ACADEMIC SESSION: 2022-23(SUMMER -2023)

DISCIPLINE:MECHANICAL ENGINEERING			Semester:4TH	Name of the teaching faculty: SARAT KUMAR BISWAL
SUBJECT: FLUIDS MECHANICS			Semester from date:14.02.2023 to 23.05.2023	
SL NO	DATE	CHAPTER	THEORY TOPIC NAME	NO OF PERIODS
1.	15.02.23	**Properties of Fluid**	Define fluid	1
2.	16.2.23		Description of fluid properties like Density, Specific weight and relationship between them	1
3.	17.2.23		Simple problems on above	1
4.	20.2.23		Description of fluid properties like specific gravity, specific volume	1
5.	22.2.23		Simple problems on above	1
6.	23.2.23		Definitions and Units of Dynamic viscosity and kinematic viscosity,	1
7.	24.2.23		Description of fluid properties like surface tension Capillary phenomenon	1
8.	27.2.23	**Fluid Pressure and its measurements**	Definitions and units of fluid pressure, pressure intensity and pressurehead.	1
9.	6.3.23		Statement of Pascal's Law.Concept of atmospheric pressure, gauge pressure, vacuum pressure and absolute pressure	1
10.	9.3.23		Manometers (Simple)	1
11.	10.3.23		Simple problems on above	1
12.	13.3.23		Manometers (Differential)	1
13.	15.3.23		Simple problems on above	1
14.	16.3.23	**Hydrostatics**	Bourdon tube pressure gauge	1
15.	17.3.23		Definition of hydrostatic pressure	1
16.	20.3.23		Total pressure on immersed bodies(Horizontal Bodies	1
17.	22.3.23		Total pressure on immersed bodies(Vertical Bodies	1
18.	23.3.23		Simple problems on above	1
19.	24.3.23		Archimedes principle, Concept of buoyancy	1
20.	27.3.23	**Kinematics of Flow**	meta center and meta centric height, Concept of floatation	1
21.	29.3.23		Types of fluid flow	1
22.	3.4.23		Continuity equation(Statement and proof)	1
23.	5.4.23		Bernoulli's theorem(Statement and proof)	1
24.	6.4.23		Simple problems on above	1
25.	10.4.23		Applications and limitations of Bernoulli's theorem (Venturimeter, pitot tube)	1

26.	12.4.23	**Orifices, notches & weirs**	Solve simple problems	1
27.	13.4.23		Define orifice, Flow through orifice	1
28.	17.4.23		Orifices coefficient & the relation between the orifice coefficients	1
29.	19.4.23		Classifications of notches & weirs	1
30.	20.4.23		Discharge over a rectangular notch or weir	1
31.	21.4.23		Discharge over a triangular notch or weir	1
32.	24.4.23	**Flow through pipe**	Simple problems on above	1
33.	26.4.23		Definition of pipe. Loss of energy in pipes	1
34.	27.4.23		Head loss due to friction: Darcy's formula (Expression only)	1
35.	28.4.23		Head loss due to friction: Chezy's formula (Expression only)	1
36.	1.5.23		Simple problems on above	1
37.	3.5.23		Hydraulic gradient and total gradient line	1
38.	4.5.23		Simple problems on above	1
39.	8.5.23	**Impact of jets**	Impact of jet on fixed vertical plate	1
40.	10.5.23		Impact of jet on moving flat plates	1
41.	11.5.23		Simple problems on above	1
42.	12.5.23		Derivation of work done on series of vanes and condition formaximum efficiency	1
43.	15.5.23		Impact of jet on moving curved vanes, using velocity triangles,	1
44.	17.5.23		Impact of jet on moving curved vanes using velocity, derivation of work done, efficiency.	1
45.	18.5.23		Simple problems on above	1
46.	22.5.23		Simple problems on above	1

Prepaired By
Sarat Kumar Biswal
Sr Lect (MECHANICAL)
G P SONEPUR