GOKARAJU RANGARAJU
INSTITUTE OF ENGINEERING AND TECHNOLOGY

Department of Electrical & Electronics Engineering

Course File

Power System Simulation Lab

G.SandhyaRani
Assistant Professor,EEE Department

GOKARAJU RANGARAJU
INSTITUTE OF ENGINEERING AND TECHNOLOGY

Department of Electrical & Electronics Engineering

Course Tittle: Power system Simulation Lab

Following documents are available in Course File.

S.No.	Points	Yes	No
1	Institute and Department Vision and Mission Statements	√	
2	PEO & PO Mapping	√	
3	Academic Calendar	√	
4	Subject Allocation Sheet	√	
5	Class Time Table, Individual Timetable (Single Sheet)	√	
6	Syllabus Copy	√	
7	Course Handout	√	
8	CO-PO Mapping	√	
9	CO-Cognitive Level Mapping	√	
10	Lecture Notes		
11	Tutorial Sheets With Solution		
12	Soft Copy of Notes/Ppt/Slides		
13	Sessional Question Paper and Scheme of Evaluation	√	
14	Best, Average and Weak Answer Scripts for Each Sessional Exam. (Photocopies)		
15	Assignment Questions and Solutions		
16	Previous University Question Papers		
17	Result Analysis	√	
18	Feedback From Students	√	
19	Course Exit Survey	√	
20	CO Attainment for All Mids.		
21	Remedial Action.		

Course Instructor / Course Coordinator

(Name)

Course Instructor / Course Coordinator

(Signatur

Department of Electrical & Electronics Engineering

Vision of the Institute

To be among the best of the institutions for engineers and technologists with attitudes, skills and knowledge and to become an epicenter of creative solutions.

Mission of the Institute

To achieve and impart quality education with an emphasis on practical skills and social relevance.

Vision of the Department

To impart technical knowledge and skills required to succeed in life, career and help society to achieve self sufficiency.

Mission of the Department

- To become an internationally leading department for higher learning.
- To build upon the culture and values of universal science and contemporary education.
- To be a center of research and education generating knowledge and technologies which lay groundwork in shaping the future in the fields of electrical and electronics engineering.
- To develop partnership with industrial, R&D and government agencies and actively participate in conferences, technical and community activities.

Department of Electrical & Electronics Engineering

Programme Educational Objectives (B.Tech. – EEE)

This programme is meant to prepare our students to professionally thrive and to lead.

During their progression:

Graduates will be able to

PEO 1: Have a successful technical or professional careers, including supportive and leadership roles on multidisciplinary teams.

PEO 2: Acquire, use and develop skills as required for effective professional practices.

PEO 3: Able to attain holistic education that is an essential prerequisite for being a responsible member of society.

PEO 4: Engage in life-long learning, to remain abreast in their profession and be leaders in our technologically vibrant society.

Programme Outcomes (B.Tech. – EEE)

At the end of the Programme, a graduate will have the ability to

PO 1: Apply knowledge of mathematics, science, and engineering.

PO 2: Design and conduct experiments, as well as to analyze and interpret data.

PO 3: Design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.

PO 4: Function on multi-disciplinary teams.

PO 5: Identify, formulates, and solves engineering problems.

PO 6: Understanding of professional and ethical responsibility.

PO 7: Communicate effectively.

PO 8: Broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context.

PO 9: Recognition of the need for, and an ability to engage in life-long learning.

PO 10: Knowledge of contemporary issues.

PO 11: Utilize experimental, statistical and computational methods and tools necessary for engineering practice.

PO 12: Demonstrate an ability to design electrical and electronic circuits, power electronics, power systems; electrical machines analyze and interpret data and also an ability to design digital and analog systems and programming them.

PEOs & POs Mapping

Programme Educational Objectives (PEOs)	Programme Outcomes (POs)											
	1	2	3	4	5	6	7	8	9	10	11	12
1	M	M	-	-	H	-	-	H	H	-	H	H
2	-	-	M	M	H	H	H	-	-	-	-	H
3	-	-	-	-	H	H	M	M	M	M	H	H
4	-	-	-	M	M	H	M	H	H	-	M	H

* H: Strongly Correlating (3); M: Moderately Correlating (2)& L: Weakly Correlating (1)

HOD-EEE

GOKARAJU RANGARAJU
INSTITUTE OF ENGINEERING AND TECHNOLOGY

Department of Electrical & Electronics Engineering

COURSE OBJECTIVES

Academic **Y**ear : 2018-2019

Semester : I

Name of the Program: EEE…… B.Tech **… IV …**.… Section: A/B

Course/Subject: Power System Simulation Lab……Code: GR14A4028
Name of the Faculty: G.Sandhyarani/VVS Madhuri Dept: ….EEE…

Designation: Assistant Professor

On completion of this Subject/Course the student shall be able to:

S.No	Course Objectives
1.	The solutions for power systems under short circuit conditions.
2.	Analysis of synchronous machine characteristics, and synchronization of machine to the power line voltage and frequency.
3.	Design solutions for power system problems.
4.	Analysis of load-flow studies which are important tools of numerical analysis applied to a power system.
5.	Analysis of load-flow studies which are important tools of numerical analysis applied to a power system.

Signature of HOD Signature of faculty

Date: Date:

GOKARAJU RANGARAJU
INSTITUTE OF ENGINEERING AND TECHNOLOGY

Department of Electrical & Electronics Engineering

COURSE OUTCOMES

Academic **Y**ear : 2018-2019

Semester : I

Name of the Program: EEE…… B.Tech **… IV …** Section: A/B

Course/Subject: Power System Simulation Lab……Code: GR14A4028
Name of the Faculty: G.Sandhyarani/VVS Madhuri Dept: ….EEE…

Designation: Assistant Professor

The expected outcomes of the Course/Subject are:

S.No	Course Outcomes
1.	Understand power industry practices for design, operation, and planning.
2.	Use mathematical tools that are essential for system analysis and design.
3.	Use commercial software packages in designing solutions to problems
4.	Have group participation in design and problem solving.
5.	Analyse the performance of synchronous machine
6.	Apply knowledge of load flows for planning and future expansion of existing as well as non-existing power systems.
7.	Do modelling of transmission lines.

