Sri Indu Institute of Engineering and Technology (Autonomous)

(Formerly RVR Institute of Engineering & Technology)

An Autonomous Institution Under UGC

NAAC Accredited. Recognized Under 2(f) of UGC Act 1956

EAMCET CODE: INDI Approved by AICTE, New Delhi, & Affiliated to JNTUH, Hyderabad. **JNTUH CODE: X3**

ESTD : 2007

COURSE FILE

ON

BASIC ELECTRICAL ENGINEERING

Course Code – EE101ES

I B. Tech Semester-I
A.Y. 2022-2023

Prepared by
S.NISCHALA
Asst. Professor

Head of the Department
Department of H&S
SRI INDU INSTITUTE OF ENGG & TECH
heriguda(M) Ibrahimpatnam (M) R.R. Dist-501 510

PRINCIPAL
Sri Indu Institute of Engineering & Tech
Sheriguda(Vill), Ibrahimpatnam
R.R. Dist. Telangana-501 510.

Main Road, Sheriguda, Ibrahimpatnam, R.R. Dist. 501 510, Telangana.
Campus Ph: 9640590999, 9347187999.

https://siiet.ac.in

Sri Indu Institute of Engineering and Technology (Autonomous)

(Formerly RVR Institute of Engineering & Technology)

An Autonomous Institution Under UGC

NAAC Accredited. Recognized Under 2(f) of UGC Act 1956

EAMCET CODE: INDI   Approved by AICTE, New Delhi, & Affiliated to JNTUH, Hyderabad.   JNTUH CODE: X3

ESTD : 2007

Academic Year	2022-2023
Course Title	Basic Electrical Engineering
Course Code	EE101ES
Programme	B.Tech
Year & Semester	I & I
Branch & Section	CSE (DATA SCIENCE)
Regulation	BR22
Course Faculty	S.NISCHALA

Index of Course File

S. No.	Name of the content
1	Institute vision and mission
2	Programme outcomes
3	Course Syllabus with Structure
4	Course Outcomes (CO)
5	COs and POs Mapping and justification
6	Academic Calendar
7	Time table
8	Lesson plan
9	Web references & e-books
10	Lecture notes
11	PPTs
12	University Question papers
13	Internal Question papers, Key with CO and BT
14	Assignment Question papers mapped with CO and BT
15	Scheme of evaluation with CO and BT mapping
16	Result analysis
17	Remedial class time table
18	CO, PO attainment sheets.
19	Class register

Main Road, Sheriguda, Ibrahimpatnam, R.R. Dist. 501 510, Telangana.
Campus Ph: 9640590999, 9347187999.

https://siiet.ac.in

Sri Indu Institute of Engineering and Technology (Autonomous)

(Formerly RVR Institute of Engineering & Technology)

An Autonomous Institution Under UGĆ

NAAC Accredited. Recognized Under 2(f) of UGC Act 1956

EAMCET CODE: INDI   Approved by AICTE, New Delhi, & Affiliated to JNTUH, Hyderabad.   JNTUH CODE: X3

ESTD : 2007

INSTITUTE VISION & MISSION

Vision:

> To become a premier institute of academic excellence by providing the world class education that transforms individuals into high intellectuals, by evolving them as empathetic and responsible citizens through continuous improvement.

Mission:

- ➢ **IM1:** To offer outcome-based education and enhancement of technical and practical skills.
- ➢ **IM2:** To Continuous assess of teaching-learning process through institute-industry collaboration.
- ➢ **IM3:** To be a centre of excellence for innovative and emerging fields in technology development with state-of-art facilities to faculty and students' fraternity.
- ➢ **IM4:** To Create an enterprising environment to ensure culture, ethics and social responsibility among the stakeholders.

Head of the Department
Department of H&S
SRI INDU INSTITUTE OF ENGG & TECH
Sheriguda(M) Ibrahimpatnam (M) R.R. Dist-501 51(

PRINCIPAL
Sri Indu Institute of Engineering & Tech.
Sheriguda(Vill), Ibrahimpatnam
R.R. Dist. Telangana-501 510.

SRI INDU INSTITUTE OF ENGINEERING AND TECHNOLOGY

(An Autonomous Institution under UGC)
Accredited by NAAC with A+ Grade, Recognized under 2(f) of UGC Act 1956
(Approved by AICTE, New Delhi and Affiliated to JNTUH, Hyderabad)
Khalsa Ibrahimpatnam, Sheriguda (V), Ibrahimpatnam (M), Ranga Reddy Dist., Telangana – 501 510
Website: https://siiet.ac.in/

PROGRAMME OUTCOMES

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, 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 & 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 & 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 & 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, give and receive clear instructions.

PO11: PROJECT MANAGEMENT & 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.

Head of the Department
Department of H&S
SRI INDU INSTITUTE OF ENGG & TECH
Sheriguda(V) Ibrahimpatnam (M) R.R. Dist-501 510

SRI INDU INSTITUTE OF ENGINEERING AND TECHNOLOGY

(An Autonomous Institution under UGC)

Accredited by NAAC with A+ Grade, Recognized under 2(f) of UGC Act 1956

(Approved by AICTE, New Delhi and Affiliated to JNTUH, Hyderabad)

Khalsa Ibrahimpatnam, Sheriguda (V), Ibrahimpatnam (M), Ranga Reddy Dist., Telangana – 501 510

Website: https://siiet.ac.in/

B.Tech. in COMPUTER SCIENCE AND ENGINEERING (DATA SCIENCE)
COURSE STRUCTURE, I YEAR SYLLABUS (BR22 Regulations)
Applicable from Academic Year: 2022-23 Batch

I Year I Semester

S. No.	Course Code	Course Title	L	T	P	Credits
1.	MA101BS	Matrices and Calculus	3	1	0	4
2.	CH103BS	Engineering Chemistry	3	1	0	4
3.	CS103ES	Programming for Problem Solving	3	0	0	3
4.	EE101ES	Basic Electrical Engineering	2	0	0	2
5.	ME101ES	Computer Aided Engineering Graphics	1	0	4	3
6.	CS106ES	Elements of Computer Science & Engineering	0	0	2	1
7.	CH106BS	Engineering Chemistry Laboratory	0	0	2	1
8.	CS107ES	Programming for Problem Solving Laboratory	0	0	2	1
9.	EE102ES	Basic Electrical Engineering Laboratory	0	0	2	1
		Induction Program				
		Total	**12**	**2**	**12**	**20**

I Year II Semester

S. No.	Course Code	Course	L	T	P	Credits
1.	MA201BS	Ordinary Differential Equations and Vector Calculus	3	1	0	4
2.	AP202BS	Applied Physics	3	1	0	4
3.	ME202ES	Engineering Workshop	0	1	3	2.5
4.	EN204HS	English for Skill Enhancement	2	0	0	2
5.	EC201ES	Electronic Devices and Circuits	2	0	0	2
6.	AP205BS	Applied Physics Laboratory	0	0	3	1.5
7.	CS201ES	Python Programming Laboratory	0	1	2	2
8.	EN207HS	English Language and Communication Skills Laboratory	0	0	2	1
9.	CS203ES	IT Workshop	0	0	2	1
10.	*MC201ES	Environmental Science	3	0	0	0
		Total	**13**	**4**	**12**	**20**

SRI INDU INSTITUTE OF ENGINEERING AND TECHNOLOGY

(An Autonomous Institution under UGC)
Accredited by NAAC with A+ Grade, Recognized under 2(f) of UGC Act 1956
(Approved by AICTE, New Delhi and Affiliated to JNTUH, Hyderabad)
Khalsa Ibrahimpatnam, Sheriguda (V), Ibrahimpatnam (M), Ranga Reddy Dist., Telangana – 501 510
Website: https://siiet.ac.in/

BASIC ELECTRICAL ENGINEERING
(Course Code: EE101ES)
(Common to CSE, CSE (CS), CSE (DS))

B.Tech. I Year I Sem.   **L T P C**
                                                          2 0 0 2

Prerequisites: Mathematics

Course Objectives:

- To understand DC and Single & Three phase AC circuits
- To study and understand the different types of DC, AC machines and Transformers.
- To import the knowledge of various electrical installations and the concept of power, power factor and its improvement.

Course Outcomes: After learning the contents of this paper the student must be able to

- Understand and analyze basic Electrical circuits
- Study the working principles of Electrical Machines and Transformers
- Introduce components of Low Voltage Electrical Installations.

UNIT-I:

D.C. Circuits: Electrical circuit elements (R, L and C), voltage and current sources, KVL&KCL, analysis of simple circuits with dc excitation. Superposition, Thevenin and Norton Theorems. Time-domain analysis of first-order RL and RC circuits.

UNIT-II:

A.C. Circuits: Representation of sinusoidal waveforms, peak and rms values, phasor representation, real power, reactive power, apparent power, power factor, Analysis of single-phase ac circuits consisting of R, L, C, RL, RC, RLC combinations (series and parallel), resonance in series R-L-C circuit. Three-phase balanced circuits, voltage and current relations in star and delta connections.

UNIT-III:

Transformers: Ideal and practical transformer, equivalent circuit, losses in transformers, regulation and efficiency. Auto-transformer and three-phase

SRI INDU INSTITUTE OF ENGINEERING AND TECHNOLOGY

(An Autonomous Institution under UGC)
Accredited by NAAC with A+ Grade, Recognized under 2(f) of UGC Act 1956
(Approved by AICTE, New Delhi and Affiliated to JNTUH, Hyderabad)
Khalsa Ibrahimpatnam, Sheriguda (V), Ibrahimpatnam (M), Ranga Reddy Dist., Telangana – 501 510
Website: https://siiet.ac.in/

transformer connections.

UNIT-IV:

Electrical Machines: Construction and working principle of dc machine, performance characteristics of dc shunt machine. Generation of rotating magnetic field, Construction and working of a three-phase induction motor, Significance of torque-slip characteristics. Single-phase induction motor, Construction and working. Construction and working of synchronous generator.

UNIT-V:

Electrical Installations: Components of LT Switchgear: Switch Fuse Unit (SFU), MCB, ELCB, MCCB, Types of Wires and Cables, Earthing. Types of Batteries, Important Characteristics for Batteries. Elementary calculations for energy consumption, power factor improvement and battery backup.

TEXT BOOKS:

1. D.P. Kothari and I. J. Nagrath, "Basic Electrical Engineering", Tata McGraw Hill, 4th Edition, 2019.

2. MS Naidu and S Kamakshaiah, "Basic Electrical Engineering", Tata McGraw Hill, 2nd Edition, 2008.

REFERENCE BOOKS:

1. P. Ramana, M. Suryakalavathi, G.T. Chandrasheker, "Basic Electrical Engineering", S. Chand, 2nd Edition, 2019.

2. D. C. Kulshreshtha, "Basic Electrical Engineering", McGraw Hill, 2009.

3. M. S. Sukhija, T. K. Nagsarkar, "Basic Electrical and Electronics Engineering", Oxford, 1st Edition, 2012.

4. Abhijit Chakrabarthi, Sudipta Debnath, Chandan Kumar Chanda, "Basic Electrical Engineering", 2nd Edition, McGraw Hill, 2021.

