

Lesson Plan of the 7th semester for session 2024-25

Name of the faculty:	Dr. Harish Kumar
Designation:	Guest Faculty
Discipline:	Electrical Engg.
Semester:	VII th Sem
Subject:	SOLAR PHOTOVOLTAIC TECHNOLOGY
Subject Code:	OEC-EE-407G
Lesson Plan duration:	13 weeks
Work Load per week in hours:	Lectures- 03

Week	Lecture day	Topic (Including Assignment/Test)
SECTION-A		
1.	1	PHOTOVOLTAIC BASICS: Introduction, Structure and working of Solar Cells.
	2	Solar Cells - Types
	3	Electrical properties and Behaviour of Solar Cells
2.	4	Solar Cells - Cell properties
	5	Design - PV Cell and their Interconnection
	6	Design - PV Cell and their Module Fabrication
3.	7	PV Modules and arrays
	8	Basics of Load Estimation
	9	Revision
SECTION-B		
4.	10	STAND ALONE PV SYSTEMS: Stand Alone PV Systems Schematics and Components
	11	Stand Alone PV Systems Batteries
	12	Charge Conditioners
5.	13	Balance of system components for DC and/or AC Applications
	14	Balance of system components for DC and/or AC Applications Cont.
	15	Balance of system components for DC and/or AC Applications Cont.
6.	16	Typical applications for lighting, water pumping
	17	Revision
	18	Class Test
SECTION-C		
7.	19	GRID CONNECTED PV SYSTEMS: Grid Connected PV Systems Schematics and Components
	20	Charge Conditioners
	21	Interface Components
8.	22	Balance of system components for DC and/or AC Applications
	23	Balance of system components for DC and/or AC Applications Cont.
	24	Balance of system components for DC and/or AC Applications Cont.
9.	25	PV System in Buildings
	26	Revision

	27	Class Test
SECTION-D		
10.	28	HYBRID SYSTEMS: Introduction to Solar Hybrid System
	29	Introduction to Biomass Hybrid System
	30	Introduction to Wind Hybrid System
11.	31	Introduction to Diesel Hybrid systems
	32	Comparison of Solar Hybrid System
	33	Selection criteria for a given application of Solar Hybrid System
12.	34	Selection criteria for a given application of Solar Hybrid System Cont.
	35	Selection criteria for a given application of Solar Hybrid System Cont.
	36	Selection criteria for a given application of Solar Hybrid System Cont.
13.	37	Class Test
	38	All syllabus revision
	39	All syllabus test

CRSSLET Jhajar

Lesson Planning

Name of the Institute : CRSSIET SILANI-KESHO, JHAJJAR
Name of the teacher : Mr. SANDEEP YADAV
Department : Electrical
Subject & Code : ADVANCED POWER TRANSMISSION PEC- EE-415G
Branch/Semester : EE 7th Semester

Chapter Covered	Lect no.	Topic
Section-A	1	EHV AC Transmission
	2	Need of EHV transmission.
	3	standard transmission voltage
	4	electrical and mechanical considerations of EHV lines
	5	surface voltage gradients in conductor
	6	distribution of voltage gradients on subconductors,
	7	Features of EHV transmission lines.
	8	REVISION
Section-B	9	HVDC Transmission:
	10	DC links
	11	components and configurations;
	12	converter station, operation
	13	controls of converters, characteristics,
	14	power control, starting
	15	stopping of dc link.
	16	REVISION

	17	REVISION
Section-C	18	Flexible AC Transmission Systems:
	19	Fundamentals of ac power transmission
	20	transmission problems and needs,
	21	Mechanism of active and reactive power flow control
	22	basic FACTS controllers with application
	23	principles of operation.
	24	REVISION
	25	REVISION.
Section-D	26	Power Quality
	27	Overview and definition of power quality
	28	Sources of pollution
	29	power quality disturbances
	30	Voltage fluctuations
	31	unbalance waveform distortion
	32	power frequency variations
	33	mitigation and control of power quality
	34	REVISION.
	35	REVISION.
	36	REVISION.