Signature of HOD Signature of faculty

Date: Date:

3	Academic Calendar

ACADEMIC CALENDAR
Academic Year 2018-19

III & IV B.TECH – FIRST SEMESTER

S. No.	EVENT	PERIOD	DURATION
1	1st Spell of Instructions	02-07-2018 to 01-09-2018	9 Weeks
2	1st Mid-term Examinations	03-09-2018 to 05-09-2018	3 Days
3	2nd Spell of Instructions	06-09-2018 to 24-10-2018	7 Weeks
4	2nd Mid-term Examinations	25-10-2018 to 27-10-2018	3 Days
5	Preparation	29-10-2018 to 06-11-2018	1 Week 3 Days
6	**End Semester Examinations (Theory/ Practicals) Regular/Supplementary**	**08-11-2018 to 08-12-2018**	**4 Weeks 3 Days**
7	Commencement of Second Semester, A.Y 2018-19	10-12-2018	

III & IV B.TECH – SECOND SEMESTER

S. No.	EVENT	PERIOD	DURATION
1	1st Spell of Instruction	10-12-2018 to 02-02-2019	8 Weeks
2	1st Mid-term Examinations	04-02-2019 to 06-02-2019	3 Days
3	2nd Spell of Instruction	07-02-2019 to 06-04-2019	**8 Weeks 3 Days**
4	2nd Mid-term Examinations	08-04-2019 to 10-04-2019	3 Days
5	Preparation	11-04-2019 to 17-04-2019	1 Week
6	**End Semester Examinations (Theory/ Practicals) Regular**	18-04-2019 to 08-05-2019	3 Weeks
7	**Supplementary and Summer Vacation**	**09-05-2019 to 22-06-2019**	**6 Weeks 3 Days**
8	Commencement of First Semester, A.Y 2019-20	24-06-2019	

Copy to Director, Principal, Vice Principal, DOA, DOE, Balaji Kumar, DCGC, All HODs

(Dr. K. Anuradha)
Dean of Academic Affairs

Department of Electrical & Electronics Engineering

4	Subject Allocation Sheet

2018-19 I sem Subject allocation sheet

II YEAR(GR17)	Section-A	Section-B
Special Functions and Complex Variable	Dr GS	Dr GS
Electromagnetic Fields	SN	SN
Network Theory	MS	MS
DC Machines and Transformers	Dr BPB	Dr BPB
Computer Organization	PRK	PRK
DC Machines Lab	MP/DSR	PRK/DSR
Electrical Networks Lab	YSV/GBR	YSV/GBR
Electrical Simulation Lab	GSR/PS	GSR/PS
Environmental Science		
III YEAR (GR15)	Section-A	Section-B
Power Transmission System	VVRR/MP	VVRR/MP
Microcontrollers	PK	PK
Power Electronics	Dr TSK	DKK
Electrical Measurements& Instrumentation (PE-1)	UVL	UVL
Solar & Wind Energy Systems (OE-1)	PSVD/Dr JP	PSVD/Dr JP
Sensors/Measurements& Instrumentation Lab	PSVD/PS	UVL/PS
Power Electronics Lab	PPK/MRE	SN/MRE
Microcontrollers Lab	RAK/DKK	PK/DKK

Department of Electrical & Electronics Engineering

IV YEAR(GR15)	Section-A	Section-B
Power Semiconductor Drives	YSV	Dr DGP
Power System Operation & Control	Dr JSD	Dr JSD
High Voltage DC Transmission Systems	MRE	Dr SVJK
Electrical Distribution Systems (PE-3)	VVSM	
High Voltage Engineering (PE-3)	VUR	
Soft Computing Techniques (OE-3)	RAK	RAK
DSP based Electrical Lab	AVK/DKK	AVK/DKK
Power Systems Simulation Lab	VVSM / GSR	VVSM / GSR
Power Electronic Drives Lab	MP/GBR	MP/GBR
I/I BEE(AICTE)	A/B	C/D/E
BEE	ML	
BEE	KS	
BEE	MK	
BEE	MVK	
BEE	MNSR	
Civil II/I (GR15)	A	B
ET	PPK	PPK
M.Tech (PE)(AICTE)	A	
Electric Drives System	Dr DGP	
Power Electronic Converters	Dr TSK	
Power Quality	AVK	
Electric and Hybrid Vehicles	Dr BPB	

Department of Electrical & Electronics Engineering

Electrical Drives Laboratory	AVK/GBR	
Power Electronics Lab	SN/MS	
M.Tech (PS)(AICTE)	A	
Power System Analysis	Dr JSD	
Power System Dynamics	Dr SVJK	
Power Quality	AVK	
Electric and Hybrid Vehicles	Dr BPB	
Power System Steady State Analysis Lab	VVSM/VVRR	
Power System Dynamics Lab	Dr SVJK/YSV	

Signature of HOD
Date:

Signature of faculty
Date:

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INSTITUTE OF ENGINEERING AND TECHNOLOGY

Department of Electrical & Electronics Engineering

5	**Class Timetable ,Individual time table**

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

GRIET/PRIN/06/G/01/18-19 wef: 02 July 2018

B.Tech - EEE - A IV Year - I Semester

Day/Hour	10:00-10:50	10:50-11:40	11:40-12:30	12:30-1:00	1:00-1:45	1:45-2:30	2:30-3:15	3:15-4:00
MONDAY	HVDCT	PSD	PSD	BREAK	PSS Lab / DSP Lab A1 /A2			
TUESDAY	SCT	SCT	EDS/HVE		PED Lab / PSS Lab A1 /A2			
WEDNESDAY	EDS/HVE	SCT	SCT		DSP Lab / PED Lab A1 /A2			
THURSDAY	EDS/HVE	PSOC	PSOC		PSD	PSD	HVDCT	HVDCT
FRIDAY	HVDCT	HVDCT	EDS/HVE		PSOC	PSOC	SCT	SCT
SATURDAY	HVDCT	EDS/HVE	EDS/HVE		PSOC	PSOC	PSD	PSD

