

DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE

Mid Semester Examination – Sept./Oct. 2019

Course: S.Y.B. Tech in MECHANICAL ENGINEERING

Sem: I

Subject Name: FLUID MECHANICS

Subject Code: BTMECC303

Max Marks: 20

Date:-05/10/2019

Duration:- 1 Hr.

Instructions to the Students:

- Please check whether you have got the right question paper
- Assume suitable data wherever necessary.
- Figures to the right indicate full marks.

	(Level/CO)	Marks
Q. 1 Solve all the following MCQ's.		6
1. The branch of science which deals with the behavior of fluids at rest or in Motion is Called..	Knowledge/ CO1	
a) Fluid Statics b) Fluid Kinematics c) Fluid Dynamics d) Fluid Mechanics		
2. The study of fluids in Motion where Pressure forces are considered is...	Knowledge/ CO1	
a) Fluid Statics b) Fluid Kinematics c) Fluid Dynamics d) Fluid Mechanics		
3. The property of fluid which determines its resistance to shearing stresses is called	Knowledge/ CO1	
a) Mass Density b) Weight density c) Specific Gravity d) Viscosity		
4. Unit of Specific Gravity or Relative Density is...	Knowledge/ CO1	
b) Kg/m^3 b) Kg/m^2 c) Unit less Quantity d) N.S/m^2		
5. In Dynamic Viscosity, The Shear Stress is Proportional to Rate of Change of _____ w.r.t. distance.	Knowledge/ CO1	
b) Velocity b) Speed c) Acceleration d) Torque		
6. One Stoke is equal to...	Knowledge/ CO1	
b) $1 \text{ cm}^2/\text{s}$ b) $10 \text{ cm}^2/\text{s}$ c) $100 \text{ cm}^2/\text{s}$ d) None of these		
Q.2 Solve Any Two of the following.		3 X 2 = 6
(A) Derive the expression for Pressure variation in a Fluid at Rest with neat sketch.	Comprehension /CO2.	
(B) Derive the expression for Pascal's Law with neat sketch.	Comprehension /CO2	
(C) Explain the term Surface Tension in detail with neat sketch.	Comprehension /CO2.	
Q. 3 Solve Any One of the following.		8
(A) Determine the Total Pressure on a circular plate of diameter 1.5m which is placed vertically in water in such a way that the centre of the plate is 3m below the free surface of water. Find the position of Centre of Pressure also.	Apply/ CO2	
(B) A rectangular plane surface 2m wide and 3m deep lies in water in such a way that its plane makes an angle of 30° with the free surface of water. Determine the Total Pressure and Position of Centre of Pressure when the upper edge is 1.5m below the free surface of water.	Apply/ CO2	

*** End ***