

Name of Faculty:-	
Discipline:-	
Semester:-	
Subject:	
Lesson Plan duration:- August 2020	
Week	Lecture Day
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<b>SANDEEP MALIK</b>
<b>CIVIL ENGINEERING</b>
<b>B-Tech (7th)</b>
<b>H.P.E</b>
2020-DEC 2020
Theory Topic (including assignment/ test
<b>Introduction</b>
<b>Sources of energy</b>
<b>Status of hydropower, thermal vs hydropower,</b>
<b>Thermal vs hydropower</b>
<b>Class Test</b>
<b>Advantages of hydropower</b>
<b>Place of hydropower in power system</b>
<b>Place of hydropower in power system</b>
<b>Problems</b>
<b>Electrical load on hydro power, load curves</b>
<b>Load factor</b>
<b>Capacity factors, Utility factors</b>
<b>Diversity factors</b>
<b>Load on hydropower stations</b>
<b>Load curves</b>
<b>Class Test</b>
<b>Load duration curves, firm power</b>
<b>Firm power , Secondary power</b>
<b>Secondary power</b>
<b>Prediction of loads</b>
<b>Problems</b>
<b>Types of hydropower stations-classification of hydropower stations</b>
<b>Run of river plants</b>
<b>General lay out of run of river plants</b>
<b>Vlley dam plans</b>
<b>Storage and pondage.Examples</b>
<b>Class Test</b>
<b>Basic features of Hydropower plants-advantages of pumps storage plants</b>
<b>Storage plants, Types of pump storage plants</b>
<b>Reversible turbines</b>
<b>Efficiency of pump storage plants. Examples.</b>
<b>Problems</b>
<b>Water Conveyance System-Classifications of penstocks</b>
<b>Design criteria of penstocks, anchor blocks</b>
<b>Types of valves, water hammer, surges in power channels, Examples</b>
<b>Types of Surge shafts-surge analysis, design of surge shafts.Examples.</b>
<b>TURBINES-Types of turbines</b>
<b>Criterion for selection, Specific speed of turbones</b>
<b>Unit power, unit discharge</b>
<b>Cavitation in turbines, design of draft tube. Examples</b>
<b>Design of draft tube. Examples</b>
<b>Types of power houses-types of power houses</b>
<b>lay out of power houses</b>
<b>under ground power houses, Advantages, Examples</b>