	CO3		1		3		2			3	3		2
	CO4		1		3		2			3	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 Lab Manual:

- Board of Editors, "ELCS Lab Manual – A Workbook of CALL and ICS Lab Activities", Orient Black Swan Pvt. Ltd., Hyderabad, 2016.

Part-B

BATCH-A

COURSE DELIVERY PLAN (LESSON PLAN):

S.No.	Activity	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	Learning Outcome COs	HOD Sign Weekly
65.	Introduction	2	05-04-2021		TLM4		
66.	Self Introduction	2	12-04-2021		TLM4	CO1	
67.	JAM- I (prepared)	2	19-04-2021		TLM4	CO1	
68.	JAM-II (Extempore)	2	26-04-2021		TLM4	CO1	
69.	Group Discussion	2	03-05-2021		TLM4, TLM6	CO3	
70.	Group Discussion	2	10-05-2021		TLM4, TLM6	CO3	
71.	Reading Comprehension/Listening Comprehension	2	24-05-2021		TLM3	CO2	
72.	Poster Presentation	2	31-05-2021		TLM2, TLM4	CO1	
73.	Power point Presentation	2	07-06-2021		TLM2, TLM4	CO1	
74.	Vocabulary (Synonyms/Antonyms one-word substitutes/analogy/idioms)	2	14-06-2021		TLM1, TLM3	CO2	
75.	Letter &Résumé writing	2	21-06-2021		TLM1, TLM3	CO4	
76.	Mock Interviews	2	28-06-2021		TLM6	CO4	
77.	Internal Lab Exam	2	05-07-2021				
	Total	26					

BATCH-B

S.No.	Activity	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	Learning Outcome COs	HOD Sign Weekly
1.	Introduction	2	31-03-2021		TLM4		
2.	Self Introduction	2	7-04-2021		TLM4	CO1	
3.	JAM- I (prepared)	2	28-04-2021		TLM4	CO1	
4.	JAM-II (Extempore)	2	05-05-2021		TLM4	CO1	
5.	Group Discussion	2	12-05-2021		TLM4, TLM6	CO3	
6.	Group Discussion	2	26-05-2021		TLM4, TLM6	CO3	
7.	Reading Comprehension/Listening Comprehension	2	02-06-2021		TLM3	CO2	
8.	Poster Presentation	2	09-06-2021		TLM2, TLM4	CO1	
9.	Power point Presentation	2	16-06-2021		TLM2, TLM4	CO1	
10.	Vocabulary(one-word substitutes/analogy/idioms) (Synonyms/Antonyms)	2	23-06-2021		TLM1, TLM3	CO2	
11.	Letter &Résumé writing Mock Interviews	2	30-06-2021		TLM1, TLM3 TLM6	CO4	
12.	Internal Lab Exam	2	07-07-2021				
	Total	24					

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

ACADEMIC CALENDAR:

Description	From	To	Weeks
I Phase of Instructions-1	29.03.2021	15.05.2021	7W
I Mid Examinations	17.05.2021	19.05.2021	1W
II Phase of Instructions	20.05.2021	07.07.2021	9W
II Mid Examinations	08.07.2021	10.07.2021	1W
Preparation and Practicals	12.07.2021	17.07.2021	1W
Semester End Examinations	19.07.2021	31.07.2021	2W

Part - C

EVALUATION PROCESS:

According to Academic Regulations of R17 Distribution and Weightage of Marks For Laboratory Courses is as follows.

(a) Continuous Internal Evaluation (CIE):

- ✓ The continuous internal evaluation for laboratory courses (including Computer aided engineering drawing, computer aided engineering graphics, Computer aided machine drawing etc.) is based on the following parameters:

Parameter		Marks
Day – to – Day Work	Observation	10 Marks
	Record	10 Marks
Internal Test		10 Marks
Attendance		05 Marks
Viva – Voce During Regular Lab Sessions		05 Marks
Total		**40 Marks**

(b) Semester End Examinations (SEE:

% of Attendance	Marks
≥ 95	05 Marks
90 to < 95	04 Marks
85 to < 90	03 Marks
80 to < 85	02 Marks
75 to < 80	01 Mark

- ✓ The performance of the student in laboratory courses shall be evaluated jointly by internal and external examiners for 3 hours duration as per the parameters indicated below:

Parameter	Marks
Phonemes	05 Marks
Short answers on phonetics	05 Marks
Transcription	10 Marks
Dialogue writing	10 Marks
Presentation	10 Marks
Interview	20 Marks
Total	**60 Marks**

