CANOSSA SECONDARY SCHOOL
3RD CONTINUOUS ASSESSMENT APRIL, 2011
PHYSICS FORM II

INSTRUCTIONS:
- *Answer ALL questions in section A and B.*
- *Working should be well organized and shown clearly.*
- *Neatness of work is an added advantage.*

SECTION A (20 MARKS)

1. Select the best answer and write it in the box given.

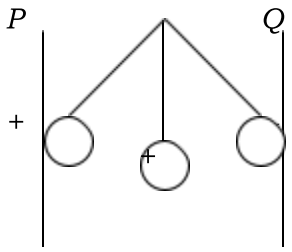
i) *Pressure in liquids depends on the*
a) Density of mercury *b) Depth of liquid*
c) Height of the water *d) Density of water* ☐

ii) *An empty aluminium cup is placed on a digital balance and its mass is measured to be 55·2g. Water is then added to the cup and it is again placed on the scale. If the mass is now 210·5g, the mass of the water added to the cup was approximately*
a) 265·7g *b) 250·0g* *c) 195·5g* *d) 155·3g* ☐

iii) *The equivalent unit of work is*
a) N/m *b) J/s* *c) Nm* *d) Nm^2* ☐

iv) *A body weighs 3·6N in air and 2·4N when fully immersed in water. The density of the body in g/cm^3 is*
a) 0·40 *b) 0·80* *c) 1·40* *d) 2·0* *e) 3·0N* ☐

v) *In figure 1 below two vertical plates P and Q have a large positive and negative charge respectively. When a small conducting sphere S, with a positive charge, is suspended between P and Q, It swings, to Q and then keeps oscillating from Q to P and back. This is because*
a) P has a greater charge than Q
b) S is always repelled from P and attracted by Q ☐
c) S is always attracted by P and repelled by Q
d) Q has a greater charge than P



Fill in the missing word:

vi) *The advantage of an aneroid barometer over the fortin barometer are*
i) _____ *ii)* _____

vii) *1 watt is the rate of working of* _____*per* _____

viii) *The SI unit of capacitance is* _____

2. *Match the items in LIST A with those in LIST B by writing the answer beside the item number.*

LIST A	***LIST B***
i) Stores charge	*a) Minimum pressure*
ii) Glass	*b) Unlimited supply of charges*
iii) Electrophorus	*c) Tension per extension*
iv) Right angle mirror	*d) Negative*
v) Razor blades and knife blades	*e) Positive*
vi) Oil	*f) Capacitor*
vii) Coefficient of stiffness	*g) Low pressure*
viii) Virtual	*h) High pressure*
ix) Brownian movement	*i) Viscous liquid*
x) Osmosis	*j) Movement of molecules from solution of high concentration*
	k) Irregular movement of tiny particles suspended in a fluid
	l) In front of the mirror
	m) Behind the mirror
	n) Movement of gas molecules from low to high region of concentration

SECTION B (80 MARKS)

3a) *The figure below shows a water and a mercury column. State the reading in each case:*

b) *Determine the readings in each of the following instrument:*

i)

ii)

4a) Pressure at any point in a liquid depends on
i)_____ ii) _____

b) i) State Pascal's principle of pressure transmission in fluid.
ii) In an experiment to determine the density of paraffin by Hare's apparatus, the following results were obtained:
Length of water column = 16cm
Length of paraffin column = 20· 4cm
Find the density of paraffin when the density of water is 1000kg/m^3

5a) List down the energy transformation that occur when a bullet is short from a gun vertically upward.
b) John whose mass is 75kg, runs up a flight of 50 steps each 12cm high in 12seconds. Given that the acceleration due to gravity is 10m/s^2, calculate the power developed.

6a) i) What is a capacitor
ii) Define capacitance
b) Three capacitor 2μf , 3μf , and 6μf are connected in series and then in parallel. What is the equivalent capacitance in each case?

7a) i) State flotation law
ii) What is the apparent weight of a floating object?
b) A block of glass of mass 250g floats in mercury of density 13600kg/m^3
i) What volume of the glass lies under the surface?
ii) What volume of the glass remaining above the surface.

END.