

## **CIVIL ENGINEERING**

### **QUESTION PRACTICE PROGRAM**

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## **SSC JE PRE 2019 3000+ QUESTION PRACTICE**

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Q : ) The variation in the volume of a liquid with the change of pressure is called its: [ NWDA JE 2019 ]

- A : Surface tension
- B : Capillarity
- C : Viscosity
- D : Compressibility

Q : ) For a circular water tank of 6m diameter and 4 m height resting on the ground and having flexible joints between the floor and the wall the maximum hoop tension will be developed at: [ Civil ESIC JE 2019 ]

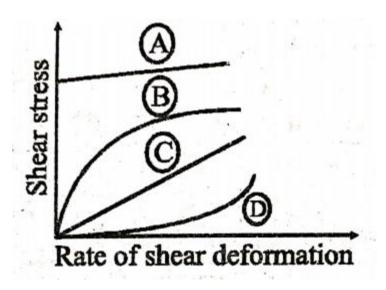
- A : The Bottom edge
- B: 1.6 m from the bottom
- C : The top edge
- D:2 m from the bottom

Q : ) Two Horizontal plates are placed 2 cm apart, the space between them being filled with oil of viscosity 10 Poise. If the upper plate is moved with a velocity of 2m/s, the shear stress in the oil would be: [M.P Sub Engg 2018]

A : 300N/m<sup>2</sup>

- $B: 150 N/m^2$
- C: 200N/m<sup>2</sup>
- D: 100N/m<sup>2</sup>

Q : ) In the given figure which nature of fluid is represented by curve A? [ UPPCL JE, 2015 ]



- A : Newtonian
- B : Pseudo
- C : Dilatant
- D : Ideal Bingham plastic

Q : ) Match list - I With List - II and choose the correct answer from the options below.

List - I	List - II
A. Compressibility	1. Flow of real fluid past a tiny sphere
B. Gravity	2. Cavitation
C. Viscosity	3. Hydraulic jump
D. Vapour Pressure	4. Flight of surpersonic aircraft

Codes:

A : A - 3, B - 4, C - 2, D - 1 B : A - 3, B - 4, C - 1, D - 2 C : A - 4, B - 3, C - 1, D - 2 D : A - 4, B - 3, C - 2, D - 1

- Q : ) The motion of air mass in a tornado is a ...... [SSC JE 2017]
- A : Free vortex motion
- B : Forced vortex motion
- C : Free vortex at center and forced vortex outside
- D : Forced vortex at centre and free vortex outside

Q : ) An iceberg floats in sea water with 14% of its volume projecting above the sea surface. If the specific weight of sea water is 10400 N/m<sup>2</sup> Determine specific weight of the iceberg (in N/m<sup>2</sup>) [SSC JE 2019]

A:8836

B:8314

C:9125

D:8944

Q : ) The force exerted by a static fluid on a vertical horizontal or an inclined plane surface that is immersed depends on the. [NWDA JE 2019]

A : Density of the liquid only

B : Area of the immersed surface

C : Density of the liquid, area of immersed surface and depth of the centre of gravity of the immersed surface

D : Density of the liquid and Area of the immersed surface

Q : ) When a force is exerted by a flowing fluid on a stationary body, the component of the total force in the direction perpendicular to the direction of motion is known as [BSPHCL JE Civil 2019]

A : Drag

B:Lift

C : Shear

D : Stress

Q : ) Condition of stable equilibrium of submerged body: [ LMRC JE 2018 ]

A : Weight of body is equal to buoyancy force & buoyancy point is above the center of gravity

B : Buoyancy force should be in between the center of gravity and buoyancy point

- C : Buoyancy force should be below the center of gravity
- D : Buoyancy force coincide with center of gravity

Q : ) A rectangular plate 0.75 m X 2.4m is immersed in a liquid of relative density of 0.85 with its 0.75m side horizontal and just at the water surface. If the plane of the plate makes an angle of 60° with the horizontal, then the pressure on one side of the plate is ......

[M.P Sub Engg 2018]

A : 7.8 kN

B:15.6 kN

C:18.0 kN

D:27.0 kN

Q : ) If atmospheric pressure is 1.03 kg/cm<sup>2</sup> and absolute pressure at a point is 1.05 kg/cm<sup>2</sup> then what would be the gauge pressure at that point

[ UPPCL JE 2013 ]

- A : 20 kg/cm<sup>2</sup>
- B : 0.02 kg/cm<sup>2</sup>
- C : 2.08 kg/cm<sup>2</sup>
- D : 1.05 kg/cm<sup>2</sup>

Q : ) When a fluid mass rotates without any external force being impressed on it, then it is called as: [ DDA JE 2018 ]

- A : Forced vortex motion
- B : Turbulence
- C : Free vortex motion
- D : Cyclone

Q : ) For a flow the velocity components are given by  $u = (\lambda xy^2 - x^3 - y^2)$  and  $v = (x^2 y^3 - 3y^3)$ . What is the value of  $\lambda$  for the possible flow field which includes steady incompressible flow? [SSC JE 2018]

A:3

B:5

C:7

D:9

Q : ) For a two dimensional flow, the stream function is given by  $\Psi$  = 2 xy. The velocity at a point (3,4) is equal to [ UTTRAKHAND AE 2013 ]

A:6m/sec

- B:8m/sec
- C:10m/sec
- D:12m/sec

Q : ) In laminar flow between parallel plates, the ratio maximum velocity and average velocity of flow is [ UTTRAKHAND AE 2013 ]

A:2

B:1.33

C:1.5

D:1

Q : ) In a venturimeter, to avoid flow separation, angle divergence should not be greater than: [ UPPCL JE 2016 ]

A : 3<sup>0</sup>

**B** : 7<sup>0</sup>

 $C: 12^{0}$ 

 $D: 20^{0}$ 

Q : ) If time taken (T) to close the valve is less than 2L/c then the valve closure is said to be: [ LMRCL (ASST. MANAGER) 2018 ]

A : Sudden

- B : Gradual
- C : Leakage
- D : Water tight

Q : ) The Discharge through a venturimeter is given as (with usual natation): [ Uttrakhand JE Paper II, 2015,

UK Combined AE Paper – I, 2012,

UKPSC AE Paper – I, 2007 ]

 $f{A}:Q=C_dA_1^2A_2^2\sqrt{2gh}\ /\sqrt{A_1^2-A_2^2}$   $f{B}:Q=C_dA_1A_2\sqrt{2gh}\ /\sqrt{2A_1^2-A_2^2}$   $f{C}:Q=C_dA_1A_2\sqrt{2gh}\ /\sqrt{A_1^2-A_2^2}$ 

D: None of the above