

ASSIGNMENT

SEMESTER-VI(Major)

Subject: Mathematics(Hydrostatics)

Marks:15

Answer the following questions:

1. a) Define surface of equal pressure. $1 \times 3 = 3$
b) State the principle of Archimedes.
c) What is an adiabatic change?
2. $2 \times 2 = 4$
a) State the necessary and sufficient conditions of equilibrium of floating bodies.
b) Define surface of buoyancy and surface of floatation.
3. $4 \times 2 = 8$
a) If a fluid is at rest under the forces X, Y, Z per unit mass, find the differential equations of the curves of equal pressure and density.
b) When the temperature is supposed to be uniform, show that as the altitude increases in arithmetical progression, pressure decreases in geometrical progression.
