

<b>Discipline: ELECTRICAL ENGINEERING</b>	<b>Semester : 4<sup>th</sup> Semester-2020- 21</b>	<b>Name of the Teaching Faculty: Miss Swati Sharma Lect.Electrical Engineering</b>
<b>Subject: Generation Transmission &amp; Distribution</b>	<b>No. of Days/week Class Allotted: 60</b>	<b>Semester From Date: 5<sup>th</sup> April 2021 to 30<sup>th</sup> June 2021  No of weeks: 18</b>
<b>Week</b>	<b>Class Day</b>	<b>Theory Topics</b>
1 <sup>st</sup>	1 <sup>st</sup>	Generation of electricity from thermal power plant with its layout diagram
	2 <sup>nd</sup>	Generation of electricity from hydro electric power plant with its layout diagram
	3 <sup>rd</sup>	Generation of electricity from nuclear power plant with its layout diagram
	4 <sup>th</sup>	Introduction to Solar Power Plant (Photovoltaic cells).
2 <sup>nd</sup>	1 <sup>st</sup>	Layout diagram of generating stations.
	2 <sup>nd</sup>	Layout of transmission and distribution scheme.
	3 <sup>rd</sup>	Discuss about types of transmission and distribution scheme.
	4 <sup>th</sup>	Voltage Regulation & efficiency of transmission.
3 <sup>rd</sup>	1 <sup>st</sup>	State and explain Kelvin's law for economical size of conductor.
	2 <sup>nd</sup>	Limitations and graphical representation of Kelvin's law.
	3 <sup>rd</sup>	Corona and corona loss on transmission lines.
	4 <sup>th</sup>	Introduction to overhead lines
4 <sup>th</sup>	1 <sup>st</sup>	Types of supports, size and spacing of conductor.
	2 <sup>nd</sup>	Types of conductor materials.
	3 <sup>rd</sup>	State types of insulator and cross arms.
	4 <sup>th</sup>	Sag in overhead line with support at same level
5 <sup>th</sup>	1 <sup>st</sup>	Sag in overhead line with support at unequal level
	2 <sup>nd</sup>	approximate formula effect of wind, ice and temperature on sag
	3 <sup>rd</sup>	Simple problem on sag.
	4 <sup>th</sup>	Calculation of regulation and efficiency
6 <sup>th</sup>	1 <sup>st</sup>	Phasor diagram of short and medium transmission line
	2 <sup>nd</sup>	Problems of short transmission line
	3 <sup>rd</sup>	Problems on methods of medium transmission line

	4 <sup>th</sup>	Introduction to EHV AC transmission
7 <sup>th</sup>	1 <sup>st</sup>	Reasons for adoption of EHV AC transmission.
	2 <sup>nd</sup>	Problems involved in EHV transmission.
	3 <sup>rd</sup>	Introduction to HVDC transmission
	4 <sup>th</sup>	Advantages and Limitations of HVDC transmission system.
8 <sup>th</sup>	1 <sup>st</sup>	Introduction to Distribution System.
	2 <sup>nd</sup>	Connection Schemes of Distribution System: (Radial, Ring Main and Inter connected system)
	3 <sup>rd</sup>	Introduction to DC distributions.
	4 <sup>th</sup>	Distributor fed at one End and Distributor fed at both the ends, Ring distributor

9 <sup>th</sup>	1 <sup>st</sup>	AC distribution system
	2 <sup>nd</sup>	Method of solving AC distribution problem.
	3 <sup>rd</sup>	Three phase four wire star connected system arrangement.
	4 <sup>th</sup>	UNDERGROUND CABLES
10 <sup>th</sup>	1 <sup>st</sup>	Cable insulation and classification of cables.
	2 <sup>nd</sup>	Types of L. T. & H.T. cables with constructional features
	3 <sup>rd</sup>	Methods of cable lying.
	4 <sup>th</sup>	Localization of cable faults: Murray loop test for short circuit fault / Earth fault.
11 <sup>th</sup>	1 <sup>st</sup>	Localization of cable faults: Varley loop test for short circuit fault / Earth fault.
	2 <sup>nd</sup>	Causes of low power factor and methods of improvement of power factor in power system
	3 <sup>rd</sup>	Factors affecting the economics of generation: (Define and explain) 8.2.1 Load curve, Demand factor, Maximum demand.
	4 <sup>th</sup>	Load factor, Diversity factor, Plant capacity factor.
12 <sup>th</sup>	1 <sup>st</sup>	Peak load and Base load on power station.
	2 <sup>nd</sup>	Desirable characteristic of a tariff.
	3 <sup>rd</sup>	Explain flat rate, block rate, two part and maximum demand tariff. (Solve problems)
	4 <sup>th</sup>	Layout of LT, HT substation
13 <sup>th</sup>	1 <sup>st</sup>	Layout of EHT substation.
	2 <sup>nd</sup>	Earthing of Substation, transmission and distribution lines.
	3 <sup>rd</sup>	Revision of Chapter – 01

	4 <sup>th</sup>	Revision of Chapter – 02
14 <sup>th</sup>	1 <sup>st</sup>	Revision of Chapter – 03
	2 <sup>nd</sup>	Revision of Chapter – 04
	3 <sup>rd</sup>	Revision of Chapter – 05
	4 <sup>th</sup>	Revision of Chapter – 06
15 <sup>th</sup>	1 <sup>st</sup>	Revision of Chapter – 07
	2 <sup>nd</sup>	Revision of Chapter – 08
	3 <sup>rd</sup>	Revision of Chapter – 09
	4 <sup>th</sup>	Revision of Chapter – 10
16 <sup>th</sup>	1 <sup>st</sup>	Discussion of most probable questions (long types)
	2 <sup>nd</sup>	Discussion of most probable questions (short types)
	3 <sup>rd</sup>	Discussion of Probable Questions and Answers (1)
	4 <sup>th</sup>	Discussion of Probable Questions and Answers (2)
17 <sup>th</sup>	1 <sup>st</sup>	Discussion of Probable Questions and Answers (3)
	2 <sup>nd</sup>	Discussion of Probable Questions and Answers(4)
	3 <sup>rd</sup>	Discussion of Probable Questions and Answers (5)
	4 <sup>th</sup>	Discussion of Probable Questions and Answers(6)
18 <sup>th</sup>	1 <sup>st</sup>	Discussion of Probable Questions and Answers (7)
	2 <sup>nd</sup>	Discussion of Probable Questions and Answers(8)
	3 <sup>rd</sup>	Discussion of Probable Questions and Answers (9)
	4 <sup>th</sup>	Discussion of Probable Questions and Answers (