1 Fluid Properties

1. An ideal Fluid is defined as the Fluid which is (Chatt - JE-08)
a) Compressible b) in compressible c) in compressible and inviscais
d) has Negligible Surface Tension

2. Unit of kinematic viscosity is (UKD JE-08)
a) $\frac{m^2}{s}$ b) $\frac{N-s}{m^2}$ c) $kg/s-m^2$ d) $m/kg-s$

3. Poise is the unit of (UKD JE-13)
a) mass density b) kinematic viscosity c) Dynamic viscosity d) None.

4. one stoke is equal to (MPJE-11)
a) $1\frac{cm^2}{sec}$ b) $1\frac{m^2}{sec}$ c) $1\frac{ft^2}{sec}$ d) $1\frac{m^3}{sec}$

5. Surface Tension is a phenomenon due to (Chatt - JE-08)
a) cohesion fonly b) viscous force only c) Adhesive force only
d) None

6. mass Density of liquid (e) is given by (SSC JE-07)
a) $e = \frac{mass}{volume}$ b) $e = \frac{metric\ slug}{m^2}$ c) $e = \frac{kg\ sec^2}{m^4}$ d) All

7. The Rise or fall of head h in a capillary tube of dia 'd' and liquid surface tension 'σ' and specific weight 'w' is equal to (SSC JE-07)
a) $\frac{4\sigma}{wd}$ b) $\frac{4d\sigma}{w}$ c) $\frac{4wd}{\sigma}$ d) $\frac{4w\sigma}{d}$

8. An oil of Sp. gr. .7 and pressure .14 kg-f/cm² will have the weight of oil as (UKD JE-08)
a) 70 cm of oil b) 2 m of oil c) 20 cm of oil d) 80 cm of oil

9. Compressibility is equal to (UKD JE-08)
a) $\frac{dV/V}{dP}$ b) $\frac{dP}{-\frac{dV}{V}}$ c) $\frac{dP}{de}$ d) $\sqrt{\frac{dP}{dP}}$

10. The Property of a fluid which enables it to Resist tensile stress is known as (SSC JE-10)

a) Compressibility b) Surface Tension c) Cohesion d) Adhesion

11. kinematic viscosity is equal to (SSC JE-10)

a) $\frac{\text{Dynamic viscosity}}{\text{density}}$ b) $\frac{\text{Dynamic viscosity}}{\text{density}}$

c) $\frac{\text{density}}{\text{Dynamic viscosity}}$ d) $\frac{1}{\text{Dynamic viscosity} \times \text{density}}$

12. Newton's law of viscosity is a Relationship Between (UKD-JE-13)

a) Shear stress and Rate of Angular distortion

b) Shear stress and viscosity c) Pressure, velocity and viscosity

d) Shear Stress, Pressure and Rate of Angular distortion.

13. Falling drops of water Become Spherical in Shape due to the Property of (UKD-JE-13)

a) Adhesion b) Cohesion c) Surface Tension d) viscosity

14. Capillary action is due to the (UKD JE-13)

a) viscosity of Liquid b) Cohension of Liquid Particles

c) Surface Tension d) None

15. The viscosity of Fluid varies with (IOF-JE-14)

a) Temperature and Pressure b) Temperature c) Pressure

d) Density

16. A Piece of wood having weight 5kg Floats in water with 60% of its volume under the Liquid. Determine specific gravity of wood. (DMRC-JE-13)

a) .83 b) .6 c) .4 d) 1.67

17. When a Fluid is in motion, The Pressure at a Point is same in all directions. Then the Fluid is (SSC JE-14)

a) Real Fluid b) Newtonian Fluid c) Ideal Fluid d) Non-Newtonian Fluid

density of water is max at (SSC JE-14)

a) 0°c b) 4K c) 4°c d) 100°c

19. The velocity distribution for flow over a flat plate is given by $u = y - y^2$ in which u is velocity in $\frac{m}{s}$ and distance 'y' meter above the plate. What is the shear stress value at y = .15m, the μ is 8 poise.

a) 124 $\frac{N}{m^2}$ b) 1.24 $\frac{N}{m^2}$ c) .56 $\frac{N}{m^2}$ d) 5.6 N/m^2 (SSC JE-14)

20. mercury does not wet the glass surface. This property of mercury is due to. (SSC JE-14)

a) Adhesion b) Cohesion c) Surface Tension d) viscosity

21. Pressure Intensity inside the water droplet is. (SSC JE-14)

a) $P = \frac{8\sigma}{d}$ b) $P = \frac{2\sigma}{d}$ c) $P = \frac{4\sigma}{d}$ d) $P = \frac{\sigma}{d}$

22. A Hydrometer is used to determine (SSC JE-14)

a) Relative Humidity b) surface Tension c) specific gravity

d) viscosity.

