Assignment 02: Fluid Statics

The due date for submitting this assignment has passed. As per our records you have not submitted this assignment.

Module 2: Fluid Statics
Assignment 2

Important notes:
Marks:
(i) All questions are mandatory
(ii) No negative marking for the wrong answer
(iii) All questions have only one correct answer

1) 1 atm pressure is equal to the____
- 76 mm of Hg
- 760 mm of Hg
- 810 mm of Hg
- 81 mm of Hg

No, the answer is incorrect.
Score: 0
Accepted Answers:
760 mm of Hg

2) Gauge pressure is equal to the____
- absolute pressure - atmospheric pressure
- absolute pressure + atmospheric pressure
- absolute pressure
- atmospheric pressure

No, the answer is incorrect.
Score: 0
Accepted Answers:
absolute pressure - atmospheric pressure

3) A pressure is measured to be a vacuum of 25 kPa at a location where the elevation is 3000 m. What is the absolute pressure?
- 45 kPa
- 47.6 kPa
- 46.6 kPa
- 43 kPa

No, the answer is incorrect.
Score: 0
Accepted Answers:
45.6 kPa

4) A cylindrical tank is filled with water. The maximum exerted by the water
- At the top of the tank
- At the center of the tank
- At the bottom of the tank
- None of these

No, the answer is incorrect.
Score: 0
Accepted Answers:
At the bottom of the tank

5) Differential manometer is used for the measurement of
- Vacuum pressure
- Atmospheric pressure

No, the answer is incorrect.
Score: 0
Accepted Answers:
At the bottom of the tank
Pressure difference between two points

6) A quarter circle of radius of 80 cm with a hinge of 8 m below the water surface. If the gate is 1 m wide, what force $P$ is needed to hold the gate in the position shown?

- 9320 N
- 12600 N
- 9320 N
- None of these

No, the answer is incorrect.
Score: 0
Accepted Answers: 9320 N

7) Pressure of gas with respect to the height of atmosphere

- Increases directly
- Decreases directly
- Decreases exponentially
- Increases exponentially

No, the answer is incorrect.
Score: 0
Accepted Answers: Decreases exponentially

8) The values of the pressure acting at any point in a fluid at rest are ___ regardless of its direction.

- Equal
- Zero
- Increasing
- Decreasing

No, the answer is incorrect.
Score: 0
Accepted Answers: Equal

9) The only stress involved in fluid statics is the normal stress is the:

- Pressure
- Gravity
- Mass
- None of these

No, the answer is incorrect.
Score: 0
Accepted Answers: Pressure

10) Which principle describes the pressure on floating body

- Buoyancy principle
- Archimedes principle
- Drag force principle
- None of these

No, the answer is incorrect.
Score: 0
Accepted Answers: Archimedes principle

11) Metacentric height for sailing ships is recommended

- 1-2 m
- 2.3-1.5 m
- 0.45-1.25 m
- 0.75-1 m

No, the answer is incorrect.
Score: 0
Accepted Answers: 0.45-1.25 m

12) The weight of the liquid displaced by the submerged body is equal to the

- Buoyancy Force
- Drag Force
- Hydro pressure
- None of these

No, the answer is incorrect.
Score: 0
Accepted Answers: Buoyancy Force

13) The centroid of the floating body is fixed but the center of buoyancy is changed with the inclination of body

- Statement I is correct but II is incorrect
14) A floating body will be unstable if
   - Metacenter is located higher than centroid
   - Metacenter is located below to centroid
   - Both points are same
   - None of these
   
   No, the answer is incorrect.
   Score: 0
   Accepted Answers:
   Metacenter is located below to centroid

15) The pressure of a fluid always acts _____ to the wall in contact with the fluid.
   - Perpendicular
   - Parallel
   - At a certain angle
   - None of these
   
   No, the answer is incorrect.
   Score: 0
   Accepted Answers:
   Perpendicular