

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

COURSE HANDOUT

Part-A

PROGRAM : B.Tech., I-Sem., CIVIL
ACADEMIC YEAR : 2019-20
COURSE NAME & CODE : Differential Equations and Linear Algebra– 17FE04
L-T-P STRUCTURE : 4-1-0
COURSE CREDITS : 4
COURSE INSTRUCTOR : Mrs. G.Vijaya Lakshmi
COURSE COORDINATOR : Dr. A. Rami Reddy

PRE-REQUISITES: Basics of Differential Equations, Partial Differentiation, Matrices.

COURSE EDUCATIONAL OBJECTIVES (CEOs): The objective of this course is to introduce the first order and higher order differential equations, functions of several variables. The students will also learn Matrix Algebra.

COURSE OUTCOMES (COs)

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

CO1	Apply first order and first degree differential equations to find Orthogonal trajectories and to calculate current flow in a simple LCR circuit.
CO2	Discriminate among the structure and procedure of solving a higher order differential equations with constant coefficients and variable coefficients.
CO3	Developing continuous functions as an infinite series and compute the Jacobian to determine the functional dependence.
CO4	Distinguish among the pros and cons between the Row operation methods and Iterative methods in solving system of linear equations.
CO5	Compute the Eigen values and Eigen vectors and powers, Inverse of a square matrix through Cayley – Hamilton theorem

COURSE ARTICULATION MATRIX (Correlation between COs&POs):

CO NO.	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	-	1	-	-	-	-	-	-	-	1
CO2	3	2	-	1	-	-	-	-	-	-	-	1
CO3	3	2	-	1	-	-	-	-	-	-	-	1
CO4	3	2	-	-	-	-	-	-	-	-	-	1
CO5	3	2	-	-	-	-	-	-	-	-	-	1

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

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

BOS APPROVED TEXT BOOKS:

- T1** Dr. B.S. Grewal, "Higher Engineering Mathematics", 42nd Edition, Khanna Publishers, New Delhi, 2012.
T2 Dr. B. V. Ramana, "Higher Engineering Mathematics", 1st Edition, TMH, New Delhi, 2010.

BOS APPROVED REFERENCE BOOKS:

- R1** Michael D. Greenberg , “Advanced Engineering Mathematics”, 2nd Edition, TMH, New Delhi, 2011.
- R2** Erwin Kreyszig, “Advanced Engineering Mathematics”, 8th Edition, John Wiley & Sons, New Delhi, 2011.
- R3** W.E. Boyce, R.C. DiPrima, ”Elementary Differential Equations”, 7th Edition, John Wiley and sons, New Delhi, 2001.

Part-B**COURSE DELIVERY PLAN (LESSON PLAN):**

S.No.	Topics to be covered	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	Learning Outcome COs	Text Book followed	HOD Sign Weekly
1.	Introduction to Subject	1	26/08/19		TLM1			
2.	Course Outcomes	1	27/08/19		TLM1			
UNIT-I : Differential Equations of First Order and First Degree								
3.	Introduction to UNIT-I	1	28/08/19		TLM1	CO1	T1,T2	
4.	Formation of Differential Equations	1	30/08/19		TLM1	CO1	T1,T2	
5.	Exact DE	1	30/08/19		TLM1	CO1	T1,T2	
6.	Non-exact DE Type I	1	03/09/19		TLM1	CO1	T1,T2	
7.	Non-exact DE Type II	1	04/09/19		TLM1	CO1	T1,T2	
8.	TUTORIAL - I	1	06/09/19		TLM3	CO1	T1,T2	
9.	Non-exact DE Type III	1	06/09/19		TLM1	CO1	T1,T2	
10.	Non-exact DE Type IV	1	09/09/19		TLM1	CO1	T1,T2	
11.	Orthogonal Trajectories (Cartesian)	1	11/09/19		TLM1	CO1	T1,T2	
12.	Orthogonal Trajectories (polar)	1	13/09/19		TLM1	CO1	T1,T2	
13.	TUTORIAL - II	1	13/09/19		TLM3	CO1	T1,T2	
14.	Newton's Law of cooling	1	16/09/19		TLM1	CO1	T1,T2	
15.	Law of Natural Growth	1	17/09/19		TLM1	CO1	T1,T2	
16.	Law of Natural Decay	1	18/09/19		TLM1	CO1	T1,T2	
17.	Assignment/Quiz	1	20/09/19		TLM6	CO1	T1,T2	
No. of classes required to complete UNIT-I		15	No. of classes taken:					

UNIT-II : Higher Order Differential Equations								
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
18.	Introduction to UNIT II	1	20/09/19		TLM1	CO2	T1,T2	
19.	Solving a homogeneous DE	1	23/09/19		TLM1	CO2	T1,T2	
20.	Finding Particular Integral	1	24/09/19		TLM1	CO2	T1,T2	
21.	P.I for $e^{ax+b} e^{ax}$	1	25/09/19		TLM1	CO2	T1,T2	
22.	P.I for for Cosbx, or sinbx	1	27/09/19		TLM1	CO2	T1,T2	
23.	TUTORIAL-3	1	27/09/19		TLM3	CO2	T1,T2	
24.	P.I for polynomial function	1	30/09/19		TLM1	CO2	T1,T2	
25.	P.I for $e^{ax+b} v(x)$	1	01/10/19		TLM1	CO2	T1,T2	
26.	P.I for $e^{ax+b} v(x)$	1	04/10/19		TLM1	CO2	T1,T2	
27.	P.I for $x^k v(x)$	1	04/10/19		TLM1	CO2	T1,T2	
28.	P.I for $x^k v(x)$	1	14/10/19		TLM1	CO2	T1,T2	
29.	Method of Variation of parameters	1	15/10/19		TLM1	CO2	T1,T2	
30.	TUTORIAL-4	1	16/10/19		TLM3	CO2	T1,T2	
31.	Assignment/Quiz	1	18/10/19		TLM6	CO2	T1,T2	
32.	Revision	1	18/10/19					
No. of classes required to complete UNIT-II		15			No. of classes taken:			

UNIT-III : Functions of Several Variables, Partial Differential Equations								
S.No.	Topics to be covered	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	Learning Outcome COs	Text Book followed	HOD Sign Weekly
33.	Introduction to UNIT III	1	28/10/19		TLM1	CO3	T1,T2	
34.	Generalized Mean Value Theorem	1	29/10/19		TLM1	CO3	T1,T2	
35.	Taylor's series	1	30/10/19		TLM1	CO3	T1,T2	
36.	Maclaurin's series	1	1/11/19		TLM1	CO3	T1,T2	
37.	Functions of several variables	1	01/11/19		TLM1	CO3	T1,T2	
38.	Jacobians (polar, cylindrical, spherical coordinates)	1	04/11/19		TLM1	CO3	T1,T2	
39.	Functional dependence	1	05/11/19		TLM1	CO3	T1,T2	

40.	TUTORIAL-5	1	08/11/19		TLM3	CO3	T1,T2	
41.	Formation of PDE by elimination of arbitrary constants	2	06/11/19 8/11/19		TLM1	CO3	T1,T2	
42.	Formation of PDE by elimination of arbitrary functions	1	11/11/19		TLM1	CO3	T1,T2	
43.	Lagrange's method.	1	12/11/19		TLM1	CO3	T1,T2	
44.	TUTORIAL-6	1	13/11/19		TLM3	CO3	T1,T2	
45.	Assignment	1	15/11/19		TLM6	CO3	T1,T2	
46.	Quiz	1	15/11/19		TLM6	CO3	T1,T2	
No. of classes required to complete UNIT-III		15			No. of classes taken:			

UNIT-IV : System of Linear Equations								
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
47.	Introduction to UNIT IV	1	18/11/19		TLM1	CO4	T1,T2	
48.	Matrices - Rank	1	19/11/19		TLM1	CO4	T1,T2	
49.	Echelon form	1	20/11/19		TLM1	CO4	T1,T2	
50.	Normal form	1	21/11/19		TLM1	CO4	T1,T2	
51.	TUTORIAL-7	1	22/11/19		TLM3	CO4	T1,T2	
52.	Normal form through PAQ	1	25/11/19		TLM1	CO4	T1,T2	
53.	Solution of Linear Systems	1	26/11/19		TLM1	CO4	T1,T2	
54.	Non Homogeneous system of equations	1	27/11/19		TLM1	CO4	T1,T2	
55.	TUTORIAL-8	1	29/11/19		TLM3	CO4	T1,T2	
56.	Non Homogeneous system of equations	1	29/11/19		TLM1	CO4	T1,T2	
57.	Homogeneous system of equations	1	02/12/19		TLM1	CO4	T1,T2	
58.	Homogeneous system of equations	1	03/12/19		TLM1	CO4	T1,T2	
59.	Assignment	1	04/12/19		TLM6	CO4	T1,T2	
60.	Quiz	1	06/12/19		TLM6	CO4	T1,T2	
No. of classes required to complete UNIT-IV		14			No. of classes taken:			

