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	HYDRAULIC MACHINE AND INDUSTRIAL FLUID POWER		5th
Week	Date (Week Starting)	Unit & Topic	Description
1	1-Aug-23	1.1 Hydraulic Turbines	Definition and classification of hydraulic turbines.
2	7-Aug-23	1.2 Impulse Turbine	Construction and working principle of impulse turbine.
3	14-Aug-23	1.3 Impulse Turbine Diagrams	Velocity diagram, work done, efficiencies of impulse turbine.
4	21-Aug-23	1.4 Francis Turbine	Velocity diagram, work done, efficiencies of Francis turbine.
5	28-Aug-23	1.5 Kaplan Turbine	Velocity diagram, work done, efficiencies of Kaplan turbine.
6	4-Sep-23	1.6-1.7 Numericals & Differences	Numerical problems and difference: impulse vs reaction turbines.
7	11-Sep-23	2.1 Centrifugal Pumps	Construction and working principle of centrifugal pumps.
8	18-Sep-23	2.2 Work Done & Efficiencies	Derivation of work done and efficiencies of centrifugal pumps.
9	25-Sep-23	2.3 Numericals	Solve numerical problems related to centrifugal pumps.
10	2-Oct-23	3.1-3.2 Reciprocating Pumps	Single and double acting pumps: construction and working.
11	9-Oct-23	3.3-3.5 Power, Slip, Coefficient	Derive power formulas, define slip, relate to coefficient of discharge.
12	16-Oct-23	3.6 Numericals	Solve problems based on reciprocating pump concepts.
13	23-Oct-23	4.1-4.2.2 Pneumatic Elements	FRL unit, pressure control valves, relief & regulation valves.
14	30-Oct-23	4.3-4.4 Pneumatic Valves & Symbols	Direction, flow, throttle valves, ISO symbols.

15	6-Nov-23	4.5 Pneumatic Circuits	Basic pneumatic circuits: single/double acting cylinders.
16	13-Nov-23	5.1-5.3.3 Hydraulic Control	Hydraulic system, accumulators, pressure valves, direction valves.
17	20-Nov-23	5.4-5.6 Hydraulic Pumps & Actuators	Fluid power pumps (gear, vane, piston), ISO symbols, actuators.
18	27-Nov-23	5.7-5.8 Hydraulic Circuits & Comparison	Hydraulic circuits & comparison with pneumatic systems.

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