5. L. S. Bobrow, "Fundamentals of Electrical Engineering", Oxford University Press, 2011.

6. E. Hughes, "Electrical and Electronics Technology", Pearson, 2010.

7. V. D. Toro, "Electrical Engineering Fundamentals", Prentice Hall India, 1989

SRI INDU INSTITUTE OF ENGINEERING AND TECHNOLOGY

(An Autonomous Institution under UGC)
Accredited by NAAC with A+ Grade, Recognized under 2(f) of UGC Act 1956
(Approved by AICTE, New Delhi and Affiliated to JNTUH, Hyderabad)
Khalsa Ibrahimpatnam, Sheriguda (V), Ibrahimpatnam (M), Ranga Reddy Dist., Telangana – 501 510
Website: https://siiet.ac.in/

COURSE OUTCOMES

Course Name: Basic Electrical Engineering (C114)

At the End of the course, student will be able to

CO No	DESCRIPTION
C114.1	Understanding basic concepts of electrical components, network analysis and transient analysis of DC circuits. (Understanding)
C114.2	Acknowledge of AC quantities, sinusoidal analysis of single phase and three phase circuits.(Understanding)
C114.3	Analysis of phasors for a single-phase transformer, recognize energy transfer in electromagnetic circuits, and calculate its efficiency (Analysis)
C114.4	Gains the knowledge about auto transformer and 3- transformer connections (Understanding)
C114.5	Study the working principles of Electrical Machines(Understanding)
C114.6	Application of different devices used in electrical installation (fuse, MCB, MCCB, ELCB, Earthing. etc) and power factor improvement. (Application)

SRI INDU INSTITUTE OF ENGINEERING AND TECHNOLOGY

(An Autonomous Institution under UGC)
Accredited by NAAC with A+ Grade, Recognized under 2(f) of UGC Act 1956
(Approved by AICTE, New Delhi and Affiliated to JNTUH, Hyderabad)
Khalsa Ibrahimpatnam, Sheriguda (V), Ibrahimpatnam (M), Ranga Reddy Dist., Telangana – 501 510
Website: https://siiet.ac.in/

COs and POs Mapping

Course outcome	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
C114.1	3	2	1	2	1	1	-	-	-	-	-	-	-	-
C114.2	3	3	1	-	-	-	-	-	-	-	-	-	-	-
C114.3	3	2	-	-	-	1	1	-	-	-	-	2	-	-
C114.4	3	1	-	-	-	-	-	-	-	-	-	2	-	-
C114.5	3	1	-	-	-	-	-	-	-	-	-	2	-	-
C114.6	3	-	-	-	-	2	-	-	-	-	-	2	-	-
PO Average	3	2	1	2	1	1	1					2		

CO PO MAPPING AND JUSTIFICATION

COURSE NAME: **Basic Electrical Engineering (C114)**

C114.1: Understanding basic concepts of electrical components, network analysis and transient analysis of DC circuits. (Understanding)

Mapped POs/PSOs: PO1, PO2, PO3,PO4,PO5,and PO6

PO	JUSTIFICATION/EXPLANATION
PO1	Gains knowledge on electrical engineering and network analysis
PO2	Reducing the complexity of the problems
PO3	Develop a solution by using mesh and nodal analysis
PO4	Student can solve the complicated network problems to simple network problems.
PO5	Develop a solution to complex circuit by using network theorems.
PO6	Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues

C114.2: Acknowledge of AC quantities, sinusoidal analysis of single phase and three phase circuits. (Understanding)

Mapped POs/PSOs: PO1, PO2 and PO3.

PO	JUSTIFICATION/EXPLANATION
PO1	Gains knowledge about AC quantities
PO2	Analysing the phasor representation
PO3	Developing the AC circuits with single basic network elements

SRI INDU INSTITUTE OF ENGINEERING AND TECHNOLOGY

(An Autonomous Institution under UGC)

Accredited by NAAC with A+ Grade, Recognized under 2(f) of UGC Act 1956

(Approved by AICTE, New Delhi and Affiliated to JNTUH, Hyderabad)

Khalsa Ibrahimpatnam, Sheriguda (V), Ibrahimpatnam (M), Ranga Reddy Dist., Telangana – 501 510

Website: https://siiet.ac.in/

C114.3: Analysis of phasors for a single-phase transformer, recognize energy transfer in electromagnetic circuits, and calculate its efficiency (Analysis)

Mapped POs/PSOs: PO1,PO2,PO6,PO7,PO12

PO	JUSTIFICATION/EXPLANATION
PO1	The device transformer is used to transfer electrical energy in electrical system
PO2	Gains knowledge on basic electrical circuits with which students can apply to real world electrical and electronics problems and applications
PO6	This device is used to reduce the wastage of power
PO7	It is lifelong usage with minimum loss
PO12	The device transformer placed in society for day to day usage

C114.4: Gains the knowledge about auto transformer and 3- transformer connections. (Understanding)

Mapped POs: PO1, PO2 and PO12.

PO	JUSTIFICATION/EXPLANATION
PO1	Gains the knowledge about regulation ,auto transformer and 3 phase transformer
PO2	Phasor analysis is used in determination of regulation
PO12	This devices has lifelong usage

C114.5: Study the working principles of Electrical Machines. (Understanding)

Mapped POs/PSOs: PO1, PO2 and PO12

PO	JUSTIFICATION/EXPLANATION
PO1	Gains the knowledge about electrical motors and generators
PO2	Determination of emf and torque with help of first principles of engineering sciences
PO12	This devices has lifelong usage

C114.6: Application of different devices used in electrical installation(fuse, MCB, MCCB, ELCB, Earthing.. etc) and power factor improvement. (Application)

Mapped POs: PO1, PO6 and PO12

PO	JUSTIFICATION/EXPLANATION
PO1	Gains knowledge about basic installation of electrical systems and power factor improvement
PO6	MCB, MCCB, ELCBs used for safety of electrical equipments.
PO12	It is lifelong usage.

SRI INDU INSTITUTE OF ENGINEERING AND TECHNOLOGY

(An Autonomous Institution under UGC)
Accredited by NAAC with A+ Grade, Recognized under 2(f) of UGC Act 1956
(Approved by AICTE, New Delhi and Affiliated to JNTUH, Hyderabad)
Khalsa Ibrahimpatnam, Sheriguda (V), Ibrahimpatnam (M), Ranga Reddy Dist., Telangana – 501 510
Website: https://siiet.ac.in/

Academic calendar

SRI INDU INSTITUTE OF ENGINEERING AND TECHNOLOGY

UGC Autonomous Institution, Accredited by NAAC with A+ Grade
Recognized under 2(f) of UGC Act 1956.
(Approved by AICTE, New Delhi and Affiliated to JNTUH, Hyderabad)
Khalsa Ibrahimpatnam, Sheriguda(V), Ibrahimpatnam(M), Ranga Reddy Dist., Telangana – 501 510
https://siiet.ac.in/

Lr. No. SIIET/BR22/Academic Calendar/2022/02

Date: 15.12.2022

REVISED ACADEMIC CALENDAR
I B.TECH FOR THE ACADEMIC YEAR 2022-23
(BR22-REGULATIONS)

Dr. I. Satyanarayana,
Principal.

X3

To,
All the HOD's
Sir,

Sub: SIIET (Autonomous)–Academic & Evaluation–Revised Academic Calendar for **I B.Tech - I & II Semesters** for the academic year 2022-2023-Reg.

****

The approved Academic Calendar for **I B.Tech – I & II Semesters** for the academic year 2022-23 is given below.

I-SEMESTER

S. NO	Description	Period From	To	Duration
1.	Commencement of I Semester class work (including Induction programme)	03.11.2022		
2.	1st Spell of Instructions	03.11.2022	28.12.2022	8 Weeks
3.	I Mid Examinations	'29.12.2022	04.01.2023	1 Week
4.	Submission of First Mid Term Exam Marks to the Autonomous Section on or before	10.01.2023		
5.	2nd Spell of Instructions	05.01.2023	02.03.2023	8 Weeks
6.	Second Mid Term Examinations	03.03.2023	09.03.2023	1 Week
7.	Preparation & Practical Examinations	10.03.2023	16.03.2023	1 Week
8.	Submission of Second Mid Term Exam Marks to the Autonomous Section on or before	16.03.2023		
9.	I Semester End Examinations	17.03.2023	01.04.2023	2 Weeks

II-SEMESTER

S. NO	Description	Period From	To	Duration
1.	Commencement of II Semester class work	03.04.2023		
2.	1st Spell of Instructions (including Summer Vacation)	03.04.2023	10.06.2023	10 Weeks
	Summer Vacation	15.05.2023	27.05.2023	2 Weeks
3.	I Mid Examinations	'12.06.2023	17.06.2023	1 Week
4.	Submission of First Mid Term Exam Marks to the Autonomous Section on or before	23.06.2023		
5.	2nd Spell of Instructions	19.06.2023	12.08.2023	8 Weeks
6.	II Mid Term Examinations	14.08.2023	19.08.2023	1 Week
7.	Preparation & Practical Examinations	21.08.2023	26.08.2023	1 Week
8.	Submission of Second Mid Term Exam Marks to the Autonomous Section on or before	26.08.2023		
9.	II Semester End Examinations	28.08.2023	09.09.2023	2 Weeks

Commencement of Class Work for II B.Tech I Semester – 11.09.2023

SRI INDU INSTITUTE OF ENGINEERING AND TECHNOLOGY

(An Autonomous Institution under UGC)

Accredited by NAAC with A+ Grade, Recognized under 2(f) of UGC Act 1956.
(Approved by AICTE, New Delhi and Affiliated to JNTUH, Hyderabad)
Khalsa Ibrahimpatnam, Sheriguda(V), Ibrahimpatnam(M), Ranga Reddy Dist., Telangana – 501 510
https://siiet.ac.in/

Class: DATA SCIENCE   **Semester:** I   **W.E.F-14-11-2022**   **LH: D-208**

	I 9:40-10:30	II 10:30 – 11:20	III 11:20-12:10	12:10-12.45	IV 12.45-1.35	V 1.35-2.25	VI 2.25-3.15	VII 3.15-4.00
MON	BEE	M&C	PPS	L U N C H	BEE/EC LAB			LIB
TUE	PPS LAB				M&C	M&C	ECSE	EG(T)
WED	PPS	EC	BEE		EG PRACTICE		BEE(T)	M&C(T)
THU	EC	PPS	BEE		BEE/EC LAB			EC(T)/PPS(T)
FRI	EG PRACTICE				M&C	EC	BEE	PPS(T)/EC(T)
SAT	BEE	PPS	ECSE		PPS	M&C	EC	M&C(T)/BEE(T)

Course Code	Course Name	Name of the Faculty	Course Code	Course Name	Name of the Faculty
MA101BS	Matrices and Calculus	CH.SARITHA	ME101ES	ComputerAided Engineering Graphics	A.MALLESH
CH103BS	Engineering Chemistry	O.SUBHASHINI	CH106BS	Engineering Chemistry Lab	O.SUBHASHINI
CS103ES	Programming for Problem Solving	U.NARESH	CS107ES	Programming for Problem Solving Lab	U.NARESH/G.KALYANi
EE101ES	Basic Electrical Engineering	S.NISCHALA	EE102ES	Basic Electrical Engineering Lab	G.BHARGAVI /M.NAGA RAJU
CS106ES	Elements of Computer Science & Engineering	P.SRILATHA			

O.Subhashini
Class In-Charge

ch.Saritha
Time Table Coordinator

Head of The Department
Dr. R. YADAGIRI RAO
M.Sc.,B.Ed.,M.Tech(CSE).,Ph.D.
Head of the Department
Department of H&S
SRI INDU INSTITUTE OF ENGG & TECH
Sheriguda, Ibrahimpatnam (M) R.R. Dist-501 510.