UNIT-V : Eigen Values and Eigen Vectors								
S.No.	Topics to be covered	No. of Classes	Tentative Date of	Actual Date of	Teaching Learning	Learning Outcome	Text Book	HOD Sign

		Required	Completion	Completion	Methods	COs	followed	Weekly
61.	Introduction to UNIT V	1	06/12/19		TLM1	CO5	T1,T2	
62.	Eigen values – Eigen Vectors	1	09/12/19		TLM1	CO5	T1,T2	
63.	Properties	1	10/12/19		TLM1	CO5	T1,T2	
64.	Finding Eigen values – Eigen Vectors	1	11/12/19		TLM1	CO5	T1,T2	
65.	Finding Eigen values – Eigen Vectors	1	13/12/19		TLM1	CO5	T1,T2	
66.	TUTORIAL - 9	1	13/12/19		TLM3	CO5	T1,T2	
67.	Cayley Hamilton Theorem	1	16/12/19		TLM1	CO5	T1,T2	
68.	Inverse and Powers of a matrix by using Cayley Hamilton Theorem.	1	17/12/19		TLM1	CO5	T1,T2	
69.	Inverse and Powers of a matrix by using Cayley Hamilton Theorem.	1	18/12/19		TLM1	CO5	T1,T2	
70.	TUTORIAL-10	1	20/12/19		TLM3	CO5	T1,T2	
71.	Assignment	1	20/12/19		TLM6	CO5	T1,T2	
72.	Quiz	1	23/12/19		TLM6	CO5	T1,T2	
73.	Revision	1	24/12/19					
74.	Revision	1	27/12/19					
No. of classes required to complete UNIT-V		14			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
75.	Solving System of Equations using other methods	1	27/11/19		TLM1	CO4	T1,T2	

Teaching Learning Methods

TLM1	Chalk and Talk	TLM5	ICT (NPTEL/Swayam Prabha/MOOCs)
TLM2	PPT	TLM6	Assignment or Quiz
TLM3	Tutorial	TLM7	Group Discussion/Project
TLM4	Demonstration (Lab/Field Visit)		

Part - C

EVALUATION PROCESS:

Evaluation Task	Units	Marks
Assignment– 1	1	A1=5
Assignment– 2	2	A2=5

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

PROGRAMME OUTCOMES (POs)

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

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

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

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

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

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

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

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

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

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

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

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

G.Vijaya Lakshmi	Dr. A. Rami Reddy	Dr. A. Rami Reddy	Dr. A. Rami Reddy
Course Instructor	Course Coordinator	Module Coordinator	HOD

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COURSE HANDOUT

Part-A

PROGRAM : B.Tech., I-Sem., CE

ACADEMIC YEAR : 2019-2020

COURSE NAME & CODE : ENGINEERING PHYSICS & 17FE13

• **L-T-P STRUCTURE** : 4-1-0

COURSE CREDITS : 4

COURSE INSTRUCTOR : Dr. S. YUSUB

COURSE COORDINATOR : Dr. T. VASANTHA RAO

Pre-requisites : Basics in Light, Crystals, Magnetism, Conductivity etc.,

Course Educational Objectives : To make students learn the basic concepts of Optics such as Interference, Diffraction, Polarization and Lasers; the principle of quantum mechanics, different types of crystals, magnetic materials and the concepts of super conductivity.

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

CO1 : Define the nature of Interference and Diffraction.

CO2 : Describe the polarization and LASER, types of lasers and their applications.

CO3 : Analyze the dual nature of matter waves and the crystal structures.

CO4 : Identify the different types of magnetic materials and their applications.

CO5 : Propose the different superconducting materials.

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

Course Code	COs	Programme Outcomes												PSOs		
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
17FE13	CO1	3	3	1	1	1	1	1					1			
	CO2	3	3	2	1	1	1	1					1			
	CO3	3	3	1	1	1	1	1					1			
	CO4	3	3	2	1	1	1	1					1			
	CO5	3	3	2	1	1	1	1					1			
1 = Slight (Low)		2 = Moderate (Medium)						3-Substantial(High)								

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

BOS APPROVED TEXT BOOKS:**Text Books:****TEXT BOOKS**

T1 : V. Rajendran, “*Engineering Physics*”, TMH, New Delhi, 6th Edition, 2013.

T2 : D. K.Bhattacharya, Poonam Tandon, “ *Applied Physics*”, Oxford press, New Delhi, 1st Edition, 2016.

REFERENCES

R1: M.N. Avadhanulu, TVS Arun Murthy, “*Applied Physics*”, S. Chand & Co., 2nd Edition, 2007.

R2 : P.K. Palani Samy, “*Applied Physics*”, Sci. Publ. Chennai, 4th Edition, 2016.

R3 : P. Sreenivasa Rao, K Muralidhar, “*Applied Physics*”, Him. Publi. Mumbai, 1st Edition, 2016.

R4 : Hitendra K Mallik , AK Singh “ *Engineering Physics*”, TMH, New Delhi, 1st Edition, 2009.

Part-B**COURSE DELIVERY PLAN (LESSON PLAN):****UNIT-I : Interference and diffraction**

S.N o.	Topics to be covered	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	Learning Outcome COs	Text Book followed	HOD Sign Weekly
1.	Introduction to Subject, Course Outcomes	1	26-8-19		TLM2	CO1	T1 or T2	
2.	Introduction to UNIT-I	1	27-8-19		TLM1	CO1	T1 or T2	
3.	Superposition of waves,	1	29-8-19		TLM1	CO1	T1 or T2	
4.	Coherence, Conditions for Interference	1	30-8-19		TLM1	CO1	T1 or T2	
5.	Interference from thin films	1	31-8-19		TLM1	CO1	T1 or T2	
6.	Newton’s rings	2	3-9-19 5-9-19		TLM1	CO1	T1 or T2	
7.	Michelson’s interferometer	1	6-9-19		TLM1	CO1	T1 or T2	

8.	Tutorial -1	1	7-9-19		TLM3			
9.	Michelson's interferometer	1	9-9-19		TLM1	CO1	T1 or T2	
10.	Introduction – Diffraction	1	12-9-19		TLM1	CO1	T1 or T2	
11.	Single slit diffraction	1	13-9-19		TLM1	CO1	T1 or T2	
12.	TUTORIAL-2		14-9-19		TLM3			
13.	Double slit diffraction	1	16-9-19		TLM1	CO1	T1 or T2	
14.	Diffraction –Circular aperture	1	17-9-19		TLM1	CO1	T1 or T2	
15.	Diffraction –N parallel slits, Diffraction grating,	1	19-9-19		TLM1	CO1	T1 or T2	
16.	Resolving power of grating, Resolving power of Telescope	1	20-9-19		TLM1	CO1	T1 or T2	
17.	TUTORIAL-3		21-9-19		TLM3			
18.	Assignment/Quiz	1	23-9-19		TLM6	CO1	T1 or T2	
No. of classes required to complete UNIT-I		17			No. of classes taken: 17			

UNIT-II : Polarisation and Lasers

S.No.	Topics to be covered	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	Learning Outcome COs	Text Book followed	HOD Sign Weekly
19.	UNIT II :introduction polarization of light, Brewster's law Double refraction, Geometry of calcite crystal	1	24-9-19		TLM1	CO2	T1 or T2	
20.	Nicol Prism, QWP& HWP	1	26-9-19		TLM1	CO2	T1 or T2	

21.	Optical Activity, polarimeter Introduction - characteristics of Lasers		27-9-19		TLM1	CO2		
22.	TUTORIAL-3	1	28-9-19		TLM3			
23.	Principle of Laser, Einstein's coefficients	1	30-9-19		TLM1	CO2	T1 or T2	
24.	Population inversion, Pumping mechanism,	1	1-10-19		TLM1	CO2	T1 or T2	
25.	Nd-YAG Laser He-Ne gas laser	1	3-10-19		TLM1	CO2	T1 or T2	
26.	Assignment / Quiz	1	4-10-19		TLM6	CO2	T1 or T2	
27.	TUTORIAL-4	1	5-10-19		TLM3			
No. of classes required to complete UNIT-II		13			No. of classes taken: 12			

UNIT-III : PRINCIPLES OF QUANTUM MECHANICS & FREE ELECTRON THEORY

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
28.	I MID	1	14-10-19			Co1, Co2		
29.	I MID	1	15-10-19			Co1, Co2		
30.	I MID	1	16-10-19			Co1, Co2		
31.	I MID	1	17-10-19			Co1, Co2	T1 or T2	

