IIPM SCHOOOL OF ENGINEERIN AND TECHNOLOGY

LESSON PLAN: SUMMER 2023

Sub : **Fluid Mechaniccs & Hydraulic Machine (Th-3)**

Faculty name : **Deeptikant Shharma**

Branch : **MECHANICAL ENGINEERING**

Semester : **4th**

Duration : **60 hours**

OBJECTIVE

THE COURSE ON FLUID MECCHANICS IS DEVISED TO INTRODUCE FUNNDAMENTAL ASPECTS OF FLUID FLOW BEHAVIOUR.

STUDENTS WILL LEARN TO DEVELOP STEADY STATE MECHANICAL ENERGY BALANCE EQUATION FOR FLUID FLOWW SYSTEMS, ESTIMATE PRESSURE DROP IN FLUID FLOW SYSTEMS AND DETERMINE PERFORMANCE CHARACTERISTICS OF FLUID MACHINERY.

LEARNING OUTCOME: -SL.NO	CHAPTER	PROPOSED WEEK FOR TEACHING	LECTURE NO.	SUB. TOPIC	IMPORTANT TEACHINNG POINTS	CONTENT SOURCE
1	1	I	1	Properties of Fluid	DENSITY OR MASS DEENSIRTY SPECIFIC WEIGHT OR WEIGHT DENSITY, SPECIFIC VOOLUME SPECIFIC GRAVITY	R.K. BANSAL
2			2	Properties of Fluid	solve simple problems.	R.K. BANSAL
3			3	Properties of Fluid	VISCOCITY UNITS OF VISCOCITY	R.K. BANSAL
4			4	Properties of Fluid	NEWTONS LAW OF VIISCOSITY VARIOUS VISCOSITY WITH TEMPERETURE	R.K. BANSAL
5	2		1	Properties of Fluid	solve simple problems	R.K. BANSAL
6			5	Properties of Fluid	SURFACE & TENSION AND CAPILARITY	R.K. BANSAL
7			3	Properties of Fluid	SURFACE TENSION O N LIQUID DROPLET SURFACE TENSION O N A	R.K. BANSAL

					HOLLOW BUBBLE	
8			4	Properties of Fluid	SURFACE TENSION ON A HOLLOW JET solve simple problems	R.K. BANSAL
9	3		1	Fluid Pressure and its measurements	FLUID PRESSURE AT A POINT PASCAL'S LAW	R.K. BANSAL
10			2	Fluid Pressure and its measurements	PRESSUREMVARIEATION IN A FLUID AT REST	R.K. BANSAL
11			3	Fluid Pressure and its measurements	solve simple problems	R.K. BANSAL
12			4	Fluid Pressure and its measurements	ABSULATE, GAUGE, ATMOSPHERIC AND VACUME PRESSURES	R.K. BANSAL
13	4		1	Fluid Pressure and its measurements	MEASUREMENT OF PRESSURE SIMPLE MANOMETERS	R.K. BANSAL
14			2	Fluid Pressure and its measurements	solve simple problems	R.K. BANSAL
15			3	Fluid Pressure and its measurements	SINGLE COLUMN MANO METER DOUBLE COLUMN MANO METER	R.K. BANSAL
16			4	Fluid Pressure and its measurements	solve simple problems	R.K. BANSAL
17	5		1	Hydrostatics	INTRODUCTION TOTAL PRESSURE & CENTER PRESSURE	R.K. BANSAL
18			2	Hydrostatics	VERTICAL PLANE SURFACE SUBMERGED IN LIQUID	R.K. BANSAL
19			3	Hydrostatics	solve simple problems	R.K. BANSAL
20			4	Hydrostatics	HORIZONTAL PLANE SURFACE SUBMERGED IN LIQUID	R.K. BANSAL
21	6		1	Hydrostatics	INCLIND PLANE SURFACE SUBMERGED IN LIQUID	R.K. BANSAL
22			2	Hydrostatics	HORIZONTAL PLANE SOLVE SIMPLE PROBLEMS	R.K. BANSAL
23			3	Hydrostatics	INCLIND PLANE SOLVE SIMPLE PROBLEMS	R.K. BANSAL
24			4	Hydrostatics	SOLVE SIMPLE PROBLEMS	R.K. BANSAL
25	7		1	Kinematics of Flow	METHODS OF DESCRIBING FLUID MOTION	R.K. BANSAL