SRI INDU INSTITUTE OF ENGINEERING AND TECHNOLOGY

(An Autonomous Institution under UGC)

Accredited by NAAC with A+ Grade, Recognized under 2(f) of UGC Act 1956

(Approved by AICTE, New Delhi and Affiliated to JNTUH, Hyderabad)

Khalsa Ibrahimpatnam, Sheriguda (V), Ibrahimpatnam (M), Ranga Reddy Dist., Telangana – 501 510

Website: https://siiet.ac.in/

LESSON PLAN

S.NO	Unit	TOPIC	Number of Sessions Planned	Teaching method/Aids	Reference
1	I	**Introduction**-Basic circuit components, Ohms law, Kirchhoff's law-	1	Black Board	T1
2		Kirchhoff's current law, Kirchhoff s voltage law and problems	1	Black Board	T1
3		Basic definitions, types of elements, Types of sources	1	Black Board	R1
4		RLC series and parallel, Problems on RLC series and parallel	1	Black Board	T1
5		Node analysis, problems on node analysis	1	Black Board	T2
6		Mesh analysis, problems on mesh analysis	1	Black Board	T1
7		Star-delta and delta-star transformation	1	Black Board	R1
8		network theorems: Superposition	1	Black Board	T1
9		Thevenin's and Norton's theorem	1	Black Board	T2
10		Simple problems on theorems	2	Black Board	T1
11		Time domain analysis of RL and RC circuits	2	Black Board	T1
12	II	**Introduction** Basic definitions, Principle of AC voltage and waveforms	1	Black Board ,PPT	T1
13		Average value, Root mean square value, Form factor and Peak factors of alternating currents and voltage	1	Black Board	R1
14		phasor representation of alternating quantities, J operator and phasor algebra	1	Black Board	T1
15		1-φ series circuit (RL,RC,RLC)	2	Black Board	T1
16		1-φ parallel circuit (RL,RC,RLC)	2	Black Board	T1,T2
17		series resonance in RLC circuit	2	Black Board	R1
18		three phase circuits	2	Black Board	T1

SRI INDU INSTITUTE OF ENGINEERING AND TECHNOLOGY

(An Autonomous Institution under UGC)

Accredited by NAAC with A+ Grade, Recognized under 2(f) of UGC Act 1956

(Approved by AICTE, New Delhi and Affiliated to JNTUH, Hyderabad)

Khalsa Ibrahimpatnam, Sheriguda (V), Ibrahimpatnam (M), Ranga Reddy Dist., Telangana – 501 510

Website: https://siiet.ac.in/

20		Principle& operation of transformer	1	Nptel video	W2,W4
21		Construction details of transformer	2	Nptel video	W2,W4
22	**III**	Ideal and Practical Transformer, Losses,	1	Black Board	T1
23		Efficiency of transformer, maximum efficiency condition, problems	2	Black Board	T2
24		Regulation of transformer, simple problems	2	Black Board	T1
25		auto transformer and 3 phase transformer connections	2	Black Board	T1
26	**IV**	**Introduction** to electrical machines, Generation of rotating magnetic fields	1	Black Board	T1
27		Construction and working of a three-phase induction motor	2	PPT,Black board	R1
28		Significance of torque-slip characteristic.	2	Black board	T1
29		Loss components and efficiency	1	Black board	T1,W3
30		slip and torque characteristics	2	Black board	T1
31		starting and speed control of induction motor	2	Black board	T2
32		Single-phase induction motor	1	Black board	T1
33		Construction of separately excited dc motor	1	Black board	T1
34		working & torque-speed characteristic of separately excited dc motor	2	Black board	R1
35		speed control of separately excited dc motor	1	Black board	T2
36		Construction and working of synchronous generators.	2	Black board	T1
37	**V**	**Electrical Installation::** switch fuse unit MCB,ELCB,MCCB	2	Black Board	T1
38		Types of wires, cables, Earthling.	2	Black Board	T1
39		Types of Batteries, important characteristics for batteries	2	Black Board	T1
40		Elementary calculations for energy consumption	2	Black Board	T1
41		Power factor improvement and battery backup.	2	Black Board	R1

SRI INDU INSTITUTE OF ENGINEERING AND TECHNOLOGY

(An Autonomous Institution under UGC)
Accredited by NAAC with A+ Grade, Recognized under 2(f) of UGC Act 1956
(Approved by AICTE, New Delhi and Affiliated to JNTUH, Hyderabad)
Khalsa Ibrahimpatnam, Sheriguda (V), Ibrahimpatnam (M), Ranga Reddy Dist., Telangana – 501 510
Website: https://siiet.ac.in/

TEXT BOOKS:

1. D.P. Kothari and I. J. Nagrath, "Basic Electrical Engineering", Tata McGraw Hill, 4th Edition, 2019.

2. MS Naidu and S Kamakshaiah, "Basic Electrical Engineering", Tata McGraw Hill, 2nd Edition, 2008.

REFERENCE BOOKS:

1. P. Ramana, M. Suryakalavathi, G.T. Chandrasheker, "Basic Electrical Engineering", S. Chand, 2nd Edition, 2019.

2. D. C. Kulshreshtha, "Basic Electrical Engineering", McGraw Hill, 2009.

3. M. S. Sukhija, T. K. Nagsarkar, "Basic Electrical and Electronics Engineering", Oxford, 1st Edition, 2012.

4. Abhijit Chakrabarthi, Sudipta Debnath, Chandan Kumar Chanda, "Basic ElectricalEngineering", 2nd Edition, McGraw Hill, 2021.

SRI INDU INSTITUTE OF ENGINEERING AND TECHNOLOGY

(An Autonomous Institution under UGC)
Accredited by NAAC with A+ Grade, Recognized under 2(f) of UGC Act 1956
(Approved by AICTE, New Delhi and Affiliated to JNTUH, Hyderabad)
Khalsa Ibrahimpatnam, Sheriguda (V), Ibrahimpatnam (M), Ranga Reddy Dist., Telangana – 501 510
Website: https://siiet.ac.in/

WEB REFERENCES & E-BOOKS :

1	https://archive.nptel.ac.in/courses/108/104/108104139/
2	https://archive.nptel.ac.in/courses/108/102/108102146/
3	https://archive.nptel.ac.in/courses/108/105/108105053/
4	https://archive.nptel.ac.in/courses/108/108/108108076/
5	https://ocw.mit.edu/courses/6-002-circuits-and-electronics-spring-2007/resources/lecture-22/
6	https://www.electrical4u.com/
7	https://ocw.mit.edu/courses/6-01sc-introduction-to-electrical-engineering-and-computer-science-i-spring-2011/pages/unit-3-circuits/circuits/
8	https://www.youtube.com/watch?v=mq2zjmS8UMI
9	https://nptel.ac.in/courses/108105112
10	https://archive.nptel.ac.in/courses/108/105/108105112/
11	https://youtu.be/hRYEJNJNYsg?si=EaevkijP9karBbm7
12	https://youtu.be/YBJLaEqIjOI?si=wfQAW6pwmOHec6k2
13	https://youtu.be/c76CnTH8_y4?si=UtHhUNzWxxnHR-Y3

SRI INDU INSTITUTE OF ENGINEERING AND TECHNOLOGY

(An Autonomous Institution under UGC)

Accredited by NAAC with A+ Grade, Recognized under 2(f) of UGC Act 1956

(Approved by AICTE, New Delhi and Affiliated to JNTUH, Hyderabad)

Khalsa Ibrahimpatnam, Sheriguda (V), Ibrahimpatnam (M), Ranga Reddy Dist., Telangana – 501 510

Website: https://siiet.ac.in/

Lecture notes

Unit 1 link:
https://drive.google.com/file/d/1OF6Ik2zVV7BST8h35eEbdLKBbYtmSvX1/view?usp=sharing

Unit 2 link:
https://drive.google.com/file/d/1PsvygXzVh9nMU1ul8CscxdcLB5ex9tKS/view?usp=sharing

Unit 3 link: https://drive.google.com/file/d/16O-ukzS5_DdRY4_vquNX7qsgVxFBT2Oo/view?usp=sharing

Unit 4 link:
https://drive.google.com/file/d/1BatVxO3gsXIuWEKjD--trkwsM9vckyw8/view?usp=sharing

Unit 5 link:
https://drive.google.com/file/d/1A7v58LXuprWBhGZUiDprQqbDiPKzAopU/view?usp=sharing

SRI INDU INSTITUTE OF ENGINEERING AND TECHNOLOGY

(An Autonomous Institution under UGC)
Accredited by NAAC with A+ Grade, Recognized under 2(f) of UGC Act 1956
(Approved by AICTE, New Delhi and Affiliated to JNTUH, Hyderabad)
Khalsa Ibrahimpatnam, Sheriguda (V), Ibrahimpatnam (M), Ranga Reddy Dist., Telangana – 501 510
Website: https://siiet.ac.in/

List of PPTs

PPT-1 link:

https://docs.google.com/presentation/d/1OZK2e36rOll6qAiVma0WkZG
EjMxM46GK/edit#slide=id.p1

PPT-2 link:

https://docs.google.com/presentation/d/1bQviA16dpExn8pe
6m_rqRgDv74zNTCJ0/edit#slide=id.p1

SRI INDU INSTITUTE OF ENGINEERING AND TECHNOLOGY

UGC Autonomous Institution and Affiliated to JNTUH, Hyderabad

X3

B .Tech I Year I Semester Regular Examinations, March–2023

BASIC ELECTRICAL ENGINEERING

(Common to CSE, CSE (CS), CSE (DS))

Time: 3 Hours   Max. Marks: 60

Note: This question paper contains two parts A and B.
Part A is compulsory which carries 10 marks. All Question Carry Equal Marks in Part A.
Part B consists of 5 Units. Answer any one full question from each unit.
Each question carries 10 marks and may have a, b, c as sub questions.

PART-A

10x1=10 Marks

1. Define current and voltage
2. State Kirchhoff's voltage law?
3. State Super position Theorem
4. What is meant by Reactive power?
5. Define transformer.
6. What is meant by equivalent resistance of single phase transformer referred to primary?
7. Define slip
8. What are the different types of generators?
9. List out the types of wires.
10. What are the different types of secondary Batteries?

PART-B

5x10=50 Marks
[10]

11. Explain superposition theorem with one example?

(or)

12. Explain in detail the volt-ampere relationship of R, L and C elements with neat diagrams.
[10]

13. A coil having a resistance of 10ohms and an inductance of 0.2H is connected in series with 100 µF capacitor across a230v,50hzsupply.find: [10]
    i)impedence
    ii)current
    iii)Apprent Power, real power, reactive power.
    iv) power factor.

(or)

14. Define the following terms: [10]
    i) Frequency
    ii) Peak factor
    iii) Form factor
    iv) Peak value of an alternating quantity.
    v) RMS value of an alternating quantity.

