



### **ST. LAWRENCE HIGH SCHOOL**

#### A JESUIT CHRISTIAN MINORITY INSTITUTION

- Subject- Physics <u>Worksheet- -30</u> Class IX
- Date -30.04.2020
- Chapter- Pressure in liquids and air(Elasticity)
- Answer the following questions (MCQ) :

(1×15):

### **Q1.Bernoulli 's equation cannot be applied when the flow is** (A) rotational

- (B) turbulent
- (C) unsteady
- (D) all of the above

### 2-Streamline and equipotential lines in a flow field

- (A) are parallel to each other
- (B) are identical to each other
- (C) are perpendicular to each other
- (D) intersect at acute angles

### 3-Relative density of mercury is

- (A) 1
- (B) 9.8
- (C) 13.6
- (D) 1000

### 4-A Newtonian fluid is defined as the fluid which

- (A) Obeys Hook's law
- (B) Is compressible
- (C) Obeys Newton's law of viscosity
- (D) Is incompressible

### **5-If the Reynolds number is less than 2000, the flow in a pipe is** (A) Turbulent

- (B) Laminar
- (C) Transition
- (D) None of the above

#### 6-A flow is called super-sonic if the

- (A) velocity of flow is very high
- (B) discharge is difficult to measure
- (C) Mach number is between 1 and 5
- (D) Mach number is less than 1

#### 7-The unit of pressure one bar is

(A) 1 Pascal

- (B) 1 kilo Pascal
- (C) 100 kPascal
- (D) 1000 kPascal

### 8-The dynamic viscosity of a liquid is $1.2 \times 10^{-4}$ Ns/m<sup>2</sup>, whereas, the density is 600 kg/m<sup>3</sup>. The kinematic viscosity in m<sup>2</sup>/s is

(A)  $72 \times 10^{-3}$ (B)  $20 \times 10^{-8}$ (C)  $7.2 \times 10^{-3}$ (D)  $70 \times 10^{-6}$ 

### **9-The location of the centre of pressure over a surface immersed in a liquid is** (A) always above the centroid

- (B) will be at the centroid
- (C) will be below the centroid

(D) for higher densities it will be above the centroid and for lower densities it will be below the centroid

## 10-The continuity equation is the result of application of the following law to the flow field

(A) First law of thermodynamics

- (B) Conservation of energy
- (C) Newtons second law of motion
- (D) Conservation of mass

#### 11-Reynolds number signifies the ratio of

- (A) gravity forces top viscous forces
- (B) inertial forces to viscous forces
- (C) inertia forces to gravity forces
- (D) buoyant forces to inertia forces

### **12-In pipe flow the critical Reynolds number is about** (A) 640

- (B) 5 × 10<sup>5</sup> (C) 2000
- (D) 64000

### 13-Anemometer is used to measure

- (A) Velocity
- (B) Pressure
- (C) Viscosity
- (D) Density

### 14-Property of fluid that describes its internal resistance is known as:

(A) Viscosity

- (B) Friction
- (C) Resistance
- (D) Internal energy

# **15-Which fluid does not experience shearing stress during flow?** (A) Pseudoplastic

- (B) Dilatant
- (C) Newtonian
- (D) Inviscid

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