Room No.	
Theory	4502
Lab	DSP Lab-4508 PSS Lab-4504 PED Lab-4407

Class Incharge:	P Praveen Kumar

Subject Code	Subject Name	Faculty Code	Faculty name	Almanac	
GR15A4022	Power Semiconductor Drives	YSV	Y Satya Vani	1st Spell of Instructions	02-07-2018 to 01-09-2018
GR15A4023	Power System Operation & Control	Dr JSD	Dr J Sridevi	1st Mid-term Examinations	03-09-2018 to 05-09-2018
GR15A4024	High Voltage DC Transmission Systems	MRE	M Rekha	2nd Spell of Instructions	06-09-2018 to 24-10-2018
GR15A4026	Electrical Distribution Systems	VVSM	VVS Madhuri	2nd Mid-term Examinations	25-10-2018 to 27-10-2018

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Department of Electrical & Electronics Engineering

GR15A4147	High Voltage Engineering	VUR	V Usharani	Preparation	29-10-2018 to 06-11-2018
GR15A4148	Soft Computing Techniques (OE-3)	RAK	R Anil Kumar	End Semester Examinations (Theory/ Practicals) Regular / Supplementary	08-11-2018 to 08-12-2018
GR15A4027	DSP based Electrical Lab	AVK/DKK	A Vinay Kumar / D Karuna Kumar	Commencement of Second Semester, A.Y	10-12-2018
GR15A4028	Power Systems Simulation Lab	GSR/VVSM	G Sandhya Rani/ VVS Madhuri		
GR15A4029	Power Electronic Drives Lab	MP/GBR	M Prashanth/ G Bhaskar Rao		

HOD **Co-ordinator** **DAA**

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

GRIET/PRIN/06/G/01/18-19 wef: 02 July 2018

B.Tech - EEE - B IV Year - I Semester

Day/Hour	10:00-10:50	10:50-11:40	11:40-12:30	12:30-1:00	1:00-1:45	1:45-2:30	2:30-3:15	3:15-4:00
MONDAY	SCT	SCT	PSOC	BREAK	HVDCT	HVDCT	PSD	PSD
TUESDAY	PSD	PSD	EDS/HVE		SCT	SCT	PSD	PSD
WEDNESDAY	EDS/HVE	HVDCT	HVDCT		PSOC	PSOC	SCT	SCT
THURSDAY	EDS/HVE	HVDCT	HVDCT		PSS Lab / DSP Lab B1 /B2			
FRIDAY	PSOC	PSOC	EDS/HVE		DSP Lab / PED Lab B1 /B2			
SATURDAY	PSOC	EDS/HVE	EDS/HVE		PED Lab / PSS Lab B1 /B2			

Room No.	
Theory	4512
Lab	DSP Lab-4508 PSS Lab-4504 PED Lab-4407

Class Incharge:	P Praveen Kumar

Subject Code	Subject Name	Faculty Code	Faculty name	Almanac	
GR15A4022	Power Semiconductor Drives	Dr DGP	Dr D G Padhan	1st Spell of Instructions	02-07-2018 to

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Department of Electrical & Electronics Engineering

					01-09-2018
GR15A4023	Power System Operation & Control	Dr JSD	Dr J Sridevi	1st Mid-term Examinations	03-09-2018 to 05-09-2018
GR15A4024	High Voltage DC Transmission Systems	Dr SVJK	Dr S V Jayaram Kumar	2nd Spell of Instructions	06-09-2018 to 24-10-2018
GR15A4026	Electrical Distribution Systems (PE)	VVSM	VVS Madhuri	2nd Mid-term Examinations	25-10-2018 to 27-10-2018
GR15A4147	High Voltage Engineering (PE)	VUR	V Usharani	Preparation	29-10-2018 to 06-11-2018
GR15A4148	Soft Computing Techniques (OE-3)	RAK	R Anil Kumar	End Semester Examinations (Theory/ Practicals) Regular / Supplementary	08-11-2018 to 08-12-2018
GR15A4027	DSP based Electrical Lab	AVK/DKK	A Vinay Kumar / D Karuna Kumar		
GR15A4028	Power Systems Simulation Lab	GSR/VVSM	G Sandhya Rani/ VVS Madhuri	Commencement of Second Semester, A.Y	10-12-2018
GR15A4029	Power Electronic Drives Lab	MP/GBR	M Prashanth/ G Bhaskar Rao		

HOD **Co-ordinator** **DAA**

Individual timetable

Day/Hour	9:00 - 9:45	9:45 - 10:30	10:30 - 11:15	11:15- 12:00	12:00- 12:30	12:30 - 1:20	1:20 - 2:10	2:10 -3:00
MONDAY					BREAK	PSSLAb(A1)		
TUESDAY						PSSLAb(A2)		
WEDNESDAY								
THURSDAY						PSSLAb(B1)		
FRIDAY								
SATURDAY						PSSLAb(B2)		

Room No.4504	
Theory	
Lab	PSSLAB
Class Incharge:	P.Praveen

Signature of HOD
Date:

Signature of faculty
Date:

6	Syllabus Copy

1. Sinusoidal Voltages and Currents

2. Determination of parameters of equivalent circuit of a transformer from OC SC Test data

3. Determination of voltage and power at the sending end, voltage regulation using medium line model.

4. Determination of line performance when loaded at receiving end.

5. Formation of bus Admittance matrix

6. Load Flow solution using Gauss Siedal method.

7. Load flow solution using Newton Raphson method in polar coordinates

8. Load flow solution using Newton Raphson method in Rectangular coordinates

9. (a) Optimal dispatch by Iterative Technique using Gradient method (b) Optimal dispatch including losses

10. Transient response of an RLC circuit.

11. Three phase short circuit Analysis in a synchronous machine(Symmetrical fault Analysis)

12. Unsymmetrical fault Analysis: LG, LL, LLG Fault

13. ZBus Building Algorithm

14. a) Obtain Symmetrical Components of a set of Unbalanced currents. b) Obtain the original Unbalanced phase voltages from Symmetrical Components.