15. Explain single phase transformer on no load and full load conditions. · [10]

(or)

16. a) Determine the condition for maximum efficiency in a single phase transformer.
    b) What is a transformer? How does it transfer electrical energy from one circuit to another? [5+5]

17. a) Derive the torque equation of a DC motor.
    b) Explain the constructional details of DC generator. [5+5]

(or)

18. Explain the working principle of synchronous generator. [10]

19. a) What is the difference between MCB and MCCB, describe their schematic diagrams?
    b) What are the drawbacks of low power factor, describe how it is improved? [5+5]

(or)

20. What are the types of batteries? Explain [10]

******

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B.Tech I Year II Semester Examinations, June - 2022
BASIC ELECTRICAL ENGINEERING
(Common to ECE, EIE, ECM, CSBS, CSE(AI&ML), CSE(IOT))

Time: 3 Hours   **Max. Marks: 75**

Answer any five questions
All questions carry equal marks
- - -

1.a) Two resistances when they are in series have an equivalent resistance of 9 ohms and when connected in parallel have an equivalent resistance of 2 ohms. Find the two resistances?

b) State and explain Kirchhoff's laws using an example.   [7+8]

2.a) State and explain Thevenin's theorem.

b) Find the current 'i' in the circuit below shown in figure using Nortan's theorem.   [7+8]
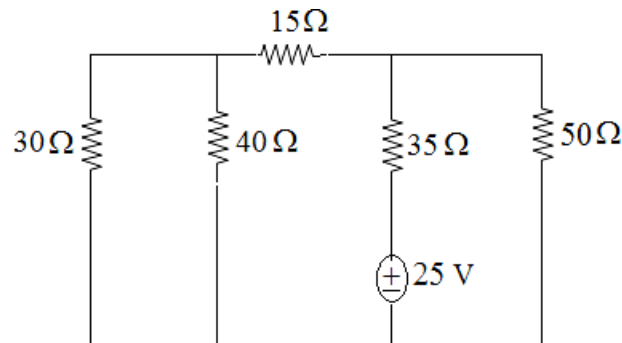
3.a) Explain about Series Resonance in a series RLC circuit and derive an expression for resonance frequency and quality factor.

b) Each phase of a balanced three phase delta connected load has an impedance of $(4-j3)$ Ω. If a 3-phase voltage of 220 V supply is applied to this load, find the line and phase currents in the delta-connected load and the power delivered to the load.   [7+8]

4.a) Define RMS value, Average value. Find Average value and RMS value of sinusoidal wave.

b) A Resistor of 100Ω in series with a capacitance of 50μF is connected to a supply of 200V, 50Hz. Find: (i) impedance (ii) current (iii) phase angle (iv) voltage across resistance and capacitance.   [7+8]

5.a) What is voltage regulation of a transformer and develop an expression for calculating the voltage regulation in the transformer.

b) Calculate efficiency at half and full load of a 100 kVA transformer for power factor of (i) unity (ii) 0.8. The copper loss is 1000 W at full load and the iron loss is 1000 W. [8+7]

6.a) With neat constructional details, explain principle and operation of a synchronous generators.

b) A 3-phase delta connected 440 V, 3-phase 50 Hz, 4-pole induction motor has a rotor standstill e.m.f per phase of 150 V. If the motor is running at 1450 rpm, determine for this speed (i) the slip (ii) the frequency of rotor induced e.m.f (iii) the rotor induced e.m.f per phase.   [8+7]

7.a) Briefly describe the construction and principal of operation of single-phase induction motor.

b) Describe briefly torque-slip characteristics of induction motor. Based on characteristics what are its applications? [8+7]

8.a) With the help of schematic diagram, explain the working principle of ELCB (Earth-Leakage Circuit Breaker). Discuss applications of ELCB.

b) Write short note on Switch Fuse Unit (SFU). [10+5]

--ooOoo--

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B.Tech I Year I Semester Examinations, June - 2022
**BASIC ELECTRICAL ENGINEERING**
(Common to EEE, CSE, IT, CSIT, ITE, CE(SE), CSE(CS), CSE(DS), CSE(Networks), CSED)

Time: 3 Hours   Max. Marks: 75

Answer any five questions
All questions carry equal marks
- - -

1.a)   Explain in detail the passive elements and active elements.
 b)   By using Thevenin's theorem shown in figure 1, find the current in 6Ω resistor.   [8+7]
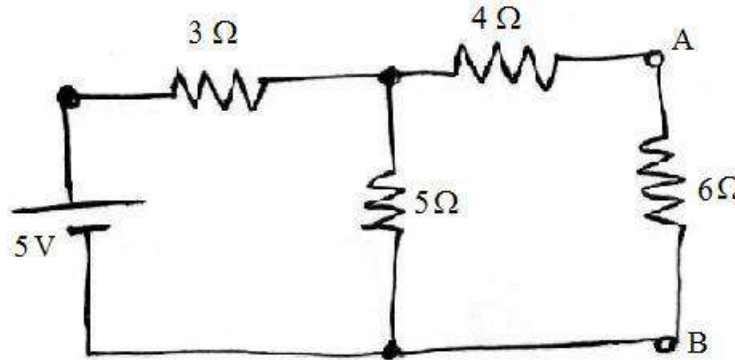
Figure 1

2.a)   State Kirchhoff's voltage and current laws, Explain in detail.
 b)   By using superposition theorem, find the current flowing through 2 ohms resistor. (Figure 2)   [8+7]
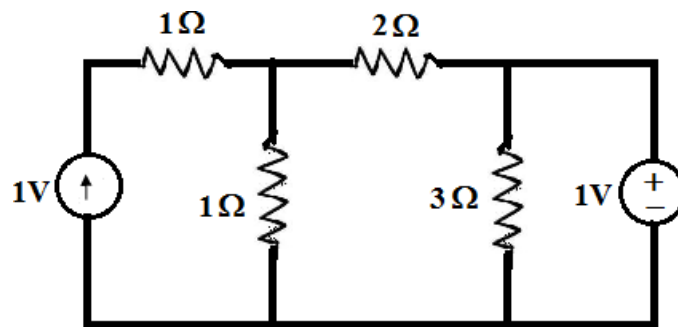
Figure 2

 Explain the following terms of AC circuits
   (i)   rms value   (ii) average value   (iii) peak value
   (iv) formfactor   (v) phasor   (vi) phase difference
 b)   Analyze the series RL circuit with a neat sketch and also draw the phasor diagram.   [8+7]

4.a) Derive the relation between phase voltage and line voltage of a balanced three phase star connected system.
 b) A circuit consisting of three branches, Z_2 is in parallel with Z_3 the combination is in series with Z_1 having the values $Z_1=5+j15$, $Z_2 =2.5+j5$ and $Z_3=2-j8$ connected across single phase, 100 V, 50 Hz supply. Find i) I_1, I_2 and I_3 ii) V_1 and V_2.   [8+7]

The emf per turn of a 1-φ, 2200/220 V, 50 Hz transformer is approximately 12V. Calculate
    i) The number of primary and secondary turns, and
    ii) The net cross-sectional area of core for a maximum flux density of 1.5 T?
  b)   Explain the losses in a Transformer; also derive the maximum efficiency condition of a transformer.   [8+7]

6.a)   Explain the significance of torque-slip and characteristics of 3-phase induction motor.
  b)   Why three phase induction motor not rotating at synchronous speed, explain.   [8+7]

7.a)   Explain the types of batteries and its important characteristics.
  b)   Define earthing also explain the purpose of earthing.   [7+8]

8.a)   Explain the constructional details of synchronous generators.
  b)   Why single phase induction motors are not self starting motors? Explain.   [7+8]

--ooOoo--

R18

Time: 3 Hours   **Max. Marks: 75**

Answer any five questions
All questions carry equal marks
- - -

1.a) Explain the V-I relation of circuit elements R, L and C.
 b) Find the value of current I_1, I_2 and I_3 from the circuit given below figure 1.   [6+9]
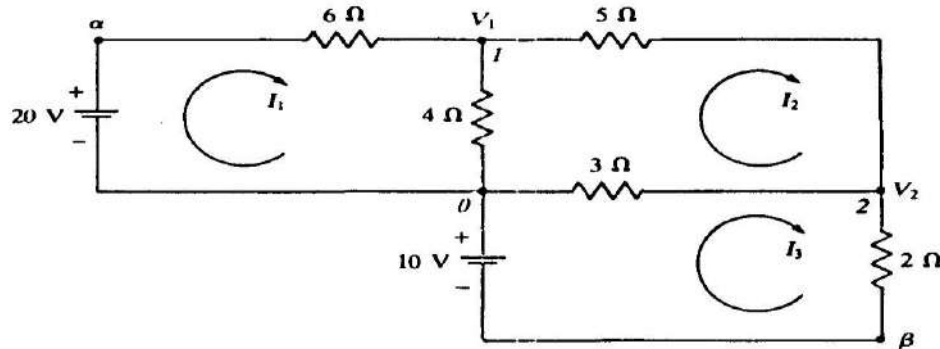
Figure: 1

2.a) Obtain an expression for transient current flowing through R-C series circuit excited by D.C source at $t = o^+$.
 b) Find the current flowing through 4 ohm resistance shown in figure 2 below using superposition theorem.   [7+8]
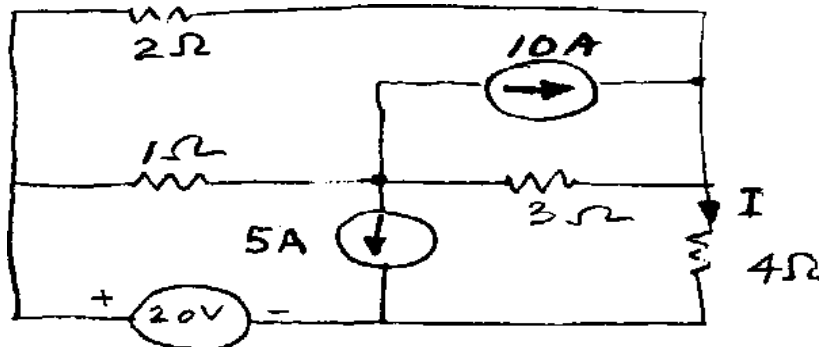
Figure: 2

3.a) Obtain an expression for active power in a single phase R-L circuit excited by sinusoidal voltage.
 b) Determine the power factor and the input power for a circuit with $v = 50 \sin (\omega t + 10^0)$ and $I = 2 \sin (\omega t + 20^0)$ A.   [8+7]

4.a) A coil with inductance and resistance of 1 mH and 2 Ω respectively, is connected in series with a capacitor and this whole arrangement is connected across 120 V, 5 kHz A.C supply. Determine the value of capacitance that will cause the system to be in resonance.
 b) A star connected load has $5\llcorner 30^0$ Ω impedance per phase and is connected across 400 V three phase balanced source. Calculate the line current and the phase current. [8+7]

5.a) Give the applications of auto transformer.
  b) Calculate the values of R_0, X_0, R_{01} and X_{01} for the equivalent circuit of a single phase, 4 KVA, 200/400 V, 50 Hz transformer of which the following are the test results:
      O.C. test: 200V, 0.7A, 70W
      S.C. test: 15V,   10A,   80W   [6+9]

6.a) State the advantages of 3-phase transformers.
  b) The iron and full load copper losses in a 80KVA single phase transformer are 500 and 1000W respectively. Calculate the efficiency at half full load, 0.8 p.f. lag. Find, also the load at which the efficiency is maximum?   [6+9]

7.a) Explain why the rotor is forced to rotate in the direction of rotating magnetic field in a 3 phase Induction motor?
  b) A 3 phase, 50 Hz induction motor has a full load speed of 970 rpm. Calculate (i) number of the poles (ii) slip frequency.   [9+6]

8. What is the need for earthing? Explain different types of earthing.   [15]

---ooOoo---

SRI INDU INSTITUTE OF ENGINEERING AND TECHNOLOGY

UGC Autonomous Institution, Accredited by NAAC with A+ Grade

Recognized under 2(f) of UGC Act 1956.