Rubrics For Evaluation of Laboratory Courses

Day-To-Day Lab (Observation) Performance Evaluation (R-17)					Record Performance Evaluation (R-17)			
S.N	**Criteria**	**Poor**	**Average**	**Good**	**Criteria**	**Poor**	**Average**	**Good**
1	Language suitability **(4 Marks)**	Wrong usage of words Grammatical errors **(2 Marks)**	Some points are missing from the data written Wrong usage of grammar & vocabulary. **(3 Marks)**	Well-written & spoken Language is error free **(4 Marks)**	Language **(4 Marks)**	Language used is not suitable Full of incorrect vocabulary **(2 Marks)**	Some words are inappropriately used / wrongly spelt **(3Marks)**	Language used is good No word/ spelling errors **(4 Marks)**
2	Content **(4Marks)**	Unable toDeliver all the pints Delivering Irrelevant point **(2 Marks)**	Some points are not given Point analysis is not upto the mark **(3 Marks)**	All the points are analysed properly More content was delivered. **(4 Marks)**	Content **(4 Marks)**	Very less points were written Points were not analysed properly **(2 Marks)**	Some of the points were missing Some points are not properly analysed **(3 Marks)**	Complete information is provided for the topic Important information is provided with illustrations/ exaamples **(4 Marks)**
3	Style of Presentation **(2 Marks)**	Inappropriate body language Improper prentation **(0 Marks)**	Prentation is not upto the mark **(1 Mark)**	Presented well with appropriate ettiquett All important conclusions have been clearly made, student shows good understanding of the topic. **(2 Marks)**	Grammar & Neatness **(2 Mark)**	Frequent grammar and/r spelling errors writing style is rough and immature **(1/2 Mark)**	Some grammatical errors **(1 Marks)**	No grammar/ spelling corrections are found and well-written **(2 Marks)**

PROGRAMME EDUCATIONAL OBJECTIVES (PEOs)

PEO1: To Attain a solid foundation in Electronics & Communication Engineering fundamentals with an attitude to pursue continuing education.

PEO2: To Function professionally in the rapidly changing world with advances in technology
PEO3: To Contribute to the needs of the society in solving technical problems using Electronics & Communication Engineering principles, tools and practices.
PEO4: To Exercise leadership qualities, at levels appropriate to their experience, this addresses issues in a responsive, ethical, and innovative manner

PROGRAMME OUTCOMES (POs)

PO1. **Engineering knowledge**: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineeringproblems.

PO2. **Problem analysis**: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

PO3. **Design/development of solutions**: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

PO4. **Conduct investigations of complex problems**: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

PO5. **Modern tool usage**: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.

PO6. **The engineer and society**: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

PO7: **Environment and sustainability**: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

PO8:Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

PO9: Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

PO10: Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

PO11:Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

PO12: Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

Name of the Faculty	Name of Module Coordinator	HOD
Ms. K. SRIDEVI.	Dr. B. Samrajya Lakshmi	Dr. A. Rami Reddy

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DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

ANDROID TECHNOLOGIES LAB – 17CS63

Lecture : 2 Periods/week **Internal Marks : 40**

External Marks : 60

Credits : 1 **External Examinations : 3 Hrs**

Prerequisite: Knowledge in Java Programming

Course Educational Objective (CEO): This course facilitates students develop competence and confidence in android programming and understand the entire Android Apps Development Cycle, as well as it would also enable the students to independently create new Android Applications

Course Outcomes (COs): After the completion of this course, student will be able to:

CO1: Design basic Android Applications.

CO2: Develop applications that interact with SQLite Database.

CO3: Design applications that make use of Advanced Android Concepts.

CO4: Improve individual / team work skills, communication & report writing skills with ethical values.

