

Shree Ramkrishna Institute of Science & Technology

Lesson Plan

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Designation: Lecturer,, Lecturer,

Dept : Electrical Engg

Academic Year :2014-2015

Target Student: 5th Sem EE

Subject: Power plant engg

SL No	Subject	Period
	<u>Conventional sources of Energy</u>	
1	Fossil fuels, Hydroelectric and nuclear	1
	<u>Thermal Power Station</u>	
2	Site selection, Layout diagram showing various components including electrical equipments used	1
3	working of station ,thermodynamic cycles.	2
4	Utilities of various components as shown in layout diagram of firing boilers	1
5	Fluidized bed combustion choice of pressure of steam generation and steam temperature,	1
6	Elementary idea of turbines, draught mechanism, problems and methods of dust collection, steam power plant efficiency	1
7	Problems.Idea about some plants in (West Bengal)-name & installed capacity.	1
	<u>Hydro-electric Power Stations:</u>	
8	Site Selection. Classification of hydroelectric power stations	1
9	On the basis of availability of water run-off river type with/without pondage – pumped storage plants. on the basis of head available – low medium and high head. Classification of turbines based on the principle of operation and head of water	3
10	hydropower, Layout of hydroelectric power plants of different heads and layout of proposed storage plant. Utilities of different components.heads and layout of proposed storage plant. Utilities of different component .	3
11	Idea about some plants in West Bengal – Problems. Idea about some plants in West Bengal – Problems	3
	<u>Nuclear Power Plants:</u>	

12	Introduction, Site Selection, elements of nuclear power plant – nuclear reactor, fuels, moderators, coolants, control rods – general layout of nuclear power plant, classification of nuclear power plant	3
13	Precautionary measures adopted in nuclear power plants, idea about some important plants in India.	2
14	Advantages and disadvantages of thermal, hydro & nuclear power stations in respect of site, initial & running cost, sources, simplicity, cleanliness, efficiency & maintenance.	2
	Idea of Captive Power Plants. <u>Diesel Power Plant & Gas-turbine Plants:</u>	
15	General layout of both plants, merits & demerits, methods of improving output and performance.	3
	<u>Elementary idea about Major Electrical Equipments used in Power Stations:</u>	
16	Generators (turbo- and hydro-), exciters including brush-less excitation and static excitation system, Generator-transformer and unit-auxiliary transformer, Layout of auxiliary supply systems.	4
17	Brief idea about Elements of Instrumentation in power stations; Turboprotective instruments, Interlocking & sequence control systems, Remote control & telemetry, electrical instrument, Data acquisition system (concepts with block diagram only).	3
	<u>Combined working of power plants:</u>	
18	Advantages, Need for co-ordination. Control of Active and Re-active power-Load-frequency control (brief idea)	4
	<u>Performance of power stations and Economic considerations</u>	
19	Significance & Definitions of Load factor, diversity-factor on cost of generation, Plant capacity factor ----- Problems.	4
20	Significance & Definitions of Load factor, diversity-factor on cost of generation, Plant capacity factor ----- Problems.	4

Total= 47 class

Signature of The faculty & date

Signature of The Respective HOD & date

Reviewed by principal & date