(Approved by AICTE, New Delhi and Affiliated to JNTUH, Hyderabad)

Sheriguda(V), Ibrahimpatnam(M), R.R Dist., Telangana – 501 510

X3

BR22

I B.Tech I - Mid Examinations, Dec-2022/Jan-2023

Set – II

Branch: CSE,CSE (CS), CSE(DS)　　　　　　　　　Date: 02-01-2023 (FN)

Subject: BASIC ELECTRICAL ENGINEERING　　　Marks: 20　　　Time: 2 Hours

Part-B

Answer any **FOUR** Questions. All Question Carry Equal Marks　　　　4*5=20 Marks

1. Find the mesh currents for the circuit Shown in below. [C114.1]

    Remembering(L1)
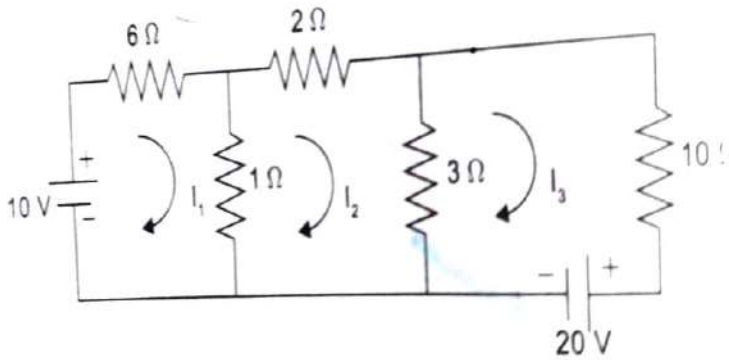
2. Explain KCL and KVL in detail.　　　[C114.1]　　　　Understanding(L2)
3. Explain the Phasors for pure R, L and C.　[C114.2]　　Understanding(L2)
4. Explain Resonance of Series RLC circuit.　　[C114.2]　　Understanding(L2)
5. A Voltage of 120v at 50Hz is applied to a Resistance in series with capacitance C. The current drawn is 2A, and the power loss in the resistance is 100W. Find

    a) Resistance b) capacitance c) power factor.　　[C114.2]　　Evaluation(L4)
6. Explain EMF equation of a transformer.　　[C114.3]　　Understanding(L2)

SRI INDU INSTITUTE OF ENGINEERING AND TECHNOLOGY

UGC Autonomous Institution, Accredited by NAAC with A+ Grade
Recognized under 2(f) of UGC Act 1956.
(Approved by AICTE, New Delhi and Affiliated to JNTUH, Hyderabad)
Sheriguda(V), Ibrahimpatnam(M), R.R Dist., Telangana – 501 510

X3

BR22

I B.Tech I - Mid Examinations, Dec-2022/Jan-2023

Branch: CSE, CSE (CS), CSE (DS)   Date: 02-01-2023 (FN)

Subject: BASIC ELECTRICAL ENGINEERING   Marks: 10

Student Name: ………………………………. H.T.No.: [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ]

Part-A

Objective/Quiz Paper

The objective/quiz paper is set with multiple choice, fill-in the blanks and match the following type of questions for a total of 10 marks.

Multiple choices:

1. Nodal Analysis Mainly Depends on   [   ]

   a) KVL   b) KCL   c) KCL&KVL   d)none.

2. Identify Passive Element among the following.   [   ]

   a) voltage source   b)current source   c)inductor   d)transistor

3. How many minimum storage elements are required to apply resonance condition [   ]

   a) 1   b)2   c) 3   d) none

4. A Transformer works for   [   ]

   a)DC   b) AC   c)AC & Dc   d)Neither AC nor Dc

Fill in the blanks:

5. Three resistors are connected in series Req=_____

6. The Voltage across inductor is _____

7. The impedance for RL circuit _____.

8. The resonant frequency Fr=_____.

Match the following:

9. I. Band –Width   (   )   a) inductive reactive power/average power

   II. Quality Factor   (   )   b) Conservation of charge

   III. KCL   (   )   C) f_2-f_1

   IV. KVL   (   )   d) Conservation of energy

SRI INDU INSTITUTE OF ENGINEERING AND TECHNOLOGY

UGC Autonomous Institution, Accredited by NAAC with A+ Grade

Recognized under 2(f) of UGC Act 1956.

(Approved by AICTE, New Delhi and Affiliated to JNTUH, Hyderabad)

Sheriguda(V), Ibrahimpatnam(M), R.R Dist., Telangana – 501 510

I B.Tech I - Mid Examinations, Dec-2022/Jan-2023

X3

BR22

Answer key

Descriptive paper key link:

https://drive.google.com/file/d/1kEjAxLnMxEB8kKk2KrnuY08Hxb2GjzFo/view?usp=sharing

Objective/Quiz Key Paper

Multiple choices:

1. b
2. c
3. b
4. b

Fill in the blanks:

5. r1+r2+r3
6. v=Ldi/dt
7. $\sqrt{R^2 + X^2}$
8. $1/{2\pi\sqrt{LC}}$

Match the following:

9. I-c

II-a

III-b

IV-d

Mid 1 answer script link:

https://drive.google.com/file/d/1uXiYLxtQZ7npxPU88ghCN7x4keJO_Tzy/view

SRI INDU INSTITUTE OF ENGINEERING AND TECHNOLOGY

UGC Autonomous Institution, Accredited by NAAC with A+ Grade

Recognized under 2(f) of UGC Act 1956.
(Approved by AICTE, New Delhi and Affiliated to JNTUH, Hyderabad)
Sheriguda(V), Ibrahimpatnam(M), R.R Dist., Telangana – 501 510

X3

I B.Tech II - Mid Examinations, March-2023

BR22

Set – I

Branch: CSE, CSE (CS) & CSE (DS)　　　　　　　Date: 08-03-2023 (FN)

Subject: BASIC ELECTRICAL ENGINEERING　　Marks: 20　　　Time: 2 Hours

Part-B

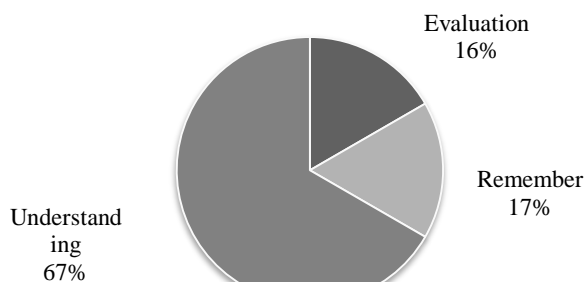Answer any **FOUR** Questions. All Question Carry Equal Marks　　　　4*5=20 Marks

1. Derive the condition for maximum efficiency in a single phase transformer? [C114.4]

    (Evaluation L5)

2. A six pole induction motor is fed by three phase 50 Hz supply and running with a full load slip of 3%. Find the full load speed of induction motor and also the frequency of rotor EMF?　　[C114.5]　　　　　　　　　　　　　　　　Remembering(L1)

3. Explain the concept rotating magnetic field and hence explain the operation of the three phase induction motor?　　　　　[C114.5]　　　　Understanding L2)

4. Explain working of alternator with neat diagram?　　[C114.5]　Understanding L2)

5. What is ELCB? Explain the working principle of ELCB?　[C114.6] Understanding L2)

6. Explain power factor improving methods?　　　　　[C114.6]　Understanding L2)

BT Mapping: Evaluation 16%, Understanding 67%, Remembering 17%

CO Mapping: CO4 17%, CO5 50%, CO6 33%

SRI INDU INSTITUTE OF ENGINEERING AND TECHNOLOGY

UGC Autonomous Institution, Accredited by NAAC with A+ Grade
Recognized under 2(f) of UGC Act 1956.
(Approved by AICTE, New Delhi and Affiliated to JNTUH, Hyderabad)
Sheriguda(V), Ibrahimpatnam(M), R.R Dist., Telangana – 501 510

X3

BR22

I B.Tech II - Mid Examinations, March-2023

Branch: CSE, CSE (CS) & CSE (DS)   Date: 08-03-2023 (FN)

Subject: BASIC ELECTRICAL ENGINEERING   Marks: 10

Student Name: …………………………………   H.T.No.:

Part-A

Objective/Quiz Paper

The objective/quiz paper is set with multiple choice, fill-in the blanks and match the following type of questions for a total of 10 marks.

Multiple choices:

1. The rating of transformer is in ___   [   ]

   a)KW   b)KVAR   c)KVA   d)HP

2. Commutator in a DC machine can be convert   [   ]
   a) AC to DC   b) AC to AC
   c) DC to AC   d) DC to DC

3. Difference in speed between stator field and rotor in induction motor is   [   ]
   a)Full load speed   b)No load speed   c) Slip   d)Regulation

4. The most economical power factor for a consumer is generally ----   [   ]
   a) 0.5 lagging   b) 0.8 lagging   c) unity   d) 0.95 lagging

Fill in the blanks:

5. Condition for maximum efficiency in transformer is_____

6. Synchronous speed Ns=_____

7. Strip or Wire earthing is used in _____areas.

8. Battery capacity measured in _____.

Match the following:

9.

i.	No of parallel paths A=P	( )	a) 0.5 to 5 ohms
ii.	No of parallel paths A=2	( )	b)Lap winding
iii.	Earth resistance	( )	c) MCB
iv.	Short circuit protection	( )	d) Wave winding

SRI INDU INSTITUTE OF ENGINEERING AND TECHNOLOGY

UGC Autonomous Institution, Accredited by NAAC with A+ Grade

Recognized under 2(f) of UGC Act 1956.

(Approved by AICTE, New Delhi and Affiliated to JNTUH, Hyderabad)

Sheriguda(V), Ibrahimpatnam(M), R.R Dist., Telangana – 501 510

I B.Tech II - Mid Examinations, March-2023

X3

BR22

Answer key

Descriptive key link:

https://drive.google.com/file/d/1I47XJ2l6TQpp7fS0T3jh9iLgZ31V58vj/view?usp=sharing

Objective/Quiz Paper

Multiple choices:

10.   c

11.   a

12.   c

13.   d

Fill in the blanks:

14.   Iron losses=copper losses

15.   120f/P

16.   Hilly

17.   mAh

Match the following:

18.   I-b

II-d

III-a

IV-c

Mid 2 answer script link:

https://drive.google.com/file/d/1MGDD_7rrNyHdU7VGlbm-Ynsf4HyGlYAu/view

SRI INDU INSTITUTE OF ENGINEERING AND TECHNOLOGY

UGC Autonomous Institution, Accredited by NAAC with A+ Grade

Recognized under 2(f) of UGC Act 1956.

