School of University Polytechnic

Diploma in Mechanical Engineering
Semester End Examination - Jun 2024

Duration : 180 Minutes
Max Marks : 100

Sem IV - N1DL402B - DPME2025 - Hydraulics and Hydraulic Machines

General Instructions
Answer to the specific question asked
Draw neat, labelled diagrams wherever necessary
Approved data hand books are allowed subject to verification by the Invigilator

1)	Define pumps.	K1(2)
2)	Outline the the assumptions made in derivation of Bernoull's Equation.	K2(4)
3)	Explain the Rotational and Irrotational Flow.	K2(6)
4)	State the Pascal's Law and Explain it with example.	K3(9)
5)	Discuss Continuity Equation with its applications.	K3(9)
6)	State the principle of pressure measurement by manometer.Explain the difference between a simple and a differential manometer.	K5(10)
7)	Differentiate between liquids and gases.	K4(12)
8)	Derive the expression for measurement of discharge through rectangular notch.	K5(15)
9)	A simple U-tube manometer containing mercury is connected to a pipe in which a fluid of sp. Gr. 0.8 and having vacuum pressure is flowing.the end of the manometer is open to atmosphere.Find the vacuum pressure in pipe , if the difference of mercury level in the two limbs is 40 cm and the height of fluid in left from the centre of pipe is 15 cm below.	K5(15)
10)	What do you understand by rate of flow ? Obtain an expression for continuity equation for a two -dimesional flow.	K6(18)