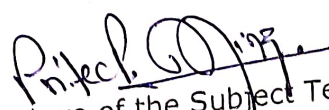


<b>DISCIPLINE:</b> ELECTRICAL	<b>SEMESTER:</b> 3rd	<b>NAME OF THE TEACHING FACULTY:</b> Pritee Prava Minz, Sr. Lecturer (EE)
<b>SUBJECT:</b> Introduction to Electric Generation Systems (TH 1)	<b>NO. OF DAYS/ WEEK CLASS ALLOTTED –</b> 45 Hrs	<b>SEMESTER FROM DATE:</b> 14.0-7.2025 to 15.11.2025
<b>WEEK</b>	<b>CLASS DAY</b>	<b>THEORY TOPICS</b>
1	1	<b>Thermal Power Plants: Coal, Gas/Diesel and Nuclear-based :</b> Layout of a typical thermal power plant
	2	working of a typical thermal power plant with steam turbines and electric generators
	3	working of a typical thermal power plant with steam turbines and electric generators
2	4	working of a typical thermal power plant with steam turbines and electric generators
	5	Properties of conventional fuels used in the energy conversion equipment used in thermal power plants: Coal
	6	Properties of conventional fuels used in the energy conversion equipment used in thermal power plants: Gas
3	7	Properties of conventional fuels used in the energy conversion equipment used in thermal power plants: Diesel
	8	Properties of conventional fuels used in the energy conversion equipment used in thermal power plants: Nuclear fuels-fusion and fission action
	9	Safe Practices and working of various thermal power plants: coal- based
4	10	Safe Practices and working of various thermal power plants: gas- based
	11	Safe Practices and working of various thermal power plants: diesel-based
	12	Safe Practices and working of various thermal power plants: nuclear-based
5	13	Functions of Coal fired boilers: fire tube types of thermal power plants and their major auxiliaries
	14	Functions of the Coal fired boilers: water tube types of thermal power plants and their major auxiliaries
	15	Functions of the Gas/diesel based combustion engines types of thermal power plants and their major auxiliaries
6	16	Types of nuclear reactors :Disposal of nuclear waste and nuclear shielding
	17	<b>Large Hydropower Plants:</b> Energy conversion process of hydro power plant
	18	Classification of hydro power plant: High head
7	19	Classification of hydro power plant: medium and low head
	20	Classification of hydro power plant: low head

	21	Construction and working of High head-Pelton turbine used in different types of hydro power plant
8	22	Construction and working of Medium head-Francis turbine used in different types of hydro power plant
	23	Construction and working of Low head-Kaplan turbine used in different types of hydro power plant
	24	Safe Practices for hydro power plants
9	25	Locations of these different types of large hydro power plants in India
	26	Performance Test I
	27	<b>Micro-Hydropower Plants:</b> Layout of micro hydro power plants
10	28	Layout of micro hydro power plants
	29	Pelton turbines for different heads
	30	Francis turbines for different heads
11	31	Kaplan turbines for different heads
	32	Locations of these different types of micro
	33	Locations of these different types of micro
12	34	<b>Economics of Power Generation and Interconnected Power System:</b> connected load, firm power, cold reserve, hot reserve, spinning reserve.
	35	Base load and peak load plants; Load curve
	36	Base load and peak load plants; load duration curve, integrated duration curve.
13	37	Cost of generation: Average demand, maximum demand, demand factor
	38	plant capacity factor, plant use factor
	39	diversity factor, load factor and plant load factor
14	40	Choice of size and number of generator units
	41	Choice of size and number of generator units
	42	Choice of size and number of generator units
15	43	Combined operation of power station Causes, Impact and reasons of Grid system fault: State grid, national grid, brownout and blackout; sample blackouts at national and international level.
	44	Combined operation of power station Causes, Impact and reasons of Grid system fault: State grid, national grid, brownout and blackout; sample blackouts at national and international level.
	45	Combined operation of power station Causes, Impact and reasons of Grid system fault: State grid, national grid, brownout and blackout; sample blackouts at national and international level.
16	46	Performance Test II
	47	Revision

  
 Signature of the Subject Teacher