1   For an incompressible fluid, the flow rate is
        (a)   equal for all surfaces.
        (b)   constant throughout the pipe.
        (c)   greater for the larger parts of the pipe.
        (d)   none of the above

2   Bernoulli's principle states that for horizontal flow of a fluid through a tube, the sum of the pressure and energy of motion per unit volume is
        (a)   increasing with time   **c) constant**
        (b)   decreasing with time   d) varying with time

3   Which of the following is associated with the law of conservation of energy in fluids?
        (a)   Archimedes' principle   b) Pascal 's principle
        (c)   Bernoulli's principle   **d) equation of continuity**

4   As the speed of a moving fluid increases, the pressure in the fluid
        (a)   increases   (b)   remains constant
        (c)   decreases
        (d)   may increase or decrease, depending on the viscosity

5   If the cross-sectional area of a pipe decreases, what happens to the fluid velocity?
        (a)   Increases   (b) Remains the same
        (c)   Decreases   (d) Depends on the fluid density

6   A sky diver falls through the air at terminal velocity. The force of air resistance on him is
        a) half his weight   **b)   equal to his weight**
        c) twice his weight
        d) Cannot be determined from the information given.

7   Wind speeding up as it blows over the top of a hill
        a)   Increases atmospheric pressure there.
        b)   decreases atmospheric pressure there.
        c)   doesn't affect atmospheric pressure there.
        d)   equal's atmospheric pressure.

8   A fluid is undergoing "incompressible" flow. This means that:
        a)   the pressure at a given point cannot change with time
        b)   the velocity at a given point cannot change with time
        c)   the velocity must be the same everywhere
        d)   the density cannot change with time or location

9   A fluid is undergoing steady flow. Therefore:
        a)   the velocity of any given molecule of fluid does not change
        b)   the pressure does not vary from point to point
        c)   the velocity at any given point does not vary with time
        d)   the density does not vary from point to point

10   The equation of continuity for fluid flow can be derived from the conservation of:
        a)   energy   b) volume
        c)   mass   d) pressure

1   When the body is completely or partially immersed in a fluid, how much of its weight
     is distributed for it to be in stable equilibrium?
     a) Is independent of weight distribution
     b) Around the lower part
     c) Around the upper part
     d) None of the mentioned

2   Which of the following equation must be perfunctorily satisfied while dealing with
     fluid flow problems?
     a) Newton's third law
     b) Law of conservation of momentum
     c) Continuity equation
     d) Newton's second law

3   Which among the following is not global parameters of fluid?
     a) Mass flow rate
     b) Density
     c) Viscosity
     d) External diameter

4   Define Viscosity.
     a) Resistance to the flow of an object
     b) Resistance to the flow of air
     c) Resistance to the flow of fluid
     d) Resistance to the flow of heat

5   For an incompressible fluid does density vary with temperature and pressure?
     a) It varies for all temperatures and pressure ranges
     b) It remains constant
     c) It varies only for lower values of temperature and pressure
     d) It varies only for higher values of temperature and pressure

6   Fluid is a substance that
     a) cannot be subjected to shear forces
     b). always expands until it fills any container
     c). has the same shear stress.at a point regardless of its motion
     d). cannot remain at rest under action of any shear force

7 The line of action of the buoyant force acts through the
a)   centroid of the volume of fluid vertically above the body
b). center of the volume of floating body
c). center of gravity of any submerged body
d). centriod of the displaced volume of fluid

8 In a two dimensional incompressible steady flow around an airfoil, the stream lines are 2 cm apart at a great distance from the airfoil, where the velocity is 30 m/sec. The velocity near the airfoil, where the stream lines are 1.5 cm apart, is
a). 22.5 m/sec.
b). 33 m/sec.
c). 40 m/sec.
d). 90 m/sec.

9 Steady flow occurs when
a). the direction and magnitude of the velocity at all points are identical
b). the velocity of successive fluid par-ticles, at any point, is the same at successive periods of time
c). the magnitude and direction of the velocity do not change from point to point in the fluid
d). the fluid particles move in plane or parallel planes and the streamline pat-terns are identical in each plane

10 When is a fluid called turbulent?
a) High viscosity of fluid
b) Reynolds number is greater than 2000
c) Reynolds number is less than 2000
d) The density of the fluid is low

11 When is the fluid called laminar?
a) Low viscosity
b) The density of the fluid is high
c) Reynolds number is greater than 2000
d) Reynolds number is less than 2000

12 Drag force on an object is independent of which of the following
a) Speed of object
b) Cross sectional area
c) Shape
d) None of the above

13 When any object is falling with terminal velocity the net force on it is
a) Equal to its weight and downward
b) not equal to weight but downward
c) zero
d) upward

14   Two spheres of same radius but different masses are moving through a fluid with same velocity the drag force is
a) more on heavy sphere
b) less on heavy sphere
c) same on both spheres
d) More information is required

15   Two spheres of same radius but different masses are falling through a fluid which of them will have higher value of terminal velocity
a) Heavy sphere
b) Light sphere
c) Both will have same terminal velocity
d) More information is required

16   For an object floating on the surface of a liquid. The liquid displaced by object is equal to complete object by
a) Volume
b) Weight
c) both volume and weight
d) None of the other options is correct

17   A piece of ice of irregular shape is floating in beaker of water kept at 0 degree Celsius. When Ice melts the level of water will
a) Rise
b) Fall
c) Remain same
d) Depends on the shape of piece of ice

18   A cube is placed in two liquids of different densities float on both of them. In first liquid 60% of the cube is outside liquid and in second liquid 80% of cube is outside the liquid. The ratio in the densities of fluids is
a) 1:2   b) 2:1
c) 3:4   d) 4:3

19   An object is floating on water and its 60% volume is inside the liquid. If weight of the object is 30 N the force required to completely submerge in water will be
a) 20 N   b) 30 N
c) 40 N   d) 60 N

20   An object is floating on water and displace 15 N of fresh water if we increase the density of water by adding salt the object will displace how much salt water
a) 15 N
b) Less than 15 N
c) More than 15 N
d) Depends on quantity of salt