(Approved by AICTE, New Delhi and Affiliated to JNTUH, Hyderabad)

Sheriguda(V), Ibrahimpatnam(M), R.R Dist., Telangana – 501 510

X3

BR22

Mid-1 Assignment questions

1.Apply Superposition Theorem for circuit given below .   [CO1]   Applying(L3)
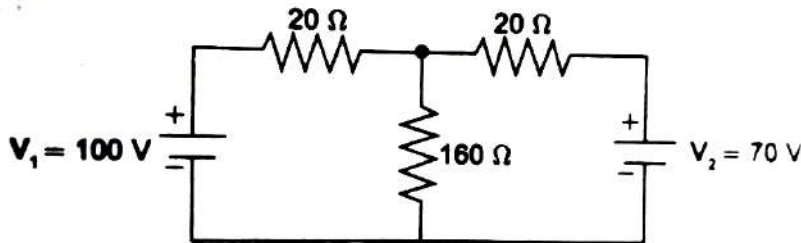
2. Find the node voltages equations .   [CO1]   Remembering(L1)
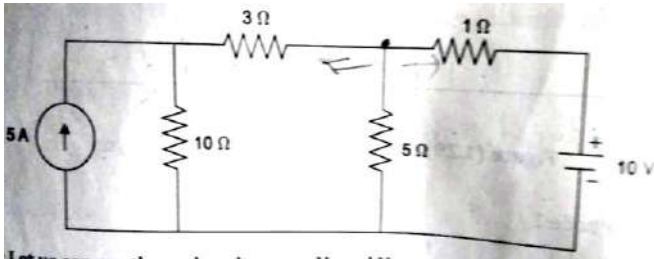
3. Find the mesh currents for the circuit.   [CO1]   Remembering(L1)
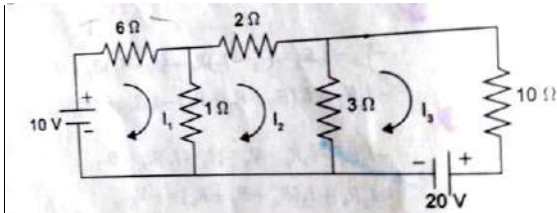
4. Explain KCL and KVL in detail.   [CO1]   Understanding(L2)

5. Define
 a) Active element b)Linear element c)Passive Element d)Bilateral Element.
                                                                    [CO1]   Remembering(L1)

6. Define First order RL series Circuit.   [CO1]   Remembering(L1)

7. Explain in detail about energy sources.   [CO1]   Understanding(L2)

8. Distinguish Between AC and DC.   [CO2]   Analyzing(L4)

9. For a sine waveform find form factor , peak factor , rms value. [CO2] Remembering(L1)

10. Explain the Phasors for pure R,L,C. .   [CO2]   Understanding(L2)

11. Define the following operation .   [CO2]   Remembering(L1)

a)A+B b)A-B c)A*B d)A/B

A=6+j8 B=3-j4

12. Explain Resonance of Series RLC circuit .   [CO2]   Understanding(L2)

13. A Voltage of 120v at 50hz is applied to a resistance   ,R in series with capacitance C . The current drawn is 2A ,and the power loss in the resistance is 100W. Find a) resistance b)capacitance c)power factor.   [CO2]   Remembering(L1)

14. A capacitor having capacitance of 79.5µF is connected in series with resistance of 30ohm across 100v, 50Hz Find a)impedance b)phase angle c)current   [CO2] Remembering(L1)

15. Define a)Band-Width b)Selectivity c)Quality factor.   [CO2]   Remembering(L1)

16. Explian Working of a transformer. .   [CO3]   Understanding(L2)

17.The maximum flux density in the core of a 250/3000v,50Hz transformer is $1.2wb/m^2$ if emf per turn is 8v, determine a)primary and secondary turns b)area of core.
                   [CO3]   Evaluating(L5)
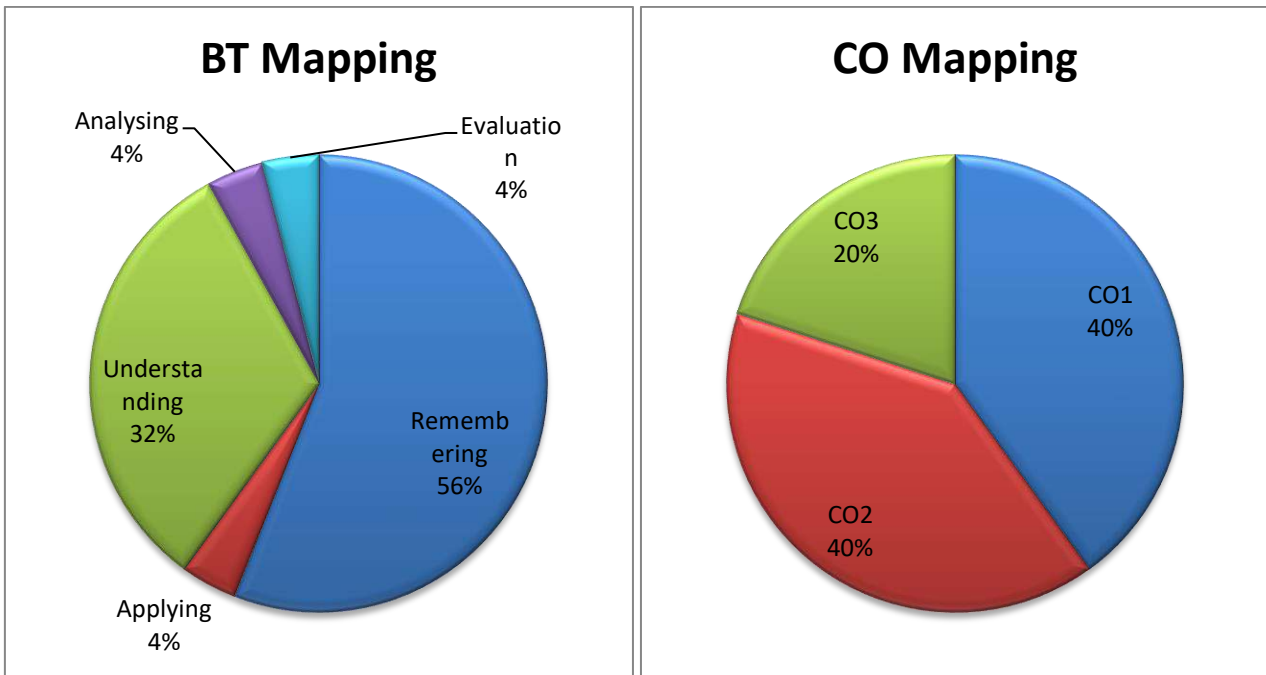
Mid 1 sample assignment link:

SRI INDU INSTITUTE OF ENGINEERING AND TECHNOLOGY

UGC Autonomous Institution, Accredited by NAAC with A+ Grade
Recognized under 2(f) of UGC Act 1956.
(Approved by AICTE, New Delhi and Affiliated to JNTUH, Hyderabad)
Sheriguda(V), Ibrahimpatnam(M), R.R Dist., Telangana – 501 510

X3

II - Mid Assignment questions

BR22

1. Derive the condition for maximum efficiency in a single phase transformer?

   [CO4]   (Evaluation L5)

2. A six pole induction motor is fed by three phase 50 Hz supply and running with a full load slip of 3%. Find the full load speed of induction motor and also the frequency of rotor EMF?   [CO5]   Remembering(L1)

3. Explain the concept rotating magnetic field and hence explain the operation of the three phase induction motor?   [CO5]   Understanding L2)

4. Explain working of alternator with neat diagram?   [CO5]   Understanding L2)

5. What is ELCB? Explain the working principle of ELCB?   [CO6] Understanding L2)

6. Explain power factor improving methods?   [CO6]   Understanding L2)

7. A single-phase transformer is rated at 40 kVA. The transformer has full-load copper losses of 800W and iron losses of 500W. Determine the transformer efficiency at

   i. full load unity power factor

   ii. 75 % of load 0.8 power factor

   iii. Maximum efficiency   [CO4]   (Evaluation L5)

8. With neat sketches, explain the construction and functions of the various parts of a DC machine   [CO5] (Understanding L2)

9. Explain torque slip characteristics of 3 phase induction motor?

   [CO5]   (Understanding L2)

10. Explain the working principle of MCB neat sketch?   [CO6] (Understanding L2)

11. Define power factor and discuss disadvantages of low power factor?

    [CO6] Creating(L6)

12. Explain about different types of batteries. [CO6]   (Understanding L2)

BT Mapping

Legend: Evaluation, Remembering, Understanding, Creating

- 8% (Creating)
- 17% (Evaluation)
- 8% (Remembering)
- 67% (Understanding)

CO Mapping

Legend: CO4, CO5, CO6
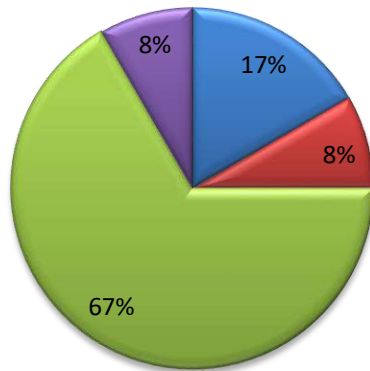
- 18% (CO4)
- 9% (CO5)
- 73% (CO6)
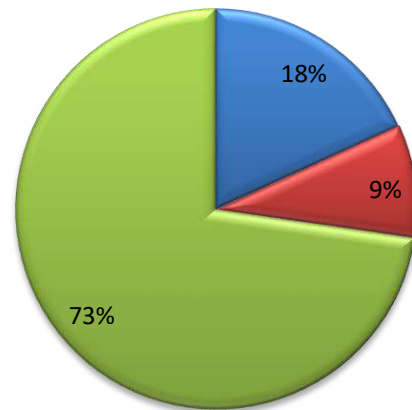
Mid 2 sample assignment link:

https://drive.google.com/file/d/1TzwQkGnjgbku_dQDmukaLfuHrMQBzB5m/view

SRI INDU INSTITUTE OF ENGINEERING AND TECHNOLOGY

(An Autonomous Institution under UGC)
Accredited by NAAC with A+ Grade, Recognized under 2(f) of UGC Act 1956
(Approved by AICTE, New Delhi and Affiliated to JNTUH, Hyderabad)
Khalsa Ibrahimpatnam, Sheriguda (V), Ibrahimpatnam (M), Ranga Reddy Dist., Telangana – 501 510
Website: https://siiet.ac.in/

SCHEME OF EVALUATION

→ FOR MID 1

S.NO	DESCRIPTION	MARKS	BLOOMS TAXONONMY	CO
1	For writing mesh equations	3	Remembering(L1)	C114.1
	Solving mesh equations	2	Remembering(L1)	C114.1
2	Explanation of KCL	3	Understanding(L2)	C114.1
	Explanation of KVL	2	Understanding(L2)	C114.1
3	Phasors of R,L and C	3	Understanding(L2)	C114.2
	Derivation of R,L and C	2	Understanding(L2)	C114.2
4	Characteristics of resonance	3	Understanding(L2)	C114.2
	Conditions of resonance	2	Understanding(L2)	C114.2
5	Calculation of resistance	2	Evaluation(L4)	C114.2
	Calculation of capacitance	2	Evaluation(L4)	C114.2
	Calculation of power factor	1	Evaluation(L4)	C114.2
6	Derivation of EMF equation	5	Understanding(L2)	C114.3

→ FOR MID 2

S.NO	DESCRIPTION	MARKS	BLOOMS TAXONONMY	CO
1	Derivation of maximum efficiency	4	Evaluation L5	C114.4
	Condition of maximum efficiency	1	Evaluation L5	C114.4
2	Full speed of Induction motor	4	Remembering(L1)	C114.5
	Frequency of rotor emf	1	Remembering(L1	C114.5
3	concept of rotating magnetic field	3	Understanding L2)	C114.5
	Working of induction motor	2	Understanding L2)	C114.5
4	working diagram of alternator	1	Understanding L2)	C114.5
	working of alternator	4	Understanding L2)	C114.5
5	ELCB definition	1	Understanding L2)	C114.6
	working principle of ELCB	4	Understanding L2)	C114.6
6	power factor improving methods	5	Understanding L2)	C114.6

SRI INDU INSTITUTE OF ENGINEERING AND TECHNOLOGY

(An Autonomous Institution under UGC)
Accredited by NAAC with A+ Grade, Recognized under 2(f) of UGC Act 1956
(Approved by AICTE, New Delhi and Affiliated to JNTUH, Hyderabad)
Khalsa Ibrahimpatnam, Sheriguda (V), Ibrahimpatnam (M), Ranga Reddy Dist., Telangana – 501 510
Website: https://siiet.ac.in/

