Taibah University / جامعة طيبة
Preparatory Year / السنة التحضيرية

Introduction to Physics (PHYS-101)

Final Exam

الإختبار النصفي

1st Term 1440-41

Maximum Score: 40
(1 points / question)

Test Time:
120 min

IMPORTANT: Carefully fill-in your name, student ID number, and section number.

الاسم (بالعربية)		**ID #**		**Sec.**	

Simple calculators are allowed. You may scribble your calculations on the sides and back of this test paper.

$v_{avg} = \frac{s}{t}$	$v_{avg} = \frac{v_f + v_i}{2}$	$a = \frac{v_f - v_i}{t}$	$v_f = v_i + a.t$ $v_f = a.t$; $(v_i = 0)$	$s = v_i.t + \frac{1}{2} a.t^2$ $s = \frac{1}{2} a.t^2$; $(v_i = 0)$	
$v_f^2 - v_i^2 = 2\ a.s$	$F = m.a$ or $a = F/m$	Weight = $F_w = m.g$	$F_f = \mu.F_N$	$v_f = \sqrt{2\ g.\ h}$	
$F_{A\ on\ B} = F_{B\ on\ A}$	$g = 10\ m/s^2$	$1\ m/s = 3.6 km/h$	Pythagorean Rule: $R^2 = X^2 + Y^2$; $R = \sqrt{X^2 + Y^2}$		

1 giga (G) = 10^9	1 mega (M) = 10^6	1 micro (μ) = 10^{-6}	1 nano (n) = 10^{-9}	l liter = 1000 cm^3
$W = F\ .\ s\ .\ \cos\theta$; $W = Fs$; $(\theta = 0)$ or $W = mgs$	$P = W / t$ or $P = mgs/ t$	$v = \sqrt{2\ g.\ h}$	$E_p = m.g.h$ $E_k = \frac{1}{2}\ m.v^2$ $Fs = \frac{1}{2}\ m.v^2$	$E_p + E_k$ = constant (energy conservation)
$T_K = T_C + 273$	$T_C = T_K - 273$	$T_C = \frac{5}{9}(T_F - 32°)$	$T_F = \frac{9}{5}T_C + 32°$	$c_{water} = 1$ kcal/kg.°C
1 cal = 4.19 J	1 hp = ¾ kW	$Q = c.m.\Delta T$	fusion (melting): $Q = m.L_f$	vaporization: $Q = m.L_v$