23. Pascal second is the unit of (SSC JE-13)

a) Pressure b) Kinematic viscosity c) dynamic viscosity d) S Tension

24. one Torr Pressure is equal to (SSC JE-12)

a) 1mm of mercury b) 1mtr of water c) 1 Pascal d) 1 atm

25. viscosity has the dimensions.

a) $ML^{-1}T^{-2}$ b) $ML^{-1}T^{-2}$ c) $ML^{-2}T^{-2}$ d) $ML^{-1}T^{-1}$

26. A certain Liquid has 5 tonnes mass and occupies $10\,m^3$ volume. What is the mass density of liquid in kg/m^3. (MPJE-16)

a) 500 $\frac{kg}{m^3}$ b) 50 $\frac{kg}{m^3}$ c) .5 $\frac{kg}{m^3}$ d) 5000 kg/m^3.

27. The volumetric change of the fluid caused by a Resistance is (MP-16)

a) Volumetric strain b) volumetric Index c) Compressibility

d) Stress

28. Falling drop of water Become sphere due to the Property of (MP-JE-14)
a) Adhesion b) Surface Tension c) Collision d) viscosity.

29. The Desirable Properties for any Practical Fluid. (MP-16)
a) viscous b) Surface Tension c) Compressible d) All

30. 1 litre of water occupies a volume of (MP JE-16)
a) $100 m^3$ b) $1000 cm^3$ c) $10000 cm^3$ d) $100000 m^3$

31. Newton's law of viscosity is a Relationship Between (SSC JE-15) (ONGC-14)
a) Rate of Shear Strain & temp^r b) Pressure, Volume & temp^r
c) Shear Stress & Velocity d) Shear Stress & Rate of Shear Strain

32. The Stress-Strain Relation of the Newtonian Fluid is (SSC JE-15)
a) Hyperbolic b) Parabolic c) Linear d) Inverse type

33. What is the Unit Kinematic viscosity (UPRVUNL AE-14)
a) $N-S/m^2$ b) $m^2/N-S$ c) m^2/S d) N/m^2

34. A liquid Compressed in a cylinder has Initially a volume of $20 m^3$ at a Pressure of 100 Pa. If the new volume is $40 m^3$ at a Pressure of 50 Pa, the Bulk Modulus of elasticity would be. (UPRVUNL AE-14)
a) 20 Pa b) -20 Pa c) 50 Pa d) -50 Pa

35. The Specific gravity of water is (UPJE-16)
a) .001 b) .01 c) .1 d) 1

36. Unit of viscosity is (UP JE-15)
a) m^2/sec b) $kg-sec/m^2$ c) $N-S/m^2$ d) $N-S^2/m$.

37. Surface Tension has dimension is (SSC JE-13)
a) MLT^{-2} b) $ML^{-1}T^{-2}$ c) M^1T^{-2} d) LT^{-2}

38. For Capillary Rise (SSC JE-13)
a) $h = \frac{2\sigma\cos\theta}{\rho g d}$ b) $h = \frac{4\sigma\cos\theta}{\rho g d}$ c) $h = \frac{4\sigma\sin\theta}{\rho g d}$ d) None

Unit of specific gravity is. (SSCJE-15)

a) $\frac{N}{m^3}$ b) No unit c) $\frac{g}{cc}$ d) $k\text{-}s/m^2$

10. If Temprature Increase. (UKAE-13)

a) Increase viscosity of liquid b) Decrease viscosity of liquid

c) Decrease viscosity of gas d) None.

41. If the Soap Bubble dia is 4cm then Pressure is. (UPJE-15)

a) $7.36\ \frac{N}{m^2}$ b) $1.84\ \frac{N}{m^2}$ c) $3.68\ \frac{N}{m^2}$ d) All.

Key:

1-c	11-a	21-c	31-d	41-
2-a	12-a	22-b	32-c	
3-c	13-c	23-b	33-c	
4-a	14-c	24-a	34-c	
5-a	15-b	25-d	35-d	
6-a	16-b	26-a	36-c	
7-a	17-c	27-c	37-c	
8-b	18-c	28-b	38-b	
9-a	19-c	29-d	39-b	
10-b	20-c	30-b	40-b	