RESULT ANALYSIS

Branch : CSE-DATA SCIENCE   **Subject:** Basic Electrical Engineering

List of slow learners

S.NO	ROLL NO	Intermediate percentage	MID1 MARKS	MID2 MARKS
1	22X31A6706	60.6	18	24
2	22X31A6712	60	17	32
3	22X31A6713	60	20	31
4	22X31A6729	60	5	21
5	22X31A6753	65	22	19

List of advance learners

S.NO	ROLL NO	Intermediate percentage	MID1 MARKS	MID2 MARKS
1	22X31A6704	91.3	25	35
2	22X31A6709	94	29	32
3	22X31A6719	95	30	28
4	22X31A6724	94.7	30	32
5	22X31A6736	97	35	30
6	22X31A6745	98	35	35
7	22X31A6747	97.5	35	35
8	22X31A6751	97.5	34	35
9	22X31A6760	95.7	33	35
10	22X31A6759	93.7	34	35
11	22X31A6763	93.6	33	33

SRI INDU INSTITUTE OF ENGINEERING AND TECHNOLOGY

(An Autonomous Institution under UGC)
Accredited by NAAC with A+ Grade, Recognized under 2(f) of UGC Act 1956
(Approved by AICTE, New Delhi and Affiliated to JNTUH, Hyderabad)
Khalsa Ibrahimpatnam, Sheriguda (V), Ibrahimpatnam (M), Ranga Reddy Dist., Telangana – 501 510
Website: https://siiet.ac.in/

RESULT ANALYSIS AT END

Branch : CSE-DATA SCIENCE   Subject: Basic Electrical Engineering
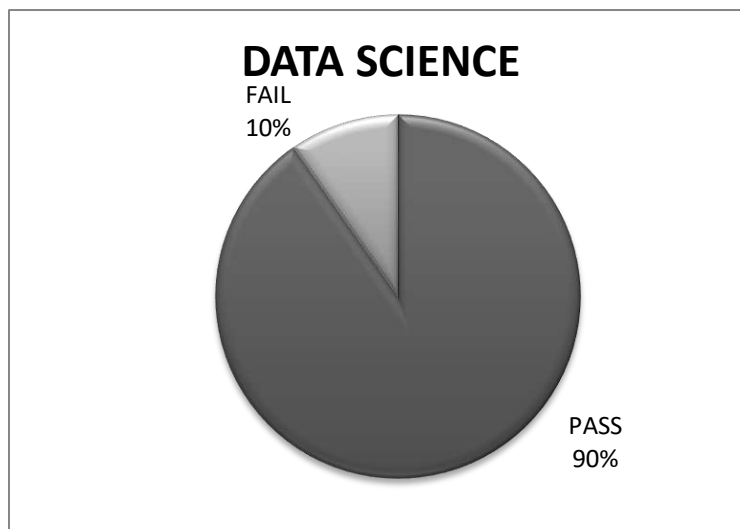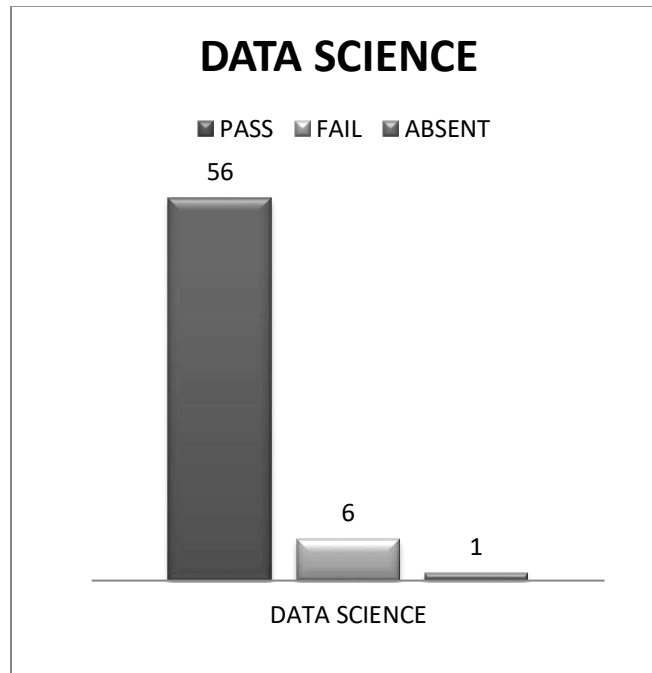
SRI INDU INSTITUTE OF ENGINEERING AND TECHNOLOGY

(An Autonomous Institution under UGC)
Accredited by NAAC with A+ Grade, Recognized under 2(f) of UGC Act 1956
(Approved by AICTE, New Delhi and Affiliated to JNTUH, Hyderabad)
Khalsa Ibrahimpatnam, Sheriguda (V), Ibrahimpatnam (M), Ranga Reddy Dist., Telangana – 501 510
Website: https://siiet.ac.in/

REMEDIAL CLASSES TIME TABLE

DEPARTMENT OF HUMANITIES AND SCIENCE

DAY/ PERIOD	MON 4.00-5.00	TUE 4.00-5.00	WED 4.00-5.00	THUR 4.00-5.00	FRI 4.00-5.00	SAT 4.00-5.00
CSE-A	M&C	PPS	BEE	EG	EC	M&C
CSE-B	BEE	M&C	EG	PPS	EC	BEE
CSE-C	EC	EG	BEE	M&C	PPS	EC
DS	M&C	EC	BEE	PPS	EG	EC
CYBER	PPS	M&C	EC	EG	BEE	M&C
AIML-A	AP	PPS	M&C	ENG	AP	M&C
AIML-B	M&C	EG	PPS	AP	M&C	EG
AI&DS	M&C	ENG	AP	PPS	AP	PPS
IOT	PPS	AP	M&C	EG	M&C	EG
ECE	AP	ENG	M&C	PPS	AP	PPS
CIVIL	EG	AP	M&C	PPS	M&C	EG

Head of the Department
Department of H&S
SRI INDU INSTITUTE OF ENGG & TECH
Sheriguda(V), Ibrahimpatnam (M), R.R. Dist-501 510

PRINCIPAL
Sri Indu Institute of Engineering & Tech.
Sheriguda(Vill), Ibrahimpatnam
R.R. Dist. Telangana-501 510.

SRI INDU INSTITUTE OF ENGINEERING AND TECHNOLOGY

Department of Humanities & Sciences

Course Outcome Attainment (Internal Examination-1)

Name of the faculty : S.NISCHALA   Academic Year: 2022-2023
Branch & Section: DATA SCIENCE   Examination: I Internal
Course Name: BASIC ELECTRICAL ENGINEERING   Year: I   Semester: I

S.No	HT No.	Q1a	Q1b	Q1c	Q2a	Q2b	Q2c	Q3a	Q3b	Q3c	Q4a	Q4b	Q4c	Q5a	Q5b	Q5c	Q6a	Q6b	Q6c	Obj1	A1
Max. Marks ==>		5			5			5			5			5			5			10	5
1	22X31A6701	5			5															6	5
2	22X31A6702	5			2						4									5	5
3	22X31A6703	5			5			5			5									10	5
4	22X31A6704	5			5						1			2						7	5
5	22X31A6705	4			5						5			1						5	5
6	22X31A6706	2			2															9	5
7	22X31A6707	5			5			1			5									6	5
8	22X31A6708	2									3									7	5
9	22X31A6709	5			5						5			1						8	5
10	22X31A6710	4			5						5			1						8	5
11	22X31A6711	4			5						5			1						7	5
12	22X31A6712	1			5									1						5	5
13	22X31A6713	4			2						2									7	5
14	22X31A6714				2												3			8	5
15	22X31A6715	5			5						5			1						6	5
16	22X31A6716				5						4			1						6	5
17	22X31A6717	3			2						2									5	5
18	22X31A6718	5			5			5			5									10	5
19	22X31A6719	5			5						5			2						8	5
20	22X31A6720	5			5						5									9	5
21	22X31A6721	5			5						4									5	5
22	22X31A6722	5			4									1						6	5
23	22X31A6723	3			2															7	5
24	22X31A6724	5			5						5			2						8	5
25	22X31A6725	5			2									2						5	5
26	22X31A6726	5			5						5			4						7	5
27	22X31A6727	5			5						5			2						6	5
28	22X31A6728	5			5						5			2						6	5
29	22X31A6729																				5
30	22X31A6730	5			5			1			1									7	5
31	22X31A6731	5			5						4			1						6	5
32	22X31A6732																				5
33	22X31A6733	5			5			5			5									10	5
34	22X31A6734	5			5			3			5									10	5
35	22X31A6735																				5
36	22X31A6736	5			5			5			5									10	5
37	22X31A6737	4			5						4			1						10	5
38	22X31A6738	5			5						5			2						10	5
39	22X31A6739	5			5						4			1						9	5
40	22X31A6740	4			2															9	5
41	22X31A6741	3																		9	5
42	22X31A6742	5			5						5			4						10	5
43	22X31A6743	5			5						5			2						9	5
44	22X31A6744	5			5						5			3						10	5
45	22X31A6745	5			5			5			5									10	5
46	22X31A6746	5			5						5			2						10	5
47	22X31A6747	5			5			5			5									10	5
48	22X31A6748	5			5			5			5									9	5
49	22X31A6749	5			5						1			1						10	5
50	22X31A6750	5			5						5			1						10	5
51	22X31A6751	5			5						5			4						10	5
52	22X31A6752	2			5			1						2						7	5

S.No	Roll No	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Total	Final
53	22X31A6753	1			5						1									10	**5**
54	22X31A6754	5			5						5			5						10	**5**
55	22X31A6755	5			5															9	**5**
56	22X31A6756	5			1						5			2						10	**5**
57	22X31A6757	5												5			1			9	**5**
58	22X31A6758	4			5						5			4						9	**5**
59	22X31A6759	5			5						5			5						9	**5**
60	22X31A6760	5			5						5			4						9	**5**
61	22X31A6761	1			5						1			1						6	**5**
62	22X31A6762	5			5						5			3						8	**5**
63	22X31A6763	4			5						5			5						9	**5**
64	22X31A6764	5			5						5			4						8	**5**
Target set by the faculty / HoD		3.00	0.00	0.00	3.00	0.00	0.00	3.00	0.00	0.00	3.00	0.00	0.00	3.00	0.00	0.00	3.00	0.00	0.00	6.00	3.00
Number of students performed above the target		53	0	0	49	0	0	11	0	0	42	0	0	9	0	0	1	0	0	55	64
Number of students attempted		59	0	0	58	0	0	14	0	0	49	0	0	34	0	0	2	0	0	61	64
Percentage of students scored more than target		90%			84%			79%			86%			26%			50%			90%	100%

CO Mapping with Exam Questions:

	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Total	Final
CO - 1	Y			Y															Y	Y
CO - 2							Y			Y			y						Y	Y
CO - 3																y			y	y
CO - 4																				
CO - 5																				
CO - 6																				

	Q1			Q4			Q7			Q10			Q13			Q16			Total	Final
>Target %	90%			84%			79%			86%			26%			50%			90%	100%

CO Attainment based on Exam Questions:

	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Total	Final
CO - 1	90%			84%															90%	100%
CO - 2							79%			86%			26%						90%	100%
CO - 3																50%			90%	100%
CO - 4																				
CO - 5																				
CO - 6																				

