



GOVERNMENT POLYTECHNIC ,NAYAGARH

Semester: 4TH DIPLOMA

AY-2021-22

Subject: Generation Transmission and Distribution

No Of Period :60 (4p/week)

Branch: Electrical Engineering

Name of Faculty: Satyabrata Sahoo

Week	Period	Topics to be covered
1 st Week	1	Elementary idea on generation of electricity from Thermal
	2	Elementary idea on generation of electricity from Hydel
	3	Elementary idea on generation of electricity from Nuclear
	4	Elementary idea on generation of electricity from Power station
2 nd Week	5	Introduction to Solar Power Plant
	6	-do-
	7	Layout diagram of generating stations
	8	Layout of transmission and distribution scheme.
3 rd Week	9	Voltage Regulation & efficiency of transmission
	10	State and explain Kelvin's law for economical size of conductor
	11	Corona and corona loss on transmission lines
	12	-do-
4 th Week	13	Types of supports, size and spacing of conductor.
	14	Types of conductor materials
	15	State types of insulator and cross arms
	16	Sag in overhead line with support at same level and different level
5 th Week	17	-do-
	18	Simple problem on sag
	19	-do-
	20	Calculation of regulation and efficiency
6 th Week	21	-do-
	22	Numerical
	23	Numerical
	24	Numerical
7 th Week	25	Numerical
	26	Numerical

	27	EHV AC transmission.
	28	Reasons for adoption of EHV AC transmission
8 th Week	39	Problems involved in EHV transmission
	30	-do-
	31	HV DC transmission
	32	-do-
9 th Week	33	Advantages and Limitations of HVDC transmission system.
	34	Introduction to Distribution System, Connection Schemes of Distribution System
	35	Distributor fed at one End
	36	Distributor fed at both the ends
10 th Week	37	Numerical
	38	Ring distributors
	39	Method of solving AC distribution problem.
	40	Cable insulation and classification of cables
11 th Week	41	Types of L. T. & H.T. cables with constructional features..
	42	-do-
	43	Methods of cable lying.
	44	Localization of cable faults: Murray and Varley loop test for short circuit fault / Earth fault.
12 th Week	45	-do-
	46	Causes of low power factor and methods of improvement of power factor in power system
	47	Factors affecting the economics of generation Load curves, Demand factor
	48	Maximum demand, Load factor
13 th Week	49	Diversity factor, Plant capacity factor.
	50	Numerical
	51	Numerical
	52	Peak load and Base load on power station
14 th Week	53	Desirable characteristic of a tariff
	54	Explain flat rate, block rate
	55	Explain two part and maximum demand tariff
	56	Layout of LT substation,
15 th Week	57	Layout of HT substation
	58	Layout of EHT substation
	59	Earthing of Substation
	60	transmission and distribution lines

Signature of Faculty

Signature of HOD