32.	I MID	1	18-10-19			CO1, CO2	T1 or T2	
33.	I MID		19-10-19			CO1, CO2	T1 or T2	
34.	Introduction to principles of quantum mechanics De Broglie hypothesis	2	21-10-19 22-10-19		TLM1	CO3	T1 or T2	
35.	Experimental verification Davisson and Germer Experiment	2	24-10-19 25-10-19		TLM1	CO3	T1 or T2	
36.	TUTORIAL- 5		26-10-19		TLM3			
37.	Schrodinger wave equation	2	28-10-19		TLM1	CO3	T1 or T2	
38.	Physical significance of wave function	1	29-10-19		TLM1	CO3	T1 or T2	
39.	Particle in a box	2	31-10-19 1-11-19		TLM1	CO3	T1 or T2	
40.	TUTORIAL- 6	1	2-11-19		TLM3			
41.	Fundamental terms of crystallography	2	4-11-19 5-11-19		TLM1	CO3	T1 or T2	
42.	Types of crystals	2	7-11-19 8-11-19		TLM1	CO3	T1 or T2	
43.	Miller Indices	2	11-11-19		TLM1	CO3	T1 or T2	

			12-11-19					
44.	Relation between Inter planar and atomic distance	1	14-11-19		TLM1	CO3	T1 or T2	
45.	simple cubic crystal structure	1	15-11-19		TLM1	CO3	T1 or T2	
46.	TUTORIAL-7	1	16-11-19		TLM3			
47.	Body centred cubic structure	1	18-11-19 19-11-19		TLM1	CO3	T1 or T2	
48.	Face centred cubic structure	1	21-11-19		TLM1	CO3	T1 or T2	
49.	Bragg's law, Laue's method	1	22-11-19		TLM1	CO3	T1 or T2	
50.	TUTORIAL-7	1	23-11-19		TLM3			
51.	Assignment / Quiz - 3	1	25-11-19		TLM1	CO3	T1 or T2	
No. of classes required to complete UNIT-III		14				No. of classes taken: 13		

UNIT-IV : MAGNETIC MATERIALS

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
52.	Magnetic parameters	1	26-11-19		TLM1	CO4	T1 or T2	
53.	Classification of magnetic materials	2	28-11-19 29-11-19		TLM1	CO4	T1 or T2	
54.	TUTORIAL-9	1	30-11-19		TLM3			

55.	Diamagnetic materials, paramagnetic materials, ferromagnetic materials	1	2-12-19		TLM1	CO4	T1 or T2	
56.	Antiferromagnetic materials and Ferri magnetic materials	1	3-12-19		TLM1	CO4	T1 or T2	
57.	Weiss theory of ferro magnetism	1	5-12-19		TLM1	CO4	T1 or T2	
58.	soft and hard magnetic materials,.	1	6-12-19		TLM1	CO4	T1 or T2	
59.	TUTORIAL-10	1	7-12-19		TLM3			
60.	Applications of magnetic materials	1	9-12-19		TLM1	CO4	T1 or T2	
61.	Assignment / Quiz - 4	1	10-12-19		TLM1	CO4	T1 or T2	
No. of classes required to complete UNIT-IV		13			No. of classes taken: 13			

UNIT-V : SUPER CONDUCTIVITY

S.No.	Topics to be covered	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	Learning Outcome COs	Text Book followed	HOD Sign Weekly
62.	SUPER CONDUCTIVITY Introduction General properties of super conducting material	1	12-12-19		TLM3			
63.	Meissner effect	1	13-12-19		TLM1	CO5	T1 or R2	
64.	Effect of electric current	1	16-12-19		TLM1	CO5	T1 or R2	
65.	Types of super conductors- Type I	1	17-12-19		TLM1	CO5	T1 or R2	

	super conductors, Type II super conductors							
66.	DC and AC Josephson Effect	1	19-12-19		TLM1	CO5	T1 or R2	
67.	London Equations Applications of super conductors- SQUID , Cryotron, Magnetic levitation	1	20-12-19		TLM1	CO5	T1 or R2	
68.	TUTORIAL-11	1	21-12-19		TLM3			
69.	II MID EXAM		23-12-19		TLM1	CO3,CO4,CO5	T1 or R2	
70.	II MID EXAM		24-12-19		TLM3	CO3,CO4,CO5		
71.	II MID EXAM		26-12-19		TLM1	CO3,CO4,CO5	T1 or R2	
72.	II MID EXAM		27-12-19		TLM1	CO3,CO4,CO5	T1 or R2	
73.	II MID EXAM		28-12-19		TLM3	CO3,CO4,CO5		
No. of classes required to complete UNIT-V		12				No. of classes taken: 13		

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
1.	Electron microscope	1	18-12-19		TLM1		T1 or T2	
2.	Nano materials	1	19-12-19		TLM1		T1 or T2	

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

Part - C

EVALUATION PROCESS:

Evaluation Task	COs	Marks
I-Mid Examination (Descriptive) =A	1,2	A=20
II-Mid Examination (Descriptive) =B	3,4,5	B=20
Evaluation of Mid Marks: $A+B = 75\% \text{ of Max}(A,B) + 25\% \text{ of Min}(A,B)$	1,2,3,4,5	$A+B = 20$
I- QUIZ Examination(ONLINE) = C	1,2	C =10
II- QUIZ Examination (ONLINE) =D	3,4,5	D =10
Evaluation of QUIZ Marks: $C+D = 75\% \text{ of Max}(C,D) + 25\% \text{ of Min}(C,D)$	1,2,3,4,5	$C+D = 10$
Evaluation of assignments /quiz =E	1,2,3,4,5	E = 5
Evaluation of attendance Marks = F	1,2,3,4,5	F = 5
Cumulative Internal Examination : $(A + B) + (C + D) + E + F = 40$	1,2,3,4,5	40
Semester End Examinations = G	1,2,3,4,5	G = 60
Total Marks: $(A + B) + (C + D) + E + F + G =$	1,2,3,4,5	100

PROGRAMME EDUCATIONAL OBJECTIVES (PEOs)

Graduates of Information Technology programme will be:

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

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

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

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

PROGRAM OUTCOMES:

Engineering Graduates will be able to:

1. Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
2. Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
3. Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
4. Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.


5. Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
6. The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
7. Environment and sustainability: Understand the impact of the professional engineering solution in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
8. Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
9. Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings
10. Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
11. Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
12. Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

PROGRAM SPECIFIC OUTCOMES (PSOs):

Graduate of the Information Technology will have the ability to

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

Dr. S. YUSUB	Dr T. VASANTHA RAO	Dr T. VASANTHA RAO	Dr A. RAMIREDDY
Course Instructor	Course Coordinator	Module Coordinator	HOD

	LESSON PLAN	
	Department: EEE Course: – Computer Programming (17CI01) SEM: I	Program: B.Tech Academic Year: 2019-2020

COURSE HANDOUT

Part-A

PROGRAM : B.Tech, I-SEM, CIVIL ENGG
ACADEMIC YEAR : 2019-20
COURSE NAME & CODE : **Computer Programming – 17CI01**
L-T-P STRUCTURE : 2-2-0
COURSE CREDITS : 3
COURSE INSTRUCTOR : J NAGESWARA RAO
COURSE COORDINATOR : ASR MURTHY
PRE-REQUISITES: Nil

Course Educational Objectives (CEOs):

In this course student will learn about

The basic elements of C programming like data types, expressions, control statements, various I/O functions and to solve simple mathematical problems using control structures. The derived data types like arrays, strings, various operations on them. Modular programming using functions and Memory management using pointers. User defined structures and various operations on it. The basics of files and its I/O operations.

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

CO1: Identify basic elements of C programming structures like data types, expressions, control statements, various simple functions and in view of using them in problem solving.

CO2: Apply various operations on derived data types like arrays and strings in problem solving.

CO3: Design and Implement of modular Programming and memory management using pointers.

CO4: Implement user defined data structures used in specific applications.

CO5: Compare different file I/O operations on text and binary files.

