

SUBJECT-TH4.GENERATION TRANSMISSION & DISTRIBUTION

MONTH	MODULE/UNIT	COURSE TO BE COVERED	TOTAL NO. OF CLASS	TOTAL NO. OF CLASS
	UNIT-1	1. GENERATION OF ELECTRICITY	07	
		1.1 Elementary idea on generation of electricity from Thermal, Hydel, Nuclear, Power station	03	
		1.2 Introduction to Solar Power Plant (Photovoltaic cells).	02	
		1.3 Layout diagram of generating stations	02	
	UNIT-2	2. TRANSMISSION OF ELECTRIC POWER	05	
		2.1 Layout of transmission and distribution scheme	01	
		2.2 Voltage Regulation & efficiency of transmission	01	
		2.3 State and explain Kelvin's law for economical size of conductor	02	
		2.4 Corona and corona loss on transmission lines	01	
	UNIT-3	3. OVER HEAD LINES	07	
		3.1 Types of supports, size and spacing of conductor	01	
		3.2 Types of conductor materials	01	
		3.3 State types of insulator and cross arms	02	
		3.4 Sag in overhead line with support at same level and different level. (approximate formula effect of wind, ice and temperature on sag)	01	
		3.5 Simple problem on sag	02	
	UNIT-4	4. PERFORMANCE OF SHORT & MEDIUM LINES	07	
		4.1.Calculation of regulation and efficiency	07	
	UNIT-5	5. EHV TRANSMISSION	07	
		5.1 EHV AC transmission. 5.1.1. Reasons for adoption	04	

		of EHV AC transmission. 5.1.2. Problems involved in EHV transmission		
		5.2 HV DC transmission. 5.2.1. Advantages and Limitations of HVDC transmission system	03	
	UNIT-6	6. DISTRIBUTION SYSTEMS	07	
		6.1 Introduction to Distribution System	01	
		6.2 Connection Schemes of Distribution System: (Radial, Ring Main and Inter connected system)	02	
		6.3 DC distributions. 6.3.1 Distributor fed at one End. 6.3.2 Distributor fed at both the ends. 6.3.3 Ring distributors	02	
		6.4 AC distribution system. 6.4.1. Method of solving AC distribution problem. 6.4.2. Three phase four wire star connected system arrangement	02	
	UNIT-7	7. UNDERGROUND CABLES	06	
		7.1 Cable insulation and classification of cables	02	
		7.2 Types of L. T. & H.T. cables with constructional features	01	
		7.3 Methods of cable lying	02	
		7.4 Localization of cable faults: Murray and Varley loop test for short circuit fault/ Earth fault	01	
	UNIT-8	8. ECONOMIC ASPECTS	06	
		8.1 Causes of low power factor and methods of improvement of power factor in power system	01	
		8.2 Factors affecting the economics of generation: (Define and explain) 8.2.1 Load curves.	03	

		8.2.2 Demand factor. 8.2.3 Maximum demand. 8.2.4 Load factor. 8.2.5 Diversity factor. 8.2.6 Plant capacity factor		
		8.3 Peak load and Base load on power station	02	
	UNIT-9	9. TYPES OF TARIFF	03	
		9.1.Desirable characteristic of a tariff	01	
		9.2.Explain flat rate, block rate, two part and maximum demand tariff. (Solve Problems)	02	
	UNIT-10	10. SUBSTATION	05	
		10.1 Layout of LT , HT and EHT substation	02	
		10.2 Earthing of Substation, transmission and distribution lines.	03	

