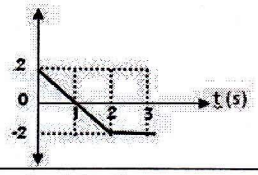
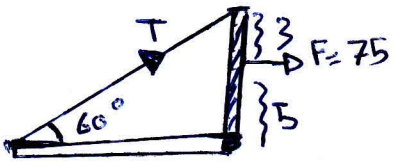
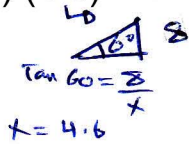
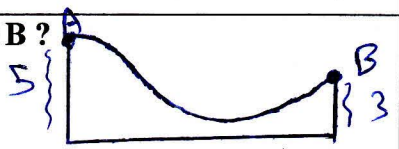
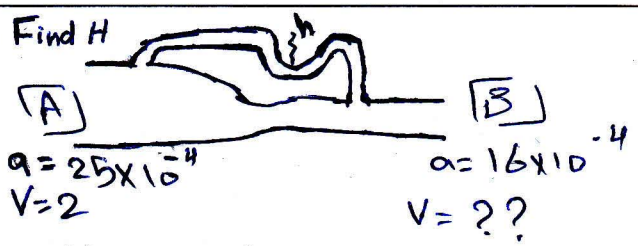
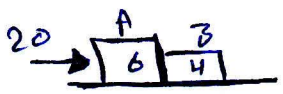
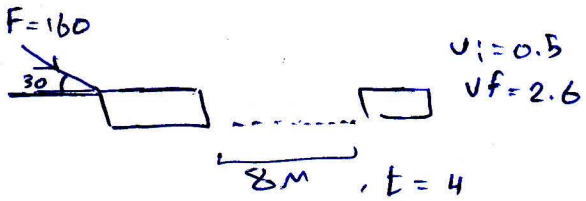
Physics , final exam 2011

Notes :

*** these questions was written by students just after the exam and answered by them , so there maybe some mistakes and we apologize for this ..**
*** the exam was 25 qus , and we only could remember 23 ..**

1-	**find the displacement :** 	
2-	**what is the correct about the following tube :** 	Pa < Pb
3-	**the net work :** 	area under curve
4-	**find the torque :** 	(5)(75)=T(sin 60) (4.6) T = 94 
5-	Find the pressure at the bottom of a building which high is 10 m , if we bummbed the water in a constant velocity ? 1 atm = 1.013 bars	
6-	**isothermal system means :**	**internal energy change is = 0**
7-	**abadiatic system means :**	**internal energy change is " – w "**
8-	**عنصر اليود يعني I , biological half life is 180 … physical half life is 81 ..in the human body .. to be ¼ , how much does it need ??**	**15.5**
9-	**if sea water density is grater than the water density … then a boat in the sea water will :**	**no change at all (check ur doctors to be sure)**
10-	**find the range** theta = 70 v. = 15	$R = \frac{V_o^2 \sin 2\theta}{g}$

11-	**oxygenation in water due to :**	**Mixing of water , lower T , lower density**
12-	**The temperature of 0.5 moles of an ideal gas in a rigid container is raised from 300 K to 400 K. The heat absorbed by the gas in the process (in J) is:** **a. - 831.4 b. 831.4 c. 623.6** **d. - 623.6 e. 0**	
13-	**sap rises 5 meter … find C ??!**	$h = \frac{\pi}{\rho g}$, $\pi = CRT$ + وفي الامتحان تعطى ρ و g و R و T
14-	**K = 314 .. find the tempreture in f ?!**	$C = K - 273 \Rightarrow C = 41$ $F = \frac{9}{5}C + 32 = 105.8$
15-	**p = 7.5 , T = 22 .. V = 100** **Find n ?!?**	$n = \frac{PV}{RT}$
16-	**find the velocity at B ?** 	$V = \sqrt{2gh} = \sqrt{(2)(9.8)(2)}$ $= 6.3$
17-	**find the volume fraction submerged .. if density = 0.5**	$\rho = 0.5$, $\rho = 1.01$ (من السؤال) $\frac{0.5}{1.01} = 0.5$
18-	**find the delta Q absorbed** **If :** **T changed from – 10 to 10** (we don't remmebr the numbers , but the way to solve this question is :)	1 - from -10 to 0 Q = (M ice) (S ice) (delta T) 2 - in zero Q = M ice L 3 - from 0 to 10 Q = (M all) (S water) (delta T)

19-	Find H  	1 - Find V at B (a)(v) = (a)(v) 2 - find P by bernoli equation 3 - Pa - Pb = (rho) g h * rho is density ! answer was : 21 .6 cmbb
20-	**A stone is thrown upward from the top of a building at angle 25° to the horizontal and with an initial speed of 15 m/s. If the stone is in flight for 3.0 s, how tall is the building (in m)?** **a. 25 b. 14 c. 10 d. 64 e. 4**	
21-	what is the force that particle A affect particle B by ?!  	8 N
22-	 Find ΔK ?	① Find a ② ΔK = Kf - Ki -1043