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

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

BOS APPROVED TEXT BOOK:

T1.Jeri R.Hanly, Elliot B.Koffman, Problem Solving and Program Design in C, Pearson Publishers, 7th Edition, 2013

BOS APPROVED REFERENCE BOOKS:

R1.N.B.Venkateswarlu and E.V.Prasad, C and Data Structures, S.Chand Publishing, 1st Edition, 2010,

R2. Reema Thareja, Programming in C, Oxford University Press, 2nd Edition, 2015

R3. Stephen G.Kochan, Programming in C, Pearson Education, 3rd Edition, 2005

R4. Pradeep Dey, Manas Ghosh, Programming in C, Oxford University Press, 2nd Edition, 2011

R5. E Balagurusamy, Computer Programming, McGraw Hill Education, 1st Edition

COURSE DELIVERY PLAN (LESSON PLAN):**UNIT- I:**

S.No.	Topics to be covered	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	Learning Outcome COs	Text Book followed	HOD Sign Weekly
1.	Fundamentals of Computers	1	26-8-2019		1	CO 1	T1	
2.	Algorithm/pseudo code	1	28-8-2019		1	CO 1	T1	
3.	Flow charts, Examples	1	28-8-2019		1	CO 1	T1	
4.	Examples on Algorithm/pseudo code.	1	31-8-2019		1	CO 1	T1	
5.	Examples on Flow charts.	1	2-9-2019		1	CO 1	T1	
6.	Introduction to c language	1	4-9-2019		1	CO 1	T1	
7.	C advantages , C tokens	1	4-9-2019		1			
8.	Constants, keywords	1	7-9-2019		1	CO 1	T1	
9.	Identifiers, variables	1	9-9-2019		1	CO 1		
10.	Structure of a c program, Input and output statements,	1	11-9-2019		1	CO 1	T1	
11.	Basic data types and sizes. Variable declaration & initialization.	1	11-9-2019		1	CO 1	T1	
12.	Arithmetic, relational and logical operators.	1	14-9-2019		1	CO 1	T1	
13.	Increment/decrement, assignment and conditional operators	1	16-9-2019		1	CO 1	T1	
14.	Bitwise operators, conditional expressions, order of evaluation	1	18-9-2019		3		T1	

15.	Type conversion, Examples	1	18-9-2019		3	CO 1	T1	
16.	Decision making with simple if, if else and nested if else statements.	1	21-9-2019		1	CO 1	T1	
17.	Else-if ladder, switch statement	1	21-9-2019		1	CO 1	T1	
18.	Programs on if constructs	1	23-9-2019		1	CO 1	T1	
19.	TUTORIAL / ASSIGNMENT- 1	1	25-9-2019		1	CO 1	T1	
20.	while, do- while loops	1	25-9-2019		1	CO 1	T1	
21.	For, break & continue statements	1	28-9-2019		1	CO 1	T1	
22.	goto and labels	1	30-9-2019		1	CO 1	T1	
No. of classes required to complete UNIT-I		22			No. of classes taken:			

UNIT-II:

S.No.	Topics to be covered	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	Learning Outcome COs	Text Book followed	HOD Sign Weekly
23.	Arrays definition, declaration and examples	1	09-10-2019		1	CO 2	T1	
24.	Accessing elements, storing elements.	1	9-10-2019		1	CO 2	T1	
25.	Two- dimensional arrays, Accessing element	1	14-10-2019		1	CO 2	T1	
26.	Multi-dimensional arrays, applications of arrays.	1	16-10-2019		1	CO 2	T1	
27.	Character arrays – Strings, Accessing	1	16-10-2019		1	CO 2	T1	
28.	Program on String accessing, operation	1	19-10-2019		1	CO 2	T1	
29.	Program on String accessing, operation, String handling functions	1	19/10/19		1	CO 2	T1	
No. of classes required to complete UNIT-II		7			No. of classes taken:			

UNIT-III :

S.No.	Topics to be covered	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	Learning Outcome COs	Text Book followed	HOD Sign Weekly
30.	Pointers: concepts, initialization of pointer variables	1	28/10/19		1	CO 3	T2	
31.	Pointers and Arrays, Strings.	1	30/10/19		1	CO 3	T1	
32.	Pointers to pointers, Examples	1	30/10/19		1	CO 3	T2	
33.	Pre-processor directives, Macros	1	02/11/19		1	CO 3	T2	
34.	Example Programs on pointers	1	02/11/19		1	CO 3	T2	
35.	Example Programs on pointers	1	04/11/19		1	CO 3	T2	
36.	TUTORIAL / ASSIGNMENT-3	1	06/11/19		3		T1	
37.	Introduction to modular programming	1	06/11/19		1	CO 3	T2	
38.	Functions: Basics of functions, categories,	1	09/11/19		1	CO 3	T2	
39.	Standard library functions,	1	11/11/19		1	CO 3	T2	
40.	Traffic signs , Need and specifications of road markings	1	13/11/19		1	CO 3	T2	
41.	Parameter passing techniques, Examples	1	13/11/19		1	CO 3	T1	
42.	Recursion in functions, examples	1	16/11/19		1	CO 3	T1	
43.	TUTORIAL / ASSIGNMENT-4	1	18/11/19		1	CO 3	T1	
44.	Functions with arrays, passing arrays as parameters	1	20/11/19		1	CO 3	T1	
45.	Functions with	1	20/11/19		3	CO 3		

	pointers						T1	
46.	Programs on functions with arrays and pointers	1	23/11/19		3	CO 3	T1	
47.	Storage classes – auto, static, extern, register	1	25/11/19		1	CO 3	T1	
48.	Dynamic memory management techniques, examples	1	27/11/19		1	CO 3	T1	
49.	Command line arguments, programs	1	27/11/19		1	CO 3	T1	
50.	Programs on Command line arguments	1	30/11/19		1	CO 3	T1	
No. of classes required to complete UNIT-III		20			No. of classes taken:			

UNIT-IV:

S.No.	Topics to be covered	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	Learning Outcome COs	Text Book followed	HOD Sign Weekly
51.	Introduction to structures, use of structures in programming	1	30/11/19		1	CO 4	T1	
52.	Structures declaration, definition and initialization	1	02/12/19		1	CO 4	T1	
53.	Programs on structure creation, accessing and printing	1	04/12/19		4	CO 4	T1	
54.	Use of arrays as members in structure	1	04/12/19		4	CO 4	T1	
55.	Nested structures, Arrays of structures	1	07/12/19		1	CO 4	T1	
56.	Example programs on structures	1	09/12/19		1	CO 4	T1	
57.	Structures and functions, examples	1	09/12/19		3			
58.	Pointers to structures	1	11/12/19		1	CO 4	T1	

59.	Self-referential structures	1	14/12/19		1	CO 4	T1	
60.	Unions and differences over structures	1	16/12/19		1	CO 4	T1	
61.	Typedef, bit fields	1	18/12/19		1	CO 4	T1	
62.	Example programs on Unions				3	CO 4	T1	
63.	TUTORIAL / ASSIGNMENT-5	1	18/12/19			CO 4	T1	
No. of classes required to complete UNIT-IV		12			No. of classes taken:			

UNIT-V:

S.No.	Topics to be covered	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	Learning Outcome COs	Text Book followed	HOD Sign Weekly
64.	File Concept, text files, reading & writing	1	21/12/19		1	CO 5	T1	
65.	binary files, modes of operation	1	23/12/19		1	CO 5	T1	
66.	Standard I/O operations	1	23/12/19		1	CO 5	T1	
67.	Formatted I/O operations				1	CO 5	T1	
68.	File I/O operations	1	28/12/19		1	CO 5		
69.	Error handling functions				1	CO 5	T1	
70.	Programs on file creation, Programs on file reading and writing data	1 1	28/12/19		1	CO 5	T1	
71.	TUTORIAL / ASSIGNMENT-6	1	30/12/19		1	CO 5	T1	
No. of classes required to complete UNIT-V		06			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
72.								
73.								
74.								

Teaching Learning Methods

TLM1	Chalk and Talk	TLM4	Demonstration (Lab)
TLM2	PPT	TLM5	ICT (NPTEL/Swayam Prabha/MOOCs)
TLM3	Tutorial	TLM6	Group Discussion/Project

ACADEMIC CALENDAR:

Description	From	To	Weeks
Commencement of class work	05/08/2019		
Induction program	05/08/2019	24/09/2019	3W
I Phase of Instructions-I	26/08/2019	19/10/2019	7W
I Mid Examinations	21/10/2019	26/10/2019	1W
II Phase of Instructions	28/10/2019	28/12/2019	9W
II Mid Examinations	30/12/2019	04/01/2019	1W
Preparation and Practicals	06/01/2019	18/01/2019	2W
Semester End Examinations	20/01/2019	31/01/2019	2W

Part – C

EVALUATION PROCESS:

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

PROGRAMME EDUCATIONAL OBJECTIVES (PEOs):

- To possess knowledge in both fundamental and application aspects of mathematical, scientific, engineering principles to analyze complex engineering problems for meeting the national and international requirements and demonstrating the need for sustainable development.

2. To adapt to the modern engineering tools for planning, analysis, design, implementation of analytical data and assess their relevant significance in societal and legal issues necessary in their professional career.
3. To exhibit professionalism, ethical attitude, communication, managerial skills, team work and social responsibility in their profession and adapt to current trends by engaging in continuous learning.