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 Cycles	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 Android Platform	09/04/2021		1	1,2	2,4,6
2	Cycle-1,2	16/04/2021		1	1,2	
3	Cycle-3,4	23/04/2021		1	1,2	
4	Cycle-5,6	30/04/2021		1	1,2	
5	Cycle-7,8	07/05/2021		1	1,2	
6	Cycle-9,10	21/05/2021		1	1,2	
7	Cycle-11,12, 13	28/05/2021		1	1,2	
8	Cycle-,14,15,16	04/06/2021		1	1,2	
09	Cycle-17,18, 19,20	11/06/2021		1	1,2	
10	Cycle-21, 22	18/06/2021		1	1,2,7	
11	Cycle-23, 24,25	25/06/2021		1	1,2,7	
12	Internal Exam	02/07/2021		1	1,2,7	

Assessment Summary:

Assessment Task	Weight age (Marks)	**Course Outcomes**			
		CO1	CO2	CO3	CO4
Day-Day Performance	20				

Viva	05				
Internal Test	10				
Attendance	5				
End Exam	60				
Total	100				

Mapping Course Outcomes with Programme Outcomes:

Course Code	Programme Outcomes														
	COs	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
17CS63	CO1	1	2	3	1	3	-	-	-	-	-	-	2	3	-	-
	CO2	2	2	3	1	3	-	-	-	-	-	-	2	3	3	-
	CO3	1	2	3	1	3	-	-	-	-	-	-	2	3	-	-
	CO4	-	-	-	-	-	-	-	2	2	2	-	2	-	-	-

1 = Slight (Low) 2 = Moderate (Medium) 3-Substantial (High)

Title	**Course Instructor**	**Course Coordinator**	**Module Coordinator**	**Head of the Department**
Name of the Faculty	**Mr. P. Vamsi Naidu**	**Mr. P. Vamsi Naidu**	**Dr. M. Srinivasa Rao**	**Dr. D. Veeraiah**
Signature				

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DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

	LESSON PLAN	Date:
	Sub. Name : DMDW LAB **Branch: CSE: Semester & Section: VI & B**	**29/03/2021** **To** **07/07/2021**

DMDW LAB – 17CI67

Lecture : 2 Periods/week **Internal Marks : 40**

External Marks : 60

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

Course Educational Objectives:

The main objective of the course is, student will be familiar with different data mining algorithms and able to learn the supervised and unsupervised techniques with various data mining tools.

Course Outcomes:

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

CO1: Understand the need of data mining and the details of different algorithms made available by popular commercial data mining software.

CO2: Solve real data mining problems by using association mining techniques with modern tools / programming.

CO3: Solve real data mining problems by using Supervised/Unsupervised mining techniques with modern tools / programming.

CO4: Improve individual / team work skills, communication & report writing skills with ethical values.

Pre requisite: DBMS, probability and statistics

	Lakireddy Bali Reddy College of Engineering	
	Department of CSE	
	Outcome based lesson plan	
	Academic year: 2019-2020	Course: DMDW LAB
	Programme: B.Tech	Exp No: 1 to 14
	Year & Sem: III & II (VI 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 Cycles	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-B sec

S.NO	TOPIC TO BE COVERED	Date		TLP	DM	AM
		Tentative	Actual			
1	Introduction to Weka tool	03/04/21		1	1,2	2,4,6
2	Cycle-1	10/04/21		1	1,2	
3	Cycle-2	17/04/21		1	1,2	
4	Cycle-3	24/04/21		1	1,2	
5	Cycle-4	01/05/21		1	1,2	
6	Cycle-5	08/05/21		1	1,2	
7	Cycle-6	15/05/21		1	1,2	
8	Cycle-7	22/05/21		1	1,2	

09	Cycle-8	29/05/21		1	1,2	
10	Cycle-9	05/06/21		1	1,2,7	
11	Cycle-10	12/06/21		1	1,2,7	
12	Cycle-11	19/06/21		1	1,2,7	
13	Cycle-12	26/06/21		1	1,2,7	
14	Internal Exam	03/07/21				

Assessment Summary:

Assessment Task	Weight age (Marks)	**Course Outcomes**			
		CO1	CO2	CO3	CO4
Day-Day Performance	20				
Viva	05				
Internal Test	10				
Attendance	5				
End Exam	60				
Total	100				

Mapping Course Outcomes with Programme Outcomes:

Course Code	Programme Outcomes															
	COs	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
17CI66	CO1	2	3	1	-	3	-	-	-	-	-	-	2	2	3	-
	CO2	2	2	3	2	3	2	-	-	-	-	-	2	2	3	-
	CO3	2	2	3	2	3	2	-	-	-	-	-	2	2	3	-
	CO4	-	-	-	-	-	-	-	2	2	2	-	-	-	-	-

1 = Slight (Low) 2 = Moderate (Medium) 3-Substantial (High)

	Instructor	Course Coordinator	Module Coordinator	HOD
Name	A S R C MURTHY	A S R C MURTHY	Dr. M. S. Rao	Dr. D. Veeraiah
Sign with Date				