

GOVERNMENT POLYTECHNIC JAIPUR
LESSON PLAN
TH-4 FLUID MECHANICS & FLUID POWER (MEPC207)

Week	Month	Unit	Main Topic	Sub-topic 1	Sub-topic 2	Hours
1	July	I	Properties of Fluids	Definition, classification, ideal/real fluids	Density, specific weight, specific gravity with	3
2	July	I	Fluid Properties	Viscosity, surface tension, capillarity	Pressure measurement units and practical	3
3	July	I	Hydrostatics	Hydrostatic force, centre of pressure	Manometers, buoyancy, floatation, solved	3
4	August	II	Fluid Kinematics	Types of flow, streamlines, pathlines	Continuity equation with derivation	3
5	August	II	Fluid Dynamics	Bernoulli's theorem, assumptions	Venturimeter, Pitot tube, flow measurement	3
6	August	III	Orifices & Notches	Coefficients (C_c , C_v , C_d)	Rectangular & triangular notches with examples	3
7	September	III	Flow Through Pipes	Darcy and Chezy equations	Head loss, hydraulic gradient line, energy line	3
8	September	III	Nozzles	Power transmission through nozzles	Maximum efficiency and design numericals	3
9	October	IV	Hydraulic Turbines	Pelton, Francis and Kaplan turbines	Selection, draft tube, cavitation, efficiencies	3
10	October	IV	Centrifugal Pumps	Construction and working	Priming, multistage pumps, manometric efficiency	3
11	October	IV	Reciprocating Pumps	Working principle and applications	Slip, cavitation, separation, solved problems	3
12	November	V	Fluid Power	Hydraulic vs Pneumatic systems	Pascal's law and hydraulic power transmission	3
13	November	V	Hydraulic Components	Reservoir, filter, valves, accumulators	Actuators, pipes, fittings and symbols	3
14	November	V	Hydraulic Circuits	Linear actuator circuits	Rotary actuator, hydraulic press, industrial	3
15	November	V	Revision	Important formulae and numericals	Question discussion and course completion	3

Total 45

HOD

Course Teacher

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