PROGRAMME OUTCOMES (POs):

At the end of the programme, the students will possess-

- a. An ability to apply knowledge of mathematics, science, and engineering for engineering applications of national and international requirements.
- b. An ability to identify-, formulate-, and analyze- complex engineering problems
- c. An ability to design the experiments, analyze and interpret the data
- d. An ability to use the techniques, skills, resources and modern engineering tools necessary to solve civil engineering problems
- e. An ability to assess reasoning informed by contextual knowledge to assess health, safety, legal and cultural issues relevant to professional engineering practice
- f. An ability to demonstrate the knowledge needed for sustainable development
- g. An ability to apply ethical principles and responsibilities in engineering practice
- h. An ability to function effectively as an individual and as a team member or leader in multi disciplinary settings
- i. An ability to communicate effectively
- j. An ability to demonstrate knowledge of engineering and management principles and apply to one's own work either as a member or as a team leader in managing projects
- k. An ability to engage in life-long learning to keep abreast with technological changes

PSO's

- PSO1:** Possesses necessary skill set to analyze and design various systems using analytical and software tools related to civil engineering
- PSO2:** Possesses ability to plan, examine and analyze the various laboratory tests required for the professional demands
- PSO3:** Possesses basic technical skills to pursue higher studies and professional practice in civil engineering domain

J.NAGESWARA RAO		
Course Instructor	Module Coordinator	HOD



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

COURSE HANDOUT

Part-A

PROGRAM : B.Tech.I-Sem., CIVIL
ACADEMIC YEAR : 2019-20
COURSE NAME & CODE : Professional Communication - I (17FE01)
L-T-P STRUCTURE : 3-0-0
COURSE CREDITS : 3
COURSE INSTRUCTOR : Ms. K. Sridevi
COURSE COORDINATOR: Dr.B.Samrajya Lakshmi

Pre-requisites : Basics in English Grammar & Vocabulary

Course Educational Objective (CEOs) : Improve the proficiency of students in English with an emphasis on Vocabulary & Grammar for better communication in formal and informal situations; Develop listening skills required for thorough understanding and analysis to face interviews with confidence.

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

- CO1 : Use English vocabulary & grammar effectively while speaking and writing.
- CO2 : Comprehend the given texts and Communicate confidently in formal and informal contexts.
- CO3 : Draft E-mails & Memos
- CO4 : Understand the written and spoken information thoroughly.
- CO5 : Face interviews with confidence.

Course Articulation Matrix:

Course Code	COs	Programme Outcomes												PSOs		
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
17FE01	CO1				2					3	3		2			
	CO2		1		2		1			3	3		2			
	CO3				2					3	3		2			
	CO4		1		2		1			3	3		2			
	CO5				2					3	3		2			
1 = Slight (Low) 2 = Moderate (Medium) 3-Substantial(High)																

BOS APPROVED TEXT BOOKS:

T1	Board of Editors, "Fluency in English – A Course book for Engineering Students", Orient Black Swan, Hyderabad, 2016.
T2	Dhanavel S.P, "English and Soft Skills", Orient Black Swan, Hyderabad, 2010.

BOS APPROVED REFERENCE BOOKS:

R1	Murphy, “English Grammar with CD”, Cambridge University Press, New Delhi, 2004.
R2	Rizvi Ashraf M., “Effective Technical Communication”, Tata Mc Graw Hill, New Delhi, 2008.
R3	Baradwaj Kumkum, “Professional Communication”, I.K.International Publishing House Pvt.Lt., New Delhi, 2008.
R4	Raman, Meenakshi; Sharma, Sangeeta,. “Technical Communication -Principles and Practice” Oxford University Press, New Delhi, Third Edition. 2015.

Part-B**COURSE DELIVERY PLAN (LESSON PLAN): Section-A/B/C****UNIT-I :**

S.No.	Topics to be covered	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	Learning Outcome COs	Text Book followed	HOD Sign Weekly
76.	Introduction to UNIT-I	1	26-08-2019		TLM1			
77.	Presidential Address – Dr. A.P.J. Abdul Kalam	1	28-08-2019		TLM1	CO1	T1	
78.	Word formation: Prefixes & suffixes	1	29-08-2019		TLM1, TLM2, TLM5	CO1	T1,R1,R3	
79.	Word formation: Compound Collocations	1	04-09-2019		TLM1, TLM2, TLM5	CO1	T1,R1,R3	
80.	Punctuation	1	05-09-2019		TLM1, TLM2, TLM5	CO1	T1,R1,R3	
81.	Parts of Speech	1	09-09-2019		TLM1, TLM2, TLM5	CO1	T1,R1,R3	
82.	Double Angels - David Scott	1	11-09-2019		TLM1	CO1	T1	
83.	Sentence structure; Paragraph writing	1	12-09-2019		TLM1, TLM2	CO1	T1,R2,R4	
84.	Dialogue writing	1	16-09-2019		TLM1, TLM2, TLM5, TLM6	CO1	T2,R2,R4	
No. of classes required to complete UNIT-I : 09					No. of classes taken:			

UNIT-II :

S.No.	Topics to be covered	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	Learning Outcome COs	Text Book followed	HOD Sign Weekly
85.	Satya Nadella’s E-Mail to his Employees	1	18-09-2019		TLM1, TLM6	CO2	T2	
86.	Words often confused- Homonyms, Homographs	2	19-09-2019 23-09-2019		TLM1, TLM6	CO2	T2,R2,R4	
87.	Words often confused - Homophones	1	25-09-2019		TLM1, TLM2, TLM5, TLM6	CO2	T2,R2,R4	
88.	Words often confused-	2	26-09-2019 30-09-2019		TLM1, TLM6	CO2	T2	
89.	Types of verbs	1	03-10-2019		TLM1, TLM6	CO2	T2,R2,R4	
90.	‘The Road Not Taken’ by Robert Frost	1	14-10-2019		TLM1, TLM2, TLM5, TLM6	CO2	T2,R2,R4	
91.	Letter Writing: Official Letters	2	16-10-2019 17-10-2019		TLM1, TLM2, TLM5, TLM6	CO2	T2,R2,R4	
No. of classes required to complete UNIT-II : 10					No. of classes taken:			

UNIT-III :

S.N o.	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
92.	Technology with a Human Face	1	28-10-2019		TLM1	CO3	T1	
93.	Synonyms & Antonyms	1	30-10-2019		TLM1, TLM2, TLM5, TLM6	CO3	T1,R2, R4	
94.	commonly misspelt	1	31-10-2019		TLM1, TLM2,	CO3	T1,R1, R3	

	words				TLM5, TLM6			
95.	Tenses: Types & Uses	1	04-11-2019		TLM1, TLM2, TLM5, TLM6	CO3	T1,R1, R3	
96.	'Preface' to Lyrical Ballads	1	06-11-2019		TLM1, TLM2, TLM5, TLM6	CO3	T1,R1, R3	
97.	E-mails	1	07-11-2019		TLM1, TLM6	CO3	T1	
98.	Memo drafting	1	11-11-2019		TLM1, TLM2, TLM5, TLM6	CO3	T1,R2, R4	
No. of classes required to complete UNIT-III : 07					No. of classes taken:			

UNIT-IV :

S.No.	Topics to be covered	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	Learning Outcome COs	Text Book followed	HOD Sign Weekly
99.	Listening Skills	1	13-11-2019		TLM1, TLM6	CO4	T2	
100.	The boy who broke the bank	1	14-11-2019		TLM1, TLM6	CO4	T2,R2,R4	
101.	Understanding the story, People, Places and Events	1	18-11-2019		TLM1, TLM6	CO4	T2,R2,R4	
102.	Understanding Places & Events	1	20-11-2019		TLM1, TLM6	CO4	T2,R2,R4	
103.	Exercises on Prefixes & suffixes	1	21-11-2019		TLM1, TLM2, TLM5, TLM6	CO4	T2,R2,R4	
104.	Active Listening	1	25-11-2019		TLM1, TLM2, TLM5, TLM6	CO4	T2,R1,R3	
105.	Proverbial expansion on Listening	1	27-11-2019		TLM1, TLM2, TLM5, TLM6	CO4	T2,R1,R3	
106.	Listening Skills	1	28-11-2019		TLM1, TLM2, TLM5, TLM6	CO4	T2,R1,R3	
No. of classes required to complete UNIT-IV : 08					No. of classes taken:			

UNIT-V :

S.No.	Topics to be covered	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	Learning Outcome COs	Text Book followed	HOD Sign Weekly
107.	Interview Skills	1	02-12-2019		TLM1, TLM6	CO5	T2	
108.	The lighthouse keeper of Aspinwall	2	04-12-2019 05-12-2019		TLM1, TLM6	CO5	T2,R2,R4	
109.	Understanding the story, People & World	1	09-12-2019		TLM1, TLM6	CO5	T2,R2,R4	
110.	Conjunctions	1	11-12-2019		TLM1, TLM2, TLM5, TLM6	CO5	T2,R2,R4	
111.	Résumé with covering letter	2	12-12-2019 16-12-2019		TLM1, TLM2, TLM5, TLM6	CO5	T2,R1,R3	
112.	Proverbial expansion on Interview Skills	2	18-12-2019 19-12-2019		TLM1, TLM2, TLM5, TLM6	CO5	T2,R2,R4	
113.	Interview Skills	1	23-12-2019		TLM1, TLM2, TLM5, TLM6	CO5	T2,R1,R3	
No. of classes required to complete UNIT-V : 11					No. of classes taken:10			