15. Short circuit Analysis of a power system with 12 buses.

16. Determination of natural oscillations of rotor angle and grid frequency for a given synchronous machine.

17. Obtain the step response of rotor angle and generator frequency of a Synchronous Machine.

COURSE SCHEDULE

Academic **Y**ear : 2018-2019

Semester : I

Name of the Program: EEE…… B.Tech **… IV …** Section: A/B

Course/Subject: Power System Simulation Lab……Code: GR14A4028
Name of the Faculty:
G.Sandhyarani/VVS Madhuri Dept: ….EEE…

Designation: Assistant Professor

The Schedule for the whole Course / Subject is:

Exp. No.	Description	Duration(Date)	tal No. of Periods
1.	Sinusoidal Voltages and Currents	09/07/18	4
2.	Determination of parameters of equivalent circuit of a transformer from OC SC Test data	16/07/18	4
3.	Determination of voltage and power at the sending end, voltage regulation using medium line model.	23/07/18	4
4.	Determination of line performance when loaded at receiving end.	30/07/18	4
5.	Formation of bus Admittance matrix	06/08/18	4
6.	Load Flow solution using Gauss Siedal method.	13/08/18	4

7	Load flow solution using Newton Raphson method in polar coordinates	20/08/18	4
8.	Load flow solution using Newton Raphson method in Rectangular coordinates	27/08/18	4
9.	(a) Optimal dispatch by Iterative Technique using Gradient method (b) Optimal dispatch including losses	03/09/18	4
10	Transient response of an RLC circuit.	10/09/18	4
11.	Three phase short circuit Analysis in a synchronous machine(Symmetrical fault Analysis)	17/09/18	4
12.	Unsymmetrical fault Analysis: LG, LL, LLG Fault ZBus Building Algorithm	24/09/18	4
13.	ZBus Building Algorithm	1/10/18	4
14.	Obtain Symmetrical Components of a set of Unbalanced currents. b) Obtain the original Unbalanced phase voltages from Symmetrical Components.	8/10/18	4
15.	Short circuit Analysis of a power system with 12 buses.	15/10/18	4
16.	Determination of natural oscillations of rotor angle and grid frequency for	22/10/18	4

	a given synchronous machine.		
17.	Obtain the step response of rotor angle and generator frequency of a Synchronous Machine.	22/10/18	4

Total No. of Instructional periods available for the course: …. …….Hours / Periods

Signature of HOD
Date:

Signature of faculty
Date:

Department of Electrical & Electronics Engineering

SCHEDULE OF INSTRUCTIONSCOURSEPLAN

Program No.	No. of Periods	Topics / Sub-Topics	Objectives & Outcomes Nos.	Reference Text Books
1.	4	Sinusoidal Voltages and Currents	2,3,4 & 2,4	Manual,Using MATLAB,
2.		Determination of parameters of equivalent circuit of a transformer from OC SC Test data		
3.	4	Determination of voltage and power at the sending end, voltage regulation using medium line model.	1,3 & 2,4	Manual, Using MATLAB
4.		Determination of line performance when loaded at receiving end.		
5.	4	Formation of bus Admittance matrix	1,3 & 2,4	Manual, Using MATLAB
6.	4	Load Flow solution using Gauss Siedal method.	1,3 & 2,4	Manual ,Using Power world
7.	4	Load flow solution using Newton Raphson method in polar coordinates	1,3 & 2,4	Manual ,Using Power world

8.	4	Load flow solution using Newton Raphson method in Rectangular coordinates	1,3 & 2,4	Manual ,Using Power world
9.	4	(a) Optimal dispatch by Iterative Technique using Gradient method (b) Optimal dispatch including losses	1,3 & 2,4	Manual, Using MATLAB,PSAT
10.	4	Transient response of an RLC circuit.	1,3 & 2,4	Manual, Using MATLAB
11.	4	Three phase short circuit Analysis in a synchronous machine(Symmetrical fault Analysis)	1,2 & 2,3	Manual, Using MATLAB
12.	4	Unsymmetrical fault Analysis: LG, LL, LLG Fault ZBus Building Algorithm	1,3 & 2,1,5	Manual, Using MATLAB
13.	4	ZBus Building Algorithm	1,3 & 2,1,5	Manual, Using MATLAB
14.	4	Obtain Symmetrical Components of a set of Unbalanced currents. b) Obtain	1,3 & 2,1,5	Manual, Using MATLAB

		the original Unbalanced phase voltages from Symmetrical Components.		
15.	4	Short circuit Analysis of a power system with 12 buses.	2,3 & 1,2,3,6,7	Manual ,Using Power world
16	4	Determination of natural oscillations of rotor angle and grid frequency for a given synchronous machine.	2,3 & 1,2,3,6,7	Manual, Using MATLAB
17	4	Obtain the step response of rotor angle and generator frequency of a Synchronous Machine.	2,3 & 1,2,3,6,7	Manual, Using MATLAB

Signature of HOD
Date:

Signature of faculty
Date:

8	CO-PO Mapping

Assessment methods:

1. Operation skill and familiarization ofsoftware.
2. Experimental procedure, simulation results, internal observation, labrecord.
3. Internal examinations.
4. External examinations.
5. Viva-voce.