CO	Subj	obj	Asgn	Overall	Level		Attainment Level	
CO-1	87%	90%	100%	92%	3.00		1	40%
CO-2	64%	90%	100%	85%	3.00		2	50%
CO-3	50%	90%	100%	80%	3.00		3	60%
CO-4								
CO-5								
CO-6								

Attainment (Internal 1 Examination) =   **3.00**

SRI INDU INSTITUTE OF ENGINEERING AND TECHNOLOGY

Department of Humanities & Sciences
Course Outcome Attainment (Internal Examination-2)

Name of the faculty : S.NISCHALA   Academic Year: 2022-2023
Branch & Section: DATA SCIENCE   Examination: II Internal
Course Name: BASIC ELECTRICAL ENGINEERING   Year: I   Semester: I

S.No	HT No.	Q1a	Q1b	Q1c	Q2a	Q2b	Q2c	Q3a	Q3b	Q3c	Q4a	Q4b	Q4c	Q5a	Q5b	Q5c	Q6a	Q6b	Q6c	Obj	A2	viva/ppt
Max. Marks ==>		5			5			5			5			5			5			10	5	5
1	22X31A6701	5			5									5						10	5	5
2	22X31A6702	5			5									5						10	5	5
3	22X31A6703	5			5									5			5			10	5	5
4	22X31A6704	5			5									5			5			10	5	5
5	22X31A6705	2			4			5						5						10	5	5
6	22X31A6706	3			2			3			2									9	5	5
7	22X31A6707	5			5			5			4									9	5	5
8	22X31A6708	3			2			5			2									9	5	5
9	22X31A6709	5			4			5			3									10	5	5
10	22X31A6710	5			4						3			2						10	5	5
11	22X31A6711	4			5			5			5									10	5	5
12	22X31A6712	5			4			5						3						10	5	5
13	22X31A6713	5			3						4			4						10	5	5
14	22X31A6714	5						4			3									9	5	5
15	22X31A6715	5			5			5			5									10	5	5
16	22X31A6716	3			1						4			2						9	5	5
17	22X31A6717	2						2						3						9	5	5
18	22X31A6718	5			5						5			5						10	5	5
19	22X31A6719	5			5									2			2			9	5	5
20	22X31A6720				3						5			5			5			8	5	5
21	22X31A6721	5															3			9	5	5
22	22X31A6722										3						5			8	5	5
23	22X31A6723	1															2			9	5	5
24	22X31A6724	5			5			3									5			9	5	5
25	22X31A6725	5			5			5			5									8	5	5
26	22X31A6726	5			5			5						5						9	5	5
27	22X31A6727	5			5									5						7	5	5
28	22X31A6728							5			5									10	5	5
29	22X31A6729	2						2						3						9	5	5
30	22X31A6730	5															2			8	5	5
31	22X31A6731	5			5						5						3			9	5	5
32	22X31A6732																				5	5
33	22X31A6733	5			5						3									9	5	5
34	22X31A6734	5			5						5						5			10	5	5
35	22X31A6735																				5	5
36	22X31A6736	5			5									5						10	5	5
37	22X31A6737	5			3			5						3						7	5	5
38	22X31A6738	2			5						3			3						8	5	5
39	22X31A6739	4						4			4			2						8	5	5
40	22X31A6740	2			1									2						10	5	5
41	22X31A6741	3			5									3						8	5	5
42	22X31A6742				5			5			5			5						10	5	5
43	22X31A6743	4			5			5												9	5	5
44	22X31A6744	4						5						5			5			9	5	5
45	22X31A6745	5						5			5						5			10	5	5
46	22X31A6746	5			5						5			5						10	5	5
47	22X31A6747	5			5									5			5			10	5	5
48	22X31A6748	4			3									3						8	5	5
49	22X31A6749	2									3			3			2			8	5	5
50	22X31A6750				1						4			3			4			10	5	5
51	22X31A6751	5			5			5						5						10	5	5
52	22X31A6752	5																		9	5	5
53	22X31A6753	5																		9	5	5

No	Roll No																					
54	22X31A6754	5						5			5			5						10	5	5
55	22X31A6755				5			4						5			5			9	5	5
56	22X31A6756	1			5			2									2			10	5	5
57	22X31A6757	5			5															10	5	5
58	22X31A6758	5			5															10	5	5
59	22X31A6759	5						5						5			5			10	5	5
60	22X31A6760	5			5			5						5						10	5	5
61	22X31A6761	5			5			3						2						10	5	5
62	22X31A6762				5			4			4			3						10	5	5
63	22X31A6763	5			5						5			3						10	5	5
64	22X31A6764	5			1			3									3			10	5	5
Target set by the faculty / HoD		3.00	0.00	0.00	3.00	0.00	0.00	3.00	0.00	0.00	3.00	0.00	0.00	3.00	0.00	0.00	3.00	0.00	0.00	6.00	3.00	3.00
Number of students performed above the target		47	0	0	40	0	0	26	0	0	26	0	0	31	0	0	16	0	0	62	63	64
Number of students attempted		55	0	0	46	0	0	29	0	0	28	0	0	37	0	0	21	0	0	62	63	64
Percentage of students scored more than target		85%			87%			90%			93%			84%			76%			100%	100%	100%

CO Mapping with Exam Questions:

CO - 1																						
CO - 2																						
CO - 3																						
CO - 4		y																		Y	Y	y
CO - 5					y			y			Y									Y	Y	y
CO - 6														y			y			Y	Y	y

% Students Scored >Target %		85%			87%			90%			93%			84%			76%			100%	100%	100%

CO Attainment based on Exam Questions:

CO - 1																						
CO - 2																						
CO - 3																						
CO - 4		85%																		100%	100%	100%
CO - 5					87%			90%			93%									100%	100%	100%
CO - 6														84%			76%			100%	100%	100%

CO	Subj	obj	aasgn	ppt	Overall	Level
CO-1						
CO-2						
CO-3						
CO-4	85%	100%	100%	100%	96%	3.00
CO-5	90%	100%	100%	100%	97%	3.00
CO-6	80%	100%	100%	100%	95%	3.00

Attainment Level	
1	40%
2	50%
3	60%

Attainment (Internal Examination-2) = 3.00

SRI INDU INSTITUTE OF ENGINEERING AND TECHNOLOGY

Department of Humanities & Sciences

Course Outcome Attainment (University Examinations)

Name of the faculty : S.NISCHALA   Academic Year: 2022-2023

Branch & Section: DATA SCIENCE   Year / Semester: I / I

Course Name: BASIC ELECTRICAL ENGINEERING

S.No	Roll Number	Marks Secured		S.No	Roll Number	Marks Secured
1	22X31A6701	31		36	22X31A6736	45
2	22X31A6702	23		37	22X31A6737	22
3	22X31A6703	36		38	22X31A6738	30
4	22X31A6704	52		39	22X31A6739	32
5	22X31A6705	27		40	22X31A6740	25
6	22X31A6706	8		41	22X31A6741	21
7	22X31A6707	31		42	22X31A6742	36
8	22X31A6708	34		43	22X31A6743	28
9	22X31A6709	23		44	22X31A6744	48
10	22X31A6710	21		45	22X31A6745	51
11	22X31A6711	34		46	22X31A6746	37
12	22X31A6712	14		47	22X31A6747	42
13	22X31A6713	25		48	22X31A6748	36
14	22X31A6714	17		49	22X31A6749	33
15	22X31A6715	35		50	22X31A6750	32
16	22X31A6716	23		51	22X31A6751	41
17	22X31A6717	28		52	22X31A6752	27
18	22X31A6718	45		53	22X31A6753	11
19	22X31A6719	23		54	22X31A6754	46
20	22X31A6720	30		55	22X31A6755	22
21	22X31A6721	29		56	22X31A6756	4
22	22X31A6722	27		57	22X31A6757	22
23	22X31A6723	14		58	22X31A6758	21
24	22X31A6724	39		59	22X31A6759	46
25	22X31A6725	23		60	22X31A6760	38
26	22X31A6726	30		61	22X31A6761	25
27	22X31A6727	23		62	22X31A6762	22
28	22X31A6728	24		63	22X31A6763	41
29	22X31A6729	26		64	22X31A6764	30
30	22X31A6730	25		65		
31	22X31A6731	36		66		
32	22X31A6732	A		67		
33	22X31A6733	28		68		
34	22X31A6734	47		69		
35	22X31A6735			70		

Max Marks	60

Class Average mark	30
Number of students performed above the target	30
Number of successful students	63
Percentage of students scored more than target	48%

Attainment level	**2**

Attainment Level	% students
1	40%
2	50%
3	60%

SRI INDU INSTITUTE OF ENGINEERING AND TECHNOLOGY

Department of Humanities & Sciences
Course Outcome Attainment

Name of the faculty : S.NISCHALA   Academic Year: 2022-2023

Branch & Section: DATA SCIENCE

Course Name: BASIC ELECTRICAL ENGINEERING   Year: I

Semester: I

Course Outcomes	1st Internal Exam	2nd Internal Exam	Internal Exam	University Exam	Attainment Level
CO1	3.00		3.00	2.00	2.40
CO2	3.00		3.00	2.00	2.40
CO3	3.00		3.00	2.00	2.40
CO4		3.00	3.00	2.00	2.40
CO5		3.00	3.00	2.00	2.40
CO6		3.00	3.00	2.00	2.40
Internal & University Attainment:			3.00	2.00	
Weightage			40%	60%	
CO Attainment for the course (Internal, University)			1.20	1.20	
CO Attainment for the course (Direct Method)			2.40		

Overall course attainment level   **2.40**

SRI INDU INSTITUTE OF ENGINEERING & TECHNOLOGY
Department of Humanities & Sciences
Program Outcome Attainment (from Course)

Name of Faculty: S.NISCHALA   Academic Year: 2022-2023
Branch & Section: DATA SCIENCE   Year: I
Course Name: BASIC ELECTRICAL ENGINEERING   Semester: I

CO-PO mapping

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	pso1	pso2
CO1	3	2	1	2	1	1	-	-	-	-	-	-	-	-
CO2	3	3	1	-	-	-	-	-	-	-	-	-	-	-
CO3	3	2	-	-	-	1	1	-	-	-	-	2	-	-
CO4	3	1	-	-	-	-	-	-	-	-	-	2	-	-
CO5	3	1	-	-	-	-	-	-	-	-	-	2	-	-
CO6	3	-	-	-	-	2	-	-	-	-	-	2	-	-
Course	**3.00**	**1.80**	**1.00**	**2.00**	**1.00**	**1.33**	**1.00**					**2.00**		

CO	Course Outcome Attainment
CO1	2.40
CO2	2.40
CO3	2.40
CO4	2.40
CO5	2.40
CO6	2.40
Overall course attainment level	**2.40**

PO-ATTAINMENT

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO Attainment	2.40	1.44	0.80	1.60	0.80	1.07	0.80					1.60

CO contribution to PO - 33%, 67%, 100% (Level 1/2/3)

SRI INDU INSTITUTE OF ENGINEERING AND TECHNOLOGY

(An Autonomous Institution under UGC)
Accredited by NAAC with A+ Grade, Recognized under 2(f) of UGC Act 1956
(Approved by AICTE, New Delhi and Affiliated to JNTUH, Hyderabad)
Khalsa Ibrahimpatnam, Sheriguda (V), Ibrahimpatnam (M), Ranga Reddy Dist., Telangana – 501 510
Website: https://siiet.ac.in/

Class register link:

https://drive.google.com/file/d/1rzKzUQY7LZu9yE-cc4B18n15bIUzEqBs/view?usp=sharing