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
114.	Verbal Reasoning	1	26-12-2019		TLM1, TLM2, TLM5, TLM6	CO1 & CO5	Book of Reasoning by Agarwal	

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

Part - C

EVALUATION PROCESS:

Evaluation Task	Units	Marks
Assignment– 1	1	A1=5
Assignment– 2	2	A2=5

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

PROGRAM OUTCOMES

Engineering Graduates will be able to:

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

	Prof.B.Samrajya Lakshmi	Prof.B.Samrajya Lakshmi	Prof.A.Ramireddy
Course Instructor	Course Coordinator	Module Coordinator	HOD



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

COURSE HANDOUT

Part-A

PROGRAM : B.Tech.I-Sem., CIVIL
ACADEMIC YEAR : 2019-20
COURSE NAME & CODE : Building Materials and Constructions-17CE01
L-T-P STRUCTURE : 2-2-0
COURSE CREDITS : 3
COURSE INSTRUCTOR : Eeshwar Ram.J
COURSE COORDINATOR: Eeshwar Ram.J
Pre-requisites : Nil

COURSE EDUCATIONAL OBJECTIVES (CEOs): This course aims to provide study of the properties, making and applications of basic civil engineering materials such as stones, bricks, lime, cement and wood. The course also provides an insight into the different types masonry work used in construction practice, various buildings components and building finishing activities.

COURSE OUTCOMES (COs):

CO1	Identify the suitability of stones and bricks as buildings materials.
CO2	Recognize the importance of lime and cement as building materials
CO3	Make out the appropriate masonry and mortar to be used for building construction.
CO4	Pickup the appropriate building components for comfortable construction.
CO5	Identify the appropriate type of finishing techniques to be used in buildings.

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

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	-	-	-	3	3	3	2	-	2	2	-	2	1	2
CO2	2	-	-	-	3	3	3	2	-	2	2	-	2	1	2
CO3	2	-	-	-	3	3	3	2	-	2	2	-	2	1	2
CO4	2	-	-	-	3	3	3	2	-	2	2	-	2	1	2
CO5	2	-	-	-	3	3	3	2	-	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** Rangwala “ Engineering Materials(Material science)” charotar publishing House Pvt.ltd-Edition-2012
- T2** B.C.Punmia, Ashok kumar Jain and Arun Kumar Jain-“Buidling construction” –Laxmi Publications(P)Ltd.

BOS APPROVED REFERENCE BOOKS:

- R1** S.K.Duggal “Building Materials”-New age International Publisher, Fourth Edition - 2012
- R2** R.K.Rajput “ Engineering Materials (Including construction Materials)”- S.Chand Publications.

Part-B**COURSE DELIVERY PLAN (LESSON PLAN): UNIT- I:**

S.No.	Topics to be covered	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	Learning Outcome COs	Text Book followed	HOD Sign Weekly
1.	Introduction- Building Materials	1	27/08/2019		TLM1	CO1	T1	
2.	Classification of rocks-(i)Geological (ii)Physical (iii)Chemical classification-Source of stones.	1	29/08/2019		TLM1	CO1	T1	
3.	Rock-forming minerals-(i)Minerals in igneous rocks.(ii)Minerals in the sedimentary rocks- Qualities of a good building stones-	1	30/08/2019		TLM1	CO1	T1	
4.	Stone Quarrying& Tools for blasting- Dressing of stones- uses of stones	2	31/08/2019 03/09/2019		TLM1	CO1	T1	
5.	Tutorial-1	1	05/09/2019		TLM3	CO1	T1	
6.	Brick-Comparison of brick work and stone. Composition of good brick earth	1	06/09/2019		TLM1	CO1	T1	
7.	Manufacturing process of bricks	2	07/09/2019 12/09/2019		TLM1		T1	
8.	Characteristics of good Building bricks- Classification of bricks-	1	13/09/2019		TLM1	CO1	T1	
9.	Special bricks –fly ash bricks-hollow	1	14/09/2019		TLM1	CO1	T1	

	bricks-used.							
10.	Quiz	1	17/09/2019		TLM1	CO1	T1	
11.	Tutorial-2	1	19/09/2019		TLM3	CO1	T1	
No. of classes required to complete UNIT-I		13			No. of classes taken:			

UNIT-II:

S.No.	Topics to be covered	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	Learning Outcome COs	Text Book followed	HOD Sign Weekly
12.	Limes and Cement- Introduction-terms-	1	20/09/2019		TLM1	CO 2	T1	
13.	limes stones cycle- sources of lime	1	21/09/2019		TLM11	CO 2	T1	
14.	Properties-uses- constituent lime- Classifications of lime stones	1	24/09/2019		TLM1	CO 2	T1	
15.	Tutorials	1	26/09/2019		TLM3	CO 2	T1	
16.	Cement- Introduction- classification- properties- Comparison between cement and lime	2	27/09/2019 28/09/2019		TLM1	CO 2	T1	
17.	Constituent of cement-functions of ingredient of cement	1	01/10/2019		TLM1	CO 2	T1	
18.	Manufacturing of cement-field tests for cement	2	03/10/2019 04/10/2019		TLM4	CO 2	T1	
19.	Types and uses of cement-storage of cements	2	05/10/2019 15/10/2019		TLM1	CO 2	T1	
20.	Quiz	1	17/10/2019		TLM1	CO 2	T1	
21.	TUTORIAL-IV	1	18/10/2019		TLM3	CO 2	T1	

No. of classes required to complete UNIT-II	14	No. of classes taken:
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UNIT-III :

S.No.	Topics to be covered	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	Learning Outcome COs	Text Book followed	HOD Sign Weekly
22.	Introduction-classification of motors-characteristics of good mortar	1	19/10/2019		TLM1	CO 3	T2	
23.	Types of mortars - Preparation of mortar-Uses-Precautions in the uses of mortars	2	31/10/2019 01/11/2019		TLM1	CO 3	T2	
24.	selection of mortars for different Engineering works.	1	02/11/2019		TLM1	CO 3	T2	
25.	Tutorial	1	05/11/2019		TLM4	CO 3	T2	
26.	Types of masonry-joints in stone masonry	2	07/11/2019 08/11/2019		TLM1	CO 3	T2	
27.	different bonds in bricks	2	09/11/2019 12/11/2019		TLM1	CO 3	T2	
28.	tools for brick laying	2	14/11/2019 15/11/2019		TLM1			
29.	English and Flemish bonds	1	16/11/2019		TLM1	CO 3	T2	
30.	defects in brick masonry-, importance of Cavity and Partition walls	2	19/11/2019 21/11/2019		TLM1	CO 3	T2	
31.	Quiz	1	22/11/2019		TLM1	CO 3	T2	
32.	TUTORIAL-VI	1	23/11/2019		TLM3	CO 3	T2	
No. of classes required to complete UNIT-III		15	No. of classes taken:					

UNIT-IV:

S.No.	Topics to be covered	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	Learning Outcome COs	Text Book followed	HOD Sign Weekly
33.	Building Components:		26/11/2019		TLM1	CO 4	T1	
	Components of a building – Substructure and superstructure	1						
34.	Importance of foundation-functions of foundations-requirements of good foundations -	2	28/11/2019 29/11/2019		TLM1	CO 4	T1	
35.	- different types of foundations – Purposes of foundation	1	30/11/2019		TLM1	CO 4	T1	
36.	Tutorial	1	03/12/2019		TLM3	CO 4	T1	
37.	Basic details of Lintels	1	05/12/2019		TLM1	CO 4	T1	
38.	Arches, walls, vaults, stair cases - types of floors	1	06/12/2019		TLM1	CO 4	T1	
39.	types of roofs - flat, curved,	1	07/12/2019		TLM1	CO 4	T2	
40.	trussed; foundations – types	1	10/12/2019		TLM1	CO 4	T1	
41.	QUIZ	1	12/12/2019		TLM1	CO 4	T1	
42.	TUTORIAL-VIII	1	13/12/2019		TLM3	CO 4	T1	
No. of classes required to complete UNIT-IV		11			No. of classes taken:			

UNIT-V:

