

Subjective questions on MET-02

1. Write definition of the followings-
 - i) Density
 - ii) Specific weight
 - iii) Specific gravity
 - iv) Specific volume.
2. What are the different types of a matter? Write different types in detail.
3. What are the main physical properties of water? Write in detail.
4. What is Total pressure and pressure intensity? define in detail
5. Derive relation between Pressure and height of water.
6. What is Pascal law? Prove it with the equation.
7. What is the fundamental principle of hydrostatics? Write in detail
8. Derive Total pressure on following surface. I. Horizontal ii. Inclined
9. What is centre of pressure? Derive its equation.
10. What is buoyancy and buoyant force?
11. What is Archimedes 'principle? What are its applications?
12. What is the basic principle of hydrodynamic? Write in detail.
13. What are the various types of liquid flow? write in detail
14. What is Reynolds's number? What is its value for different types of flow?
15. What are the different types of energy of liquid? Write in detail.
16. What is Bernoulli's theorem? What are its limitations?
17. What are the various instruments to measure discharge? Define any on detail with the help of neat sketch.

18. What is orifice? What are its classifications
19. What are the various hydraulic coefficients? Write and detail.
20. Derive relation between C_c, C_d and C_v
21. What is turbine what are its classification?
22. Write difference between impulse and reaction turbine
23. What is pelton wheel? Explain with the help of neat sketch.
24. What is pump? What are its various classifications?
25. Explain working of a reciprocating Pump with the help of neat sketch.
26. What is reciprocating pump? Write its construction feature with the help of neat sketch.
27. What is centrifugal pump? Write its construction feature and working.
Please calculate mass of 20 liters of oil, given that Specific Gravity-0.9
Density of water- 1000 kg/m^3
29. Calculate Density, Specific Density & Specific Volume of a liquid. Given
Volume- 100 m^3 & mass- 30000 kg
30. Calculate pressure intensity at the bottom of the tank in which oil of
Specific gravity-0.85 is filled up to 10 meter height.
31. Please calculate height of the oil filled in a tank. The specific gravity of oil is
0.8 & pressure is 20 kN/m^2
32. A plane circular plate is vertically immersed in oil. The level of oil is
1.0 meter above from the top edge of the plate. Calculate Total pressure- &
Centre of pressure .Given-Diameter of plate-1.5 m, Specific gravity-0.8