1. Program Educational Objectives (PEOs) – Vision/Mission Matrix (Indicate therelationships by mark "X")

PEOs	**Mission of department**			
	Higher Learning	ɔntemporary Education	Technical knowledge	Research
Graduates will have a successful technical or professional careers, including supportive and leadershiproles on multidisciplinary teams	X	X	X	X
Graduates will be able to acquire, use and develop skills as requiredfor effective professional practices		X	X	
Graduates will be able to attain holistic education that is an essential prerequisite for being aresponsible member of society	X		X	
Graduates will be engaged in life-long learning, to remain abreast in their profession and be leaders in our technologically vibrant society.	X		X	X

2.Program Educational Objectives(PEOs)-Program Outcomes(POs) Relationship Matrix (Indicate

P-Outcomes / PEOs	a	b	c	d	e	f	g	h	i	j	k	l
1	X	X	X	X	X			X	X	X	X	X
2	X	X	X	X	X			X	X	X	X	X
3		X	X	X		X	X	X	X	X		
4				X					X	X		X

3.Course Objectives-Course Outcomes Relationship Matrix
(Indicate the relationships by mark"X")

Course-Outcomes / Course-Objectives	1	2	3	4	5	6	7
1	X			X	X	X	X
2	X				X	X	X
3		X	X				X
4		X					X

4.Course Objectives-Program Outcomes (POs) Relationship Matrix (Indicate the relationships by mark "X")

P-Outcomes / C-Objectives	a	b	c	d	e	f	g	h	i	j	k	l
1		X	X								X	X
2	X	X		X							X	X
3		X	X		X		X	X			X	X
4		X	X			X		X			X	X

5. Course Outcomes-Program Outcomes (POs) Relationship Matrix
(Indicate the relationships by mark"X")

P-Outcomes / C-Outcomes	a	b	c	d	e	f	g	h	i	j	k	l
1	X		X						X			
2	X				X							
3		X									X	X
4	X				X							X
5	X				X						X	
6	X	X									X	X
7	X	X									X	

6.Courses (with title & code)-Program Outcomes (POs) RelationshipMatrix

(Indicate the relationships by mark "X")

P-Outcomes / Courses	a	b	c	d	e	f	g	h	i	j	k	l
Op Amps-GR11A3078		X	X		X						X	

7.Program Educational Objectives (PEOs)-Course Outcomes RelationshipMatrix

(Indicate the relationships by mark "X")

P-Objectives (PEOs) / Course-Outcomes	1	2	3	4
1	X	X		X
2	X	X		X
3	X	X		X
4	X	X		X
5	X	X		X
6	X	X		X
7	X	X		X

8.Assignments & Assessments-Program Outcomes (POs) RelationshipMatrix(Indicate the relationships by mark "X"

P-Outcomes / Assessments	a	b	c	d	e	f	g	h	i	J	k	l
1	X	X	X			X	X		X		X	X
2	X	X	X		X	X	X	X			X	X
3	X	X			X						X	X
4	X	X			X						X	X
5	X	X			X		X				X	

9. Assignments & Assessments-Program Educational Objectives (PEOs) Relationship Matrix (Indicate the relationships by mark"X")

P-Objectives (PEOs) / Assessments	1	2	3	4
1	X	X		
2		X		
3		X	X	X
4		X		
5		X		

Assessment process and Relevant Surveys conducted:

9. Constituencies -Program Outcomes (POs) Relationship Matrix (Indicate the relationships by mark "X").

Constituencies

a. Alumni
b. Governmentemployers
c. Students

P-Outcomes / Constituencies	a	b	c	d	e	f	G	h	i	j	k	l
1	X	X	X	X	X	X	X		X	X		X
2	X	X	X	X	X	X	X		X			X
3	X	X			X	X	X	X		X	X	X

9	CO-Cognitive Level Mapping

CO	Cognitive Learning Level					
	1	2	3	4	5	6
1		X			X	
2	X			X		
3		X				
4					X	
5			X			
6	X		X			X
7			X			

Cognitive Learning Levels:

CLL1: Remembering

CLL2: Understanding

CLL3: Applying

CLL4: Analyzing

CLL5: Evaluating

CLL6: Creating

GOKARAJU RANGARAJU
INSTITUTE OF ENGINEERING AND TECHNOLOGY

Department of Electrical & Electronics Engineering

EVALUATION STRATEGY

Academic **Y**ear : 2018-2019

Semester : I

Name of the Program: EEE…… B.Tech **… IV …** Section: A/B

Course/Subject: Power System Simulation Lab……Code: GR14A4028
Name of the Faculty:
G.Sandhyarani/VVS Madhuri Dept: ….EEE…

Designation: Assistant Professor

1. TARGET:

A) Percentage for pass: 100%

2. COURSE PLAN & CONTENT DELIVERY

- PPT presentation of the Lectures
- Solving exercise problems
- Model questions

3. METHOD OF EVALUATION

3.1 ☐ Daily Attendance

3.2 ☐ Lab records and observation

3.3 ☐ Mini Projects

3.4 ☐ Viva Voce

3.5 ☐ Internal Examination

3.6 ☐ Semester/End Examination

4. List out any new topic(s) or any innovation you would like to introduce in teaching the subjects in this Semester.

Signature of HOD
Date:

Signature of faculty
Date:

17	Result Analysis

Subject	Total No. of students appeared	No. of students passed	No. of students failed	Grade Points							
				< 5	5	6	7	8	9	10	Pass percentage
PSD	140	132	08	02	01	04	06	30	40	49	94.28%
PSOC	140	131	09	01	09	08	18	25	48	22	93.57%
HVDC TT	140	132	08	16	18	16	17	38	22	05	94.28%
EDS	140	137	03	01	05	05	10	29	19	22	97.85%
DSPBEL	140	139	01	29	05	03	05	10	25	62	99.28%
PSSL	140	140	00	09	03	03	09	23	30	63	100%
PEADL	140	139	01	00	02	12	27	21	17	60	99.28%
HVE	140	139	01	01	01	02	04	08	18	11	99.28%
SCT	140	132	08	01	01	06	09	21	29	65	94.28%

Overall pass (passed in all subjects) = 128/ 140(91%)