S.No.	Topics to be covered	No. of Classes Required	Tentative Date of Completion	Actual Date of Completion	Teaching Learning Methods	Learning Outcome COs	Text Book followed	HOD Sign Weekly
43.	TIMBER & WOOD BASED PRODUCTS: Classification of timber trees, cross section of exogenous tree, hard wood and soft wood, seasoning of timber, important types of timber and their uses, ply wood and its uses.	1	14/12/2019		TLM1	CO 5	T1	
44.	FINISHINGS Paints: Functions of paints-types of paints - constituents of paints - characteristics of a good paint-General precautions-defects in painting.	1	17/12/2019		TLM1	CO 5	T1	
45.	Varnishes: Composition,	1	19/12/2019		TLM1	CO 5	T1	
46.	types and uses - Distempering	1	20/12/2019		TLM1	CO 5	T1	
47.	Damp proofing: Introduction-effects of dampness	1	21/12/2019		TLM	CO 5		
48.	- methods of damp proofing	1	24/12/2019		TLM1	CO 5	T1	
49.	material used for D.P.C and treatment in buildings.	1	26/12/2019		TLM1	CO 5	T1	
50.	Quiz	1	27/12/2019		TLM1	CO 5	T2	
51.	Tutorial	1	28/12/2019		TLM3	CO 5	T2	
52.	REVISION							
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
53.								
54.								
55.								
Teaching Learning Methods								
TLM1	Chalk and Talk			TLM4	Demonstration (Lab/Field Visit)			
TLM2	PPT			TLM5	ICT (NPTEL/Swayam Prabha/MOOCs)			
TLM3	Tutorial			TLM6	Group Discussion/Project			

ACADEMIC CALENDAR:

Description	From	To	Weeks
I Phase of Instructions-1	26/08/2019	19/10/2019	7W
I Mid Examinations	21/10/2019	26/10/2019	1W
II Phase of Instructions	28/10/2019	28/12/2019	9W
II Mid Examinations	30/12/2019	04/01/2020	1W
Preparation and Practicals	06/01/2020	18/01/2020	2W
Semester End Examinations	20/01/2020	31/01/2020	2W

Part – C

EVALUATION PROCESS:

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

PROGRAMME EDUCATIONAL OBJECTIVES (PEOs):

4. To possess knowledge in both fundamental and application aspects of mathematical, scientific, engineering principles to analyze complex engineering problems for meeting the national and international requirements and demonstrating the need for sustainable development.
5. To adapt to the modern engineering tools for planning, analysis, design, implementation of analytical data and assess their relevant significance in societal and legal issues necessary in their professional career.
6. To exhibit professionalism, ethical attitude, communication, managerial skills, team work and social responsibility in their profession and adapt to current trends by engaging in continuous learning.

PROGRAMME OUTCOMES (POs):

At the end of the programme, the students will possess-

- l. An ability to apply knowledge of mathematics, science, and engineering for engineering applications of national and international requirements.
- m. An ability to identify-, formulate-, and analyze- complex engineering problems
- n. An ability to design the experiments, analyze and interpret the data
- o. An ability to use the techniques, skills, resources and modern engineering tools necessary to solve civil engineering problems
- p. An ability to assess reasoning informed by contextual knowledge to assess health, safety, legal and cultural issues relevant to professional engineering practice
- q. An ability to demonstrate the knowledge needed for sustainable development
- r. An ability to apply ethical principles and responsibilities in engineering practice
- s. An ability to function effectively as an individual and as a team member or leader in multi disciplinary settings
- t. An ability to communicate effectively
- u. An ability to demonstrate knowledge of engineering and management principles and apply to one's own work either as a member or as a team leader in managing projects
- v. An ability to engage in life-long learning to keep abreast with technological changes

PSO's

PSO1: Possesses necessary skill set to analyze and design various systems using analytical and software tools related to civil engineering

PSO2: Possesses ability to plan, examine and analyze the various laboratory tests required for the professional demands

PSO3: Possesses basic technical skills to pursue higher studies and professional practice in civil engineering domain

Course Instructor	Module Coordinator	HOD

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

COURSE HANDOUT

Part-A

PROGRAM : B.Tech., I-Sem.,CE
ACADEMIC YEAR : 2019-20
COURSE NAME & CODE : ENGINEERING PHYSICS & 17 FE 63
L-T-P STRUCTURE : 0-0 -2
COURSE CREDITS : 1
COURSE INSTRUCTOR : Dr. YUSUB
COURSE COORDINATOR : Dr T VASANTHA RAO

Pre-requisites : Awareness about the usage of Vernier callipers, Screw Gauge etc.,

Course Educational Objective :

To make students learn the theoretical concepts, Analytical techniques and graphical analysis through completing a host of experiments with the procedures and observational skills using simple and complex apparatus.

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

- Co1: Analyze the wave characteristics of light.
- Co2: Estimate the wave length and width of the slit with laser light source.
- Co3: Evaluate the specific parameters in electrical circuits.
- Co4: Analyze the characteristics of Torsional pendulum, Thermistor, Stewart and Gee's.
- Co5: Improve report writing skills, Individual and team work with Ethical values.

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

Engineering Physics Lab												
COURSE DESIGNED BY	FRESHMAN ENGINEERING DEPARTMENT											
Course Outcomes PO's →	Programme Outcomes											
	1	2	3	4	5	6	7	8	9	10	11	12
CO1.	3	3	1	1								1
CO2.	3	3	2	1	1	1	1					1
CO3.	3	3	1	1								1
CO4.	3	3	1	1								1
CO5.								2	2	2		
CATEGORY	BASIC SCIENCES											

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:

1. Lab Manual Prepared by the LBRCE

Part-B

COURSE DELIVERY PLAN (LESSON PLAN): Section- B

S.N o.	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
115.	Introduction	2	26-8-19		TLM4	1,2,3,4	T1	
116.	Demonstration	2	9-9-19		TLM4	CO1, CO2, CO3, CO4	T1	
117.	Experiment 1	2	16-9-19		TLM4	CO1, CO2, CO3, CO4	T1	
118.	Experiment 2	2	23-9-19		TLM4	CO1, CO2, CO3, CO4	T1	
119.	Experiment 3	2	30-9-19		TLM4	CO1, CO2, CO3, CO4	T1	
120.	Experiment 4	2	21-10-19		TLM4	CO1, CO2, CO3, CO4	T1	
121.	Experiment 5	2	28-10-19		TLM4	CO1, CO2, CO3, CO4	T1	
122.	Experiment 6	2	4-11-19		TLM4	CO1, CO2, CO3, CO4	T1	
123.	Experiment 7	2	11-11-19		TLM4	CO1, CO2, CO3, CO4	T1	
124.	Experiment 8	2	18-11-19		TLM4	CO1, CO2, CO3, CO4	T1	
125.	Experiment 9	2	25-11-19		TLM4	CO1, CO2, CO3, CO4	T1	
126.	Revision	2	2-12-19		TLM4	CO1, CO2, CO3, CO4	T1	

127.	Revision	2	9-12-19		TLM4	CO1, CO2, CO3, CO4	T1	
128.	Internal Exam	2	16-12-19					
129.	Internal Exam	2	16-12-19					
No. of classes required to complete lab		28			No. of classes taken:			

EVALUATION PROCESS:

Evaluation Task	Expt. no's	Marks
Day to Day work = A	1,2,3,4,5,6,7,8	A=20
Internal test = B	1,2,3,4,5,6,7,8	B=10
Evaluation of viva voce = C	1,2,3,4,5,6,7,8	C = 5
Evaluation of attendance Marks = D	1,2,3,4,5,6,7,8	D = 5
Cumulative Internal Examination : A + B + C + D = 40	1,2,3,4,5,6,7,8	40
Semester End Examinations = E	1,2,3,4,5,6,7,8	E = 60
Total Marks: A + B + C + D + E = 100	1,2,3,4,5,6,7,8	100

PROGRAMME EDUCATIONAL OBJECTIVES (PEOs)

Graduates of Information Technology programme will be:

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

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

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

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

PROGRAM OUTCOMES:

Engineering Graduates will be able to:

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

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

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

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

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

limitations.

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

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

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

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

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

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

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

PROGRAM SPECIFIC OUTCOMES (PSOs):

Graduate of the ECE will have the ability to

(1)Design and develop modern communication technologies for building the inter disciplinary skills to meet current and future needs of industry.

(2) Design and Analyze Analog and Digital Electronic Circuits or systems and Implement real time applications in the field of VLSI and Embedded Systems using relevant tools

(3) Apply the Signal processing techniques to synthesize and realize the issues related to real time applications

Dr.S.YUSUB /P.V.SIRISHA	Dr T. VASANTHA RAO	Dr T. VASANTHA RAO	Dr A. RAMIREDDY
Course Instructor	Course Coordinator	Module Coordinator	HOD

COURSE HANDOUT

Part-A

PROGRAM : B.Tech. I-Sem., CIVIL
ACADEMIC YEAR : 2019-20
COURSE NAME & CODE : ENGLISH COMMUNICATION SKILLS LAB - 17FE60
L-T-P STRUCTURE : 0-0-2
COURSE CREDITS : 1
COURSE INSTRUCTOR : K. SRIDEVI
COURSE COORDINATOR : Dr.B.Samrajya Lakshmi
Pre-Requisites : Students should have fundamental knowledge in making sentences and be with readiness to speak

Course Educational Objective : Improve the proficiency of students in English with an emphasis on better communication in formal and informal situations; Develop speaking skills required for expressing their knowledge and abilities and to face interviews with confidence.