Lesson Plan of the 7th semester for session 2024-25

Name of the faculty:	Ms. Neha Rani
Designation:	Assistant Professor
Discipline:	Electrical Engg.
Semester:	VII th sem
Subject:	Utilization of Electrical Power
Subject Code:	PEC- EE-405G
Lesson Plan duration:	15 weeks
Work Load per week in hours:	Lectures- 03, Practical-03

Week	Lecture day	Topic (Including Assignment/Test)
UNIT – I		
1	1	Introduction to Electric Drive
	2	Type of electric drives
	3	choice of motor
2	4	starting of electric drive
	5	running characteristics of electric drive
	6	speed control
3	7	temperature rise,
	8	particular applications of electric drives,
	9	types of industrial loads
4	10	continuous, intermittent and variable loads
	11	load equalization.
	12	Revision Unit 1
UNIT – II		
5	13	Introduction of Electric heating
	14	Advantages and methods of electric heating
	15	resistance heating
6	16	induction heating

	17	dielectric heating
	18	Electricwelding,
7	19	resistance Welding
	20	arc welding,
	21	electric weldingequipment
8	22	comparison between A.C.and D.C. Welding
	23	Revision unit 2
	24	Class Test
UNIT – III		
9	25	Introduction of illumination
	26	Terms used in illumination
	27	laws of illumination
10.	28	Polar curves, photometry,integrating sphere,
	29	Sources of Light: Discharge lamps, MV and SV lamps
	30	Comparison between tungsten filament lamps and fluorescent tubes
11	31	Basic principles of lightcontrol
	32	Types of lighting and flood lighting.
	33	design of lighting and flood lighting.
12	34	Revision Unit 3
	35	Class Test Unit 3
UNIT– IV		
13	36	ELECTRIC TRACTION: Basic concepts
	37	System of electric traction and track electrification
	38	Review of existing electric traction systems in India

	39	Special features ofraction motor
14.	40	Methods of electric braking include plugging, rheostatic, andregenerative braking.
	41	Mechanics of train movement
	42	Speed-time curves for different services trapezoidal
15.	43	Speed-time curves for different services – quadrilateral speed time curves.
	44	All syllabus revision
	45	All syllabus test

Lesson Plan of the 7th semester for session 2024-25

Name of the faculty:

Ms. Nirdesh Singh

Designation:	Guest Faculty
Discipline:	Electrical Engg.
Semester:	VII th Sem
Subject:	RENEWABLE ENERGY AND DISTRIBUTED GENERATION
Subject Code:	OEC-EE-403G
Lesson Plan Duration:	13 weeks
Work Load per week in hours:	Lectures- 03

Week	Lecture day	Topic (Including Assignment/Test)
SECTION-A		
1.	1	Introduction: Introduction of Distributed vs Central Station Generation
	2	Sources of Energy such as Micro-turbines
	3	Internal Combustion Engines
SECTION-B		
2.	4	Introduction to Solar Energy
	5	Introduction to Wind Energy
	6	Introduction to Wind Energy cont.
3.	7	Combined Heat and Power
	8	Hydro Energy
	9	Hydro Energy cont.
4.	10	Tidal Energy
	11	Wave Energy
	12	Geothermal Energy
5.	13	Biomass and Fuel Cells
	14	Revision
	15	Class Test
SECTION-C		
6.	16	Transmission Grid Interconnection
	17	Power Electronic converters
	18	Power Electronic Interface with the Grid
7.	19	Power Electronic Interface with the Grid cont.
	20	Power Electronic Interface with the Grid cont.
	21	Distributed Generation Sources
8.	22	Impact of Distributed Generation on the Power System
	23	Impact of Distributed Generation on the Power System cont.
	24	Power Quality Disturbances
9.	25	Power Quality Disturbances cont.
	26	Revision
	27	Class Test
SECTION-D		
10.	28	Transmission System Operation
	29	Transmission System Operation cont.
	30	Protection of Distributed Generators

11.	31	Protection of Distributed Generators cont.
	32	Protection of Distributed Generators cont.
	33	Economics of Distributed Generation
12.	34	Economics of Distributed Generation cont.
	35	Economics of Distributed Generation cont.
	36	Revision
13.	37	Class Test
	38	All syllabus revision
	39	All syllabus test