26			2	Kinematics of Flow	TYPES OF FLUID FLOW	R.K. BANSAL
27			3	Kinematics of Flow	RATE OF FLOW OR DISCHARGE CONTINUTY EQUATION	R.K. BANSAL
28			4	Kinematics of Flow	SIMPLE PROBLEMS	R.K. BANSAL
29	8		1	Kinematics of Flow	CONTINUITY EQUATION IN THREE- DIMENSION	R.K. BANSAL
30			2	Kinematics of Flow	CONTINUITY EQUATION IN CYLINDRICAL POLAR CORDINATE	R.K. BANSAL
31			3	Kinematics of Flow	SIMPLE PROBLEMS	R.K. BANSAL
32			4	Kinematics of Flow	SIMPLE PROBLEMS	R.K. BANSAL
33	9		1	orifices, notches & weirs	CLASSIFICATION OF ORIFIC FLOW THROUGH OF ORIFIC	R.K. BANSAL
34			2	orifices, notches & weirs	COFFICENT OF VELOCITY COFFICENT OF CONTRACTION COFFICENT OF DISCHARGE	R.K. BANSAL
35			3	orifices, notches & weirs	SIMPLE PROBLEMS	R.K. BANSAL
36			4	orifices, notches & weirs	DETERMINATION COFICENT OF VELOCITY SIMPLE PROBLEMS	R.K. BANSAL
37	10		1	orifices, notches & weirs	CLASSIFICATION OF NOTCH & WIRE	R.K. BANSAL
38			2	orifices, notches & weirs	DISCHARGE OVER A RECTANGULAR NOTCH & WIRE SIMPLE PROBLEMS	R.K. BANSAL
39			3	orifices, notches & weirs	DISCHARGE OVER A TRINGLE NOTCH & WIRE SIMPLE PROBLEMS	R.K. BANSAL
40			4	orifices, notches & weirs	DISCHARGE OVER A TRAPEZOIDAL NOTCH & WIRE	R.K. BANSAL
41	11		1	Flow through pipe	INTRODUCTION LOSS OF ENERGY IN PIPES	R.K. BANSAL
42			2	Flow through pipe	LOSS ENERGY DUE TO FRICTION	R.K. BANSAL
43			3	Flow through pipe	SIMPLE PROBLEMS	R.K. BANSAL
44			4	Flow through pipe	Darcy's and Chezy's formula Solve Problems using Darcy's and Chezy's formula.	R.K. BANSAL
45	12		1	Flow through	SIMPLE PROBLEMS	R.K. BANSAL

				pipe		
46			2	Flow through pipe	MINNER ENERGY HEAD LOSSES	R.K. BANSAL
47			3	Flow through pipe	SIMPLE PROBLEMS	R.K. BANSAL
48			4	Flow through pipe	Hydraulic gradient and total gradient line	R.K. BANSAL
49	13		1	Impact of jets	INTRODUCTION FORCE EXERTED BY THE JET ON A STATIONARY VERICAL PLATE	R.K. BANSAL
50			2	Impact of jets	INTRODUCTION	R.K. BANSAL
51			3	Impact of jets	FORCE EXERTED BY THE JET ON STATIONARY VERTICAL PLATE	R.K. BANSAL
52			4	Impact of jets	SIMPLE PROBLEMS	R.K. BANSAL
53	14		1	Impact of jets	Derivation of work done on series of vanes and condition for maximum efficiency.	R.K. BANSAL
54			2	Impact of jets	SIMPLE PROBLEMS	R.K. BANSAL
55			3	Impact of jets	FORCE EXERTED BY A JET ON STATIONARY INCLIND PLATE	R.K. BANSAL
56			4	Impact of jets	SIMPLE PROBLEMS	R.K. BANSAL
57	15		1	Impact of jets	FORCE EXERTED BY A JET ON STATIONARY INCLIND PLATE	R.K. BANSAL
58			2	Impact of jets	SIMPLE PROBLEMS	R.K. BANSAL
59			3	Impact of jets	JET STRIKE THE CURVED PLATE AT ONE END TANGENTIALLY	R.K. BANSAL
60			4	Impact of jets	SIMPLE PROBLEMS	R.K. BANSAL

TEXT BOOK SUGGESTED : INTERNET & PERSONAL NOTES

SIGNATURE OF

FACULTY MEMBER HOD PRINCIPAL/ DIRECTOR