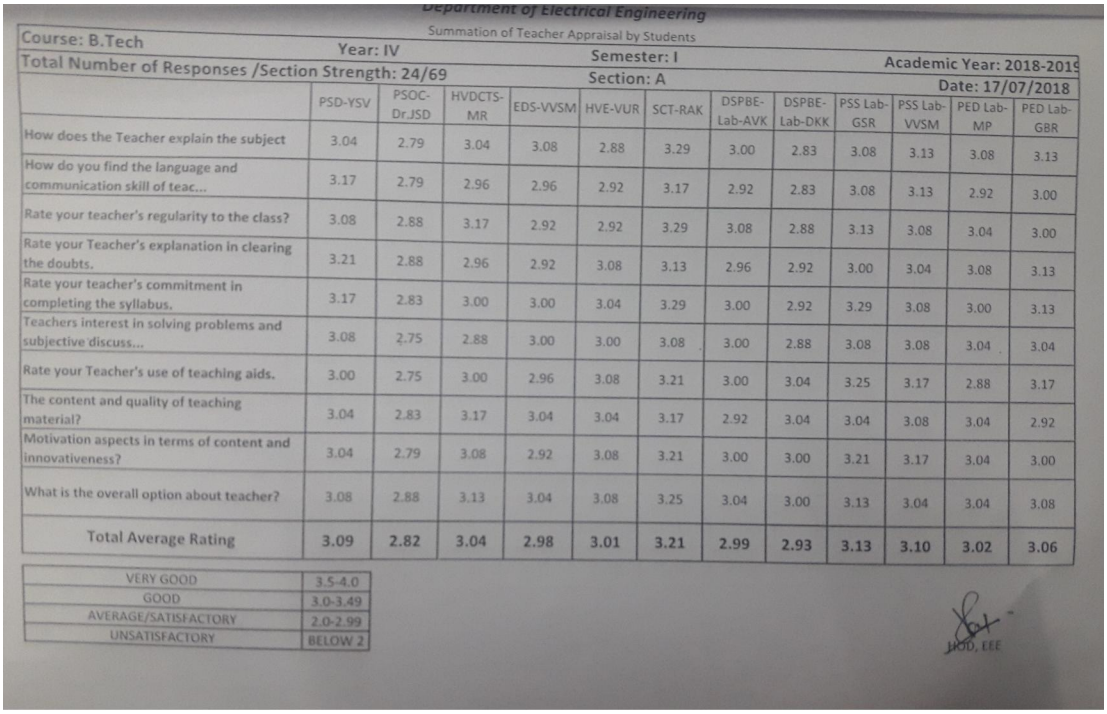
Faculty

Power Semiconductor Drives	Dr.D G Padhan /Y Satyavani
Power System Operation And Control	Dr. J. Sridevi
HVDC Transmission	Dr Jayaram Kumar / Mrekha
Electrical Distribution Systems	VVS Madhuiri
DSP Based Electrical Lab	A Vinay Kumar
Power System Simulation Lab	G Sandhya Rani / V V S Madhuri
Power Electronics And Drives Lab	M Prashanth /G Bhaskar Rao
High Voltage Engineering	V Usha Rani
Soft Computing Techniques	R Anil Kumar

ARREARS POSITION – CURRENT YEAR

Description	All pass	One Arrear	Two Arrear	Three Arrears	More than Three Arrears	% of pass
140	128	03	02	01	06	91%

18	Feedback from Students



Department of Electrical Engineering

Summation of Teacher Appraisal by Students

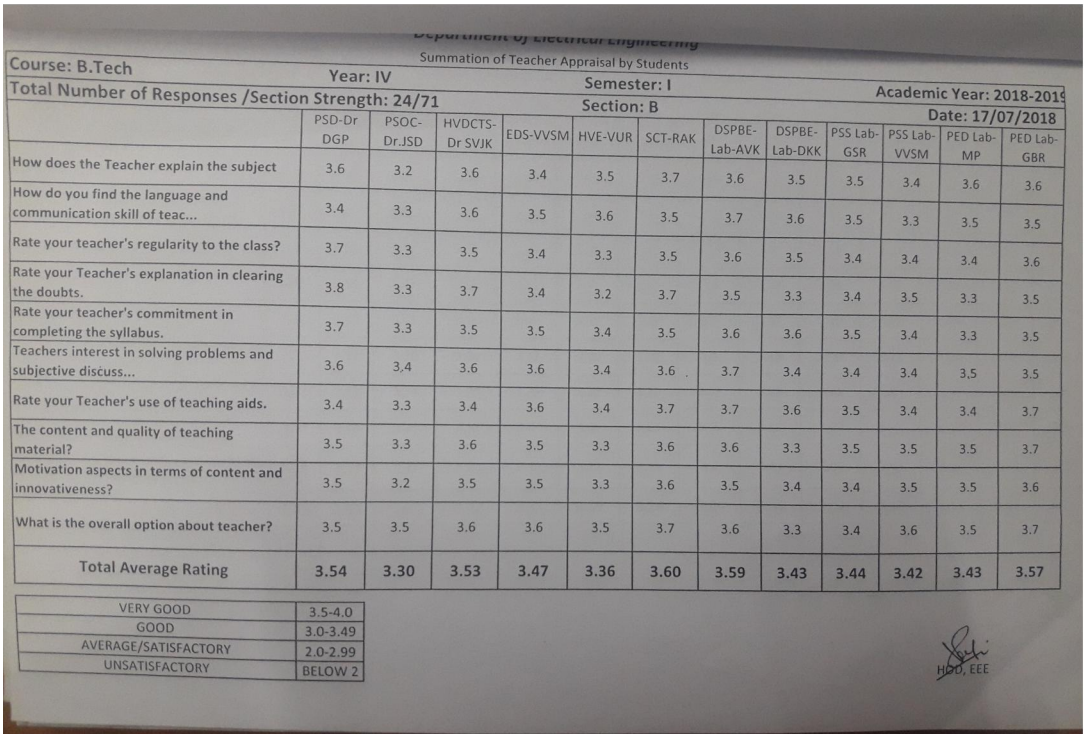
Course: B.Tech | Year: IV | Semester: I | Academic Year: 2018-2019

Total Number of Responses /Section Strength: 24/69 | Section: A | Date: 17/07/2018

