

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -I EXAMINATION- 2026

B.Tech-III Semester (CE)

COURSE CODE (CREDITS):25B11CE313 (4)

MAX. MARKS: 15

COURSE NAME: Fluid Mechanics

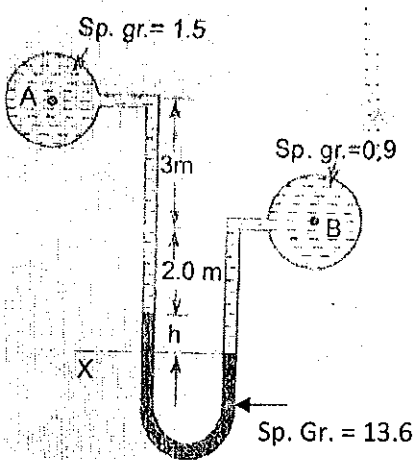
COURSE INSTRUCTORS: Ashish Kumar

MAX. TIME: 1 Hour

Note: (a) All questions are compulsory.

(b) The candidate is allowed to make Suitable numeric assumptions wherever required for solving problems

(c) Use of calculator is allowed.

Q.No	Question	CO	Marks
Q1	Differentiate between Newtonian and Non-Newtonian fluids. Explain Newton's Law of Viscosity.	1	2
Q2	Two horizontal plates are placed 1.25 cm apart, the space between them being filled with oil of viscosity 1.5 Ns/m^2 . Calculate the shear stress in oil if upper plate is moved with a velocity of 3 m/s.	1	3
Q3	Differentiate between simple manometer and differential manometers.	2	1
Q4	A differential manometer is connected at the two points A and B of two pipes as shown in the figure. The pipe A contains the liquid of specific gravity = 1.5 while the pipe contains liquid having specific gravity = 0.9. If the difference of mercury level (h) in the manometer is 1.8 m, find the difference of pressure between two points A and B. 	2	4
Q5	A Rectangular gate is situated on a vertical wall which is submerged in water. The vertical side of the gate is 6m while its width is 4 m. The depth of centre of gate is 8 m from free water surface. Compute the total force acting on the gate and also position of centre of pressure.	3	5