

NAME (Print) _____

Borough of Manhattan Community College

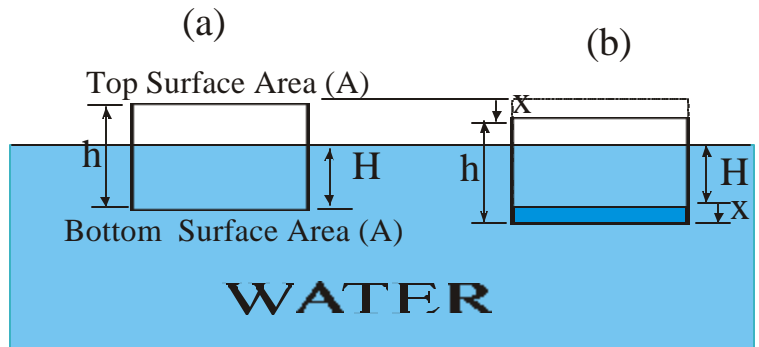
Course *Physics 215*

Instructor: *Dr. Hulan E. Jack Jr.*

Date **May 6 , 2003**

Quiz 06 & 07

A wooden rectangular block of height $h = 0.2$ m, horizontal surface area $A = 4$ m² and density $\rho_b = 0.80 \times 10^6$ kg/m³ is floating in water. In equilibrium its bottom surface is a distance H below the water.



QUIZ 6

- (a) Find the equation for H (ρ_f , ρ_b , h , ...). ρ_f = density of the fluid, water = 1×10^6 kg/m³, ρ_b = density of the body, wooden block.

Sketch FBD of the block
20 pts

1 State Physical Principle (s)
20pts

Fill in the details and solve. 30 pts

Solve for H. 30

QUIZ 7

- (b) The block is pushed down in to water an additional depth $x = 0.02$ m, and then released. Find the frequency of its harmonic motion.

Sketch FBD of the block
30 pts

State Physical Principle (s) 10pts

Fill in the details and solve. 20 pts

Solve for f. 40 points