	PSD-YSV	PSOC-Dr.JSD	HVDCTS-MR	EDS-VVSM	HVE-VUR	SCT-RAK	DSPBE-Lab-AVK	DSPBE-Lab-DKK	PSS Lab-GSR	PSS Lab-VVSM	PED Lab-MP	PED Lab-GBR
How does the Teacher explain the subject	3.04	2.79	3.04	3.08	2.88	3.29	3.00	2.83	3.08	3.13	3.08	3.13
How do you find the language and communication skill of teac...	3.17	2.79	2.96	2.96	2.92	3.17	2.92	2.83	3.08	3.13	2.92	3.00
Rate your teacher's regularity to the class?	3.08	2.88	3.17	2.92	2.92	3.29	3.08	2.88	3.13	3.08	3.04	3.00
Rate your Teacher's explanation in clearing the doubts.	3.21	2.88	2.96	2.92	3.08	3.13	2.96	2.92	3.00	3.04	3.08	3.13
Rate your teacher's commitment in completing the syllabus.	3.17	2.83	3.00	3.00	3.04	3.29	3.00	2.92	3.29	3.08	3.00	3.13
Teachers interest in solving problems and subjective discuss...	3.08	2.75	2.88	3.00	3.00	3.08	3.00	2.88	3.08	3.08	3.04	3.04
Rate your Teacher's use of teaching aids.	3.00	2.75	3.00	2.96	3.08	3.21	3.00	3.04	3.25	3.17	2.88	3.17
The content and quality of teaching material?	3.04	2.83	3.17	3.04	3.04	3.17	2.92	3.04	3.04	3.08	3.04	2.92
Motivation aspects in terms of content and innovativeness?	3.04	2.79	3.08	2.92	3.08	3.21	3.00	3.00	3.21	3.17	3.04	3.00
What is the overall option about teacher?	3.08	2.88	3.13	3.04	3.08	3.25	3.04	3.00	3.13	3.04	3.04	3.08
Total Average Rating	**3.09**	**2.82**	**3.04**	**2.98**	**3.01**	**3.21**	**2.99**	**2.93**	**3.13**	**3.10**	**3.02**	**3.06**

VERY GOOD	3.5-4.0
GOOD	3.0-3.49
AVERAGE/SATISFACTORY	2.0-2.99
UNSATISFACTORY	BELOW 2

HOD, EEE



Summation of Teacher Appraisal by Students

Course: B.Tech | Year: IV | Semester: I | Academic Year: 2018-2019

Total Number of Responses /Section Strength: 24/71 | Section: B | Date: 17/07/2018

	PSD-Dr DGP	PSOC-Dr.JSD	HVDCTS-Dr SVJK	EDS-VVSM	HVE-VUR	SCT-RAK	DSPBE-Lab-AVK	DSPBE-Lab-DKK	PSS Lab-GSR	PSS Lab-VVSM	PED Lab-MP	PED Lab-GBR
How does the Teacher explain the subject	3.6	3.2	3.6	3.4	3.5	3.7	3.6	3.5	3.5	3.4	3.6	3.6
How do you find the language and communication skill of teac...	3.4	3.3	3.6	3.5	3.6	3.5	3.7	3.6	3.5	3.3	3.5	3.5
Rate your teacher's regularity to the class?	3.7	3.3	3.5	3.4	3.3	3.5	3.6	3.5	3.4	3.4	3.4	3.6
Rate your Teacher's explanation in clearing the doubts.	3.8	3.3	3.7	3.4	3.2	3.7	3.5	3.3	3.4	3.5	3.3	3.5
Rate your teacher's commitment in completing the syllabus.	3.7	3.3	3.5	3.5	3.4	3.5	3.6	3.6	3.5	3.4	3.3	3.5
Teachers interest in solving problems and subjective discuss...	3.6	3.4	3.6	3.6	3.4	3.6	3.7	3.4	3.4	3.4	3.5	3.5
Rate your Teacher's use of teaching aids.	3.4	3.3	3.4	3.6	3.4	3.7	3.7	3.6	3.5	3.4	3.4	3.7
The content and quality of teaching material?	3.5	3.3	3.6	3.5	3.3	3.6	3.6	3.3	3.5	3.5	3.5	3.7
Motivation aspects in terms of content and innovativeness?	3.5	3.2	3.5	3.5	3.3	3.6	3.5	3.4	3.4	3.5	3.5	3.6
What is the overall option about teacher?	3.5	3.5	3.6	3.6	3.5	3.7	3.6	3.3	3.4	3.6	3.5	3.7
Total Average Rating	**3.54**	**3.30**	**3.53**	**3.47**	**3.36**	**3.60**	**3.59**	**3.43**	**3.44**	**3.42**	**3.43**	**3.57**

VERY GOOD	3.5-4.0
GOOD	3.0-3.49
AVERAGE/SATISFACTORY	2.0-2.99
UNSATISFACTORY	BELOW 2

HOD, EEE

19	Course Exit Survey

RUBRIC

OBJECTIVE: **Work effectively with others**

STUDENT OUTCOME: **Ability to function in a multi-disciplinary team**

S.No.	Student Name	Performance Criteria	Unsatisfactory	Developing	Satisfactory	Exemplary	Score
			1	2	3	4	
1.	CH.Shekhar babu(15241A0272)	**Research & Gather Information**	Does not collect any information that relates to the topic.	Collects very little information some relates to the topic	Collects some basic Information most relates to the topic.	Collects a great deal of Information all relates to the topic.	4
		Fulfill team role's	Does not perform any duties of assigned team role.	Performs very little duties.	Performs nearly all duties.	Performs all duties ofassigned team role.	4
		Share Equally	Always relies on others to do the work.	Rarely does the assigned work--often needs reminding.	Usually does the assigned work--rarely needs reminding.	Always does the assigned work without having to be reminded	4
		Listen to	Is always	Usually	Listens,	Listens	4

		other team mates	talking--never allows anyone else to speak.	doing most of the talking--rarely allows others to speak.	but sometimes talks too much.	and speaks a fair amount.	
						Average score	4
2.	Sreelekha (15241A0267)	**Research & Gather Information**	Does not collect any information that relates to the topic.	Collects very little information --some relates to the topic	Collects some basic information--most relates to the topic.	Collects a great deal of information--all relates to the topic.	3
		Fulfill team role's	Does not perform any duties of assigned team role.	Performs very little duties.	Performs nearly all duties.	Performs all duties of assigned team role.	3
		Share Equally	Always relies on others to do the work.	Rarely does the assigned work--often needs reminding.	Usually does the assigned work--rarely needs reminding.	Always does the assigned work without having to be reminded.	3