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

- CO1 : Articulate English with good pronunciation.
- CO2 : Manage skillfully through group discussions.
- CO3 : Communicate with the people effectively.
- CO4 : Collect and interpret data aptly.

Course Articulation Matrix:

Course Code	COs	Programme Outcomes												PSOs		
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
17FE60	CO1				3					3	3		2			
	CO2				3					3	3		2			
	CO3				3					3	3		2			
	CO4				3					3	3		2			
	CO5				3					3	3		2			
1 = Slight (Low)		2 = Moderate (Medium)						3-Substantial(High)								

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

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

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): Section-A

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	29-08-2019		TLM4		
2.	Self Introduction	2	05-09-2019		TLM4	CO3	
3.	JAM- I	2	12-09-2019		TLM4	CO3	
4.	JAM-II	2	19-09-2019		TLM4	CO3	
5.	JAM-III	2	26-09-2019		TLM4	CO3	
6.	Role Play-I	2	03-10-2019		TLM4	CO3	
7.	Role Play-II	2	10-10-2019		TLM4	CO3	
8.	Role Play-III	2	31-10-2019		TLM4	CO3	
9.	Data Interpretation-I	2	07-11-2019		TLM2, TLM4	CO4	
10.	Data Interpretation-II	2	14-11-2019		TLM2, TLM4	CO4	
11.	Group Discussion-I	2	21-11-2019		TLM4, TLM6	CO2	
12.	Group Discussion-II	2	28-11-2019		TLM4, TLM6	CO2	
13.	Group Discussion-III	2	05-12-2019		TLM4, TLM6	CO2	
14.	Introduction to Phonetics	2	12-12-2019		TLM1, TLM2	CO1	
15.	Introduction to Phonetics	2	19-12-2019		TLM1, TLM2	CO1	
16.	Internal Lab Exam	2	26-12-2019				
17.	Total	32					

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

% 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

(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:

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 (3 Marks)	Language used is good No word/spelling errors (4 Marks)
2	Content (4 Marks)	Unable to Deliver all the points 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 / examples (4 Marks)

3	Style of Presentation (2 Marks)	Inappropriate body language Improper presentation (0 Marks)	Presentation is not upto the mark (1 Mark)	Presented well with appropriate etiquette All important conclusions have been clearly made, student shows good understanding of the topic. (2 Marks)	Grammar & Neatness (2 Mark)	Frequent grammar and/or 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)
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PROGRAMME OUTCOMES (POs):

Engineering Graduates will be able to:

1. **Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
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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.
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	Prof.B.Samrajya Lakshmi	Prof.B.Samrajya Lakshmi	Prof.A.Rami Reddy
Course Instructor	Course Coordinator	Module Coordinator	HOD

4. Course Delivery Plan:

S.NO	TOPIC TO BE COVERED	No.of Classes		Date	DM
		As per the Schedule	Taken		
1	Introduction to	3	27/08/2019		2,5
2	Introduction to	3	03/09/2019		2,5
3	CYCLE I	3	17/09/2019		2,5
4	CYCLE II	6	24/09/2019&1/10/2019		2,5
5	CYCLE III	6	15/10/2019		2,5
6	CYCLE IV	6	29/10/2019		2,5
7	CYCLE V	3	05/11/2019		2,5
8	CYCLE VI	6	12/11/2019&19/11/2019		2,5
9	CYCLE VII	3	26/11/2019		2,5
10	CYCLE VIII	3	03/12/2019&10/12/2019		2,5
11	Practice Session	3	17/12/2019		3
12	Internal Lab Exam	3	24/12/2019		4

Delivery Methods (DM):

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

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

Head of the Department



Course	:	Engineering workshop	A.Y	:	2018-19
Code	:	17ME60	Semester	:	I
Branch	:	CIVIL ENGINEERING	Section	:	A

Course education Objectives:

The objective of this course is to get familiarized with various trades used in engineering workshop and learn the safety precautions to be followed in workshops, while working with the different tools.

Course outcomes:

After completion of the course students are able to:

CO1: Design and model different prototypes in the carpentry trade such as cross lap joint, Dovetail joint.

CO2: Fabricate and model various basic prototypes in the trade of fitting such as Straight fit, V-fit.

CO3: Produce various basic prototypes in the trade of Tin smithy such as Rectangular tray and open cylinder.

CO4: Perform various basic House wiring techniques.

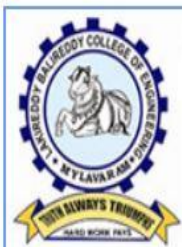
Faculty Name	:	S.Sreenivasareddy ,s.srinivasareddy			
Course Name	:	Engineering workshop	A.Y	:	2018-19
Code	:	17ME60	Semester	:	I
Degree	:	B.Tech	Programme	:	CIVIL-A/S

COURSE OUTCOMES:

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

CO1:	Design and model different prototypes in the carpentry trade such as cross lap joint, Dovetail joint.
-------------	-------------------------------------------------------------------------------------------------------

CO2:	Fabricate and model various basic prototypes in the trade of fitting such as Straight fit, V-fit.
CO3:	Produce various basic prototypes in the trade of Tin smithy such as Rectangular tray and open cylinder.
CO4:	Perform various basic House wiring techniques.
Assessment of Course Outcomes	
CO1	Design and model different prototypes in the carpentry trade such as cross lap joint, Dovetail joint.
Delivery Methods	Demonstration, conducting experiments
Assessment Methods	Day to Day Assessment, Internal exam, viva voce
Sample Questions	Make square and V fitting, Make middle lap joint
CO2	Fabricate and model various basic prototypes in the trade of fitting such as Straight fit, V-fit.
Delivery Methods	Demonstration, conducting experiments
Assessment Methods	Day to Day Assessment, Internal exam, viva voce
Sample Questions	Make T-fit and L-fit
CO3	Produce various basic prototypes in the trade of Tin smithy such as Rectangular tray and open cylinder.
Delivery Methods	Demonstration, conducting experiments
Assessment Methods	Day to Day Assessment, Internal exam, viva voce
Sample Questions	Making Cones
CO4	Perform various basic House wiring techniques.
Delivery Methods	Demonstration, conducting experiments
Assessment Methods	Day to Day Assessment, Internal exam, viva voce
Sample Questions	Connect bulbs in series and parallel



LAKIREDDY BALI REDDY COLLEGE OF ENGINEERING

(AUTONOMOUS)

Accredited by NAAC with 'A' Grade, ISO 9001:2015 Certified Institution

Approved by AICTE, New Delhi and Affiliated to JNTUK, Kakinada

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

Course	:	Engineering workshop	A.Y	:	2018-19
Code	:	17ME60	Semester	:	I
Branch	:	CIVIL ENGINEERING	Section	:	A

LIST OF EXPERIMENTS

Carpentry:

- Make a middle lap joint(C1)
- Make a T-bridle joint(C2)

Fitting:

- Make a square and L fitting(F1)
- Make a square and V fitting(F2)

House wiring:

- Give connection to the bulbs in series and parallel(E1)
- Give connection to the fluorescent lamp and calling bell(E2)

Plumbing:

- Cut threads on the PVC pipe(P1)
- Make a pipe layout(P2)

Course Instructor

Course Coordinator

Module Coordinator

HOD



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

Course	:	Engineering workshop	A.Y	:	2018-19
Code	:	17ME60	Semester	:	I
Branch	:	CIVIL ENGINEERING	Section	:	A

LAB SCHEDULE

Batches (Section – A)

Total No. of students : 19761A0101 – 162 = 62

Batch A1	:19761A0101-115	=	15
Batch A2	:19761A0116-130	=	15
Batch A3	:19761A0131-245	=	16
Batch A4	:19761A0146-162	=	16

Date	Batch I (1-15)	Batch II (16-30)	Batch III (31-47)	Batch IV (48-62)
14/9/2019	Introduction and Demonstration			
21/9/2019	Introduction and Demonstration			
28/9/2019	C1	F1	E1	P1
12/10/2019	C2	F2	E2	P2
19/10/2019	F1	E1	P1	C1
2/11/2019	F2	E2	P2	C2
9/11/2019	E1	P1	C1	F1
16/11/2019	E2	P2	C2	F2
30/11/2019	P1	C1	F1	E1
7/12/2019	P2	C2	F2	E2
14/12/2019	Repetition			
21/12/2019	Viva voice			
28/12/2019	Internal exam			

Course Instructor

Course Coordinator

Module Coordinator

HOD