		Listen to other team mates	Is always talking--never allows anyone else to speak.	Usually doing most of the talking--rarely allows others to speak.	Listens, but sometimes talks too much.	Listens and speaks a fair amount.	3
						Average score	3
3	Suryateja (15241A02B5)	**Research & Gather Information**	Does not collect any information that relates to the topic.	Collects very little information --some relates to the topic	Collects some basic information--most relates to the topic.	Collects a great deal of information--all relates to the topic.	2
		Fulfill team role's	Does not perform any duties of assigned team role.	Performs very little duties.	Performs nearly all duties.	Performs all duties of assigned team role.	2
		Share Equally	Always relies on others to do the work.	Rarely does the assigned work--often needs reminding.	Usually does the assigned work--rarely needs reminding.	Always does the assigned work without having to be reminded	2

						.	
		Listen to other team mates	Is always talking--never allows anyone else to speak.	Usually doing most of the talking--rarely allows others to speak.	Listens, but sometimes talks too much.	Listens and speaks a fair amount.	2
						Average score	2

Signature of HOD
Date:

Signature of faculty
Date:

GOKARAJU RANGARAJU
INSTITUTE OF ENGINEERING AND TECHNOLOGY

Department of Electrical & Electronics Engineering

COURSE COMPLETION STATUS

Academic **Y**ear : 2018-2019

Semester : I

Name of the Program: EEE…… B.Tech **IV …**.… Section: A/B

Course/Subject: Power Systems Simulation Lab……Code: GR14A4028
Name of the Faculty:
G.Sandhyarani/ VVS Madhuri Dept: ….EEE…

Designation:Assistant Professor

Actual Date of Completion & Remarks, if any

Program	Remarks	No. of Objectives Achieved	No. of Outcomes Achieved
1	1 & 2 programs completed by 18/07/1		
2		2,3,4	2,4
3	3 & 4 programs completed by 22/07/18		
4		1,3	2,4
5	5 program completed by 26/07/18	1,3	2,4
6	6 program completed by 29/07/18	1,3	2,4
7	7 program completed by 02/08/18	1,3	2,4
8	8 program completed by 16/08/18	1,3	2,4
9	9 program completed by 23/08/18	1,3	2,4
10	10 program completed by 30/08/18	1,3	2,4
11	11 & 12 program completed by 06/09/18	1,2	2,3
12		1,3	2,1,5
13	13 program completed by 13/09/18	1,3	2,1,5
14	14 programs completed by 27/09/18	1,3	2,1,5
15	15 programs completed by 11/10/18	2,3	1,2,3,6 ,7

Signature of HOD
Date:

Signature of faculty
Date:

GOKARAJU RANGARAJU
INSTITUTE OF ENGINEERING AND TECHNOLOGY

Department of Electrical & Electronics Engineering

GUIDELINES TO STUDY THE COURSE/SUBJECT

Academic **Y**ear : 2018-2019

Semester : I

Name of the Program: EEE…… B.Tech **… IV …**.… Section: A/B

Course/Subject: Electrical Simulation Lab……Code: GR14A4028
Name of the Faculty: G.Sandhyarani/VVS Madhuri Dept: ….EEE…

Designation:Assistant Professor

Course Design and Delivery System (CDD):

- The Course syllabus is written into number of learning objectives and outcomes.
- These learning objectives and outcomes will be achieved through lectures, assessments, assignments, experiments in the laboratory, projects, seminars, presentations, etc.
- Every student will be given an assessment plan, criteria for assessment, scheme of evaluation and grading method.
- The Learning Process will be carried out through assessments of Knowledge, Skills and Attitude by various methods and the students will be given guidance to refer to the text books, reference books, journals, etc.

The faculty be able to –

- Understand the principles of Learning
- Understand the psychology of students
- Develop instructional objectives for a given topic
- Prepare course, unit and lesson plans
- Understand different methods of teaching and learning
- Use appropriate teaching and learning aids
- Plan and deliver lectures effectively
- Provide feedback to students using various methods of Assessments and tools of Evaluation
- Act as a guide, advisor, counselor, facilitator, motivator and not just as a teacher alone

Signature of HOD
Date:

Signature of faculty
Date:

ILLUSTRATIVE VERBS FOR STATING INSTRUCTIONAL OBJECTIVES

These verbs can also be used while framing questions for Continuous Assessment Examinations as well as for End – Semester (final)Examinations

ILLUSTRATIVE VERBS FOR STATING GENERAL OBJECTIVES/OUTCOMES

Know	Understand			Design

ILLUSTRATIVE VERBS FOR STATING SPECIFIC OBJECTIVES/OUTCOMES:

A. COGNITIVE DOMAIN (KNOWLEDGE)

1	2	3	4	5	6
Knowledge	Comprehension Understanding	Application of knowledge & comprehension	Analysis Of whole w .r.t. its constituents	Synthesis	Evaluation Judgment
Define Identify	Convert Describe (a Procedure) Distinguish Explain why/how	Demonstrate Prepare Relate Show Solve	Differentiate Discriminate Distinguish Separate	Categorize Combine Design Generate Plan	Compare

B. AFFECTIVE DOMAIN (ATTITUDE)		C. PSYCHOMOTOR DOMAIN (SKILLS)				
Assist	Select	Bend	Dissect	Insert	Perform	Straighten
Change	Develop	Calibrate	Draw	Keep	Prepare	Strengthen
		Compress	Extend	Elongate	Remove	Time
		Conduct	Feed	Limit	Replace	Transfer
		Connect	File	Manipulate	Report	Type
		Convert	Grow	Move Precisely	Reset	Weigh
		Decrease	Increase	Paint	Set	