IGIHOZO SAINT PETER

SOUTHERN PROVINCE NYANZA DISTRICT

PHYSICS HOLIDAY PACKAGE

SUBJECT:	PHYSICS
CLASS:	SENIOR 2
COMBINATIONS:	ORDINARY LEVEL

DURATION: 3 HOURS

INSTRUCTIONS:

- 1) Do not open this question paper until you are told to do so.
- 2) This paper consists of **one** section: A .Attempt **all** questions. (100 marks)

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Q1) What is the meaning of "upthrust"?		1mark
Q2) a) What is the meaning of the term pre	ssure?	2marks
b) What is the atmospheric pressure?		2marks
Q3) Complete the following table:		9marks

Quantity	Formula	Unit	Dimension
Area			
Density			
Force			
Pressure			
Work			
Power			

Q4) a) Differentiate the **accuracy** from **precision** in measurement of physical quantities. **3marks**

b) If the measurement is 4.8 and the uncertainty is 0.2 cm, Calculate the percent error. **3marks**

Q5) a) Write down at least three factors affecting friction.6marks

b) What can you do to reduce friction between two surfaces? 4marks

Q6) a) Find the total force on the filled school dam of water whose dimensions are 5m by 2m. The average depth is 1m. **5marks**

b) What are the advantages of aneroid barometer over mercury barometer? **3marks**

Q7) A stone is dropped from the top of a 45m high building. How fast will it be moving when it reaches the ground? **4marks**

Q8) a) A 5.2 kg object speeds up from 3.1 m/s to 4.2 m/s. What is the change in kinetic energy? **3marks**

b) Give the difference between potential energy and kinetic energy. 4marks

c) A light bulb is rated at 60 W. How much energy in KWh mu	ist be
supplied if the bulb is switched on for 3 hours?	3marks
Q9) a) Write at least two applications of pressure in gases.	2marks
b) A solid weighs 32N in air and 28.8N in water. Find how muc	ch will it
weigh in a liquid of relative density 0.9.	5marks

Q10) State the Pascal's principle, and give its three applications. **5marks**

Q11) An 8 KW electric cooker is used for 4 hours a day. What is the cost of using the cooker for 5 days, if 1 KWh costs 140 RWF? **5marks**

Q12) a) With the aid of diagram, show that pressure in water increases in depth. **3marks**

b) Water supply reservoirs are often sited on high hills or mountains. Why? **2marks**

Q13) In a hydraulic press, a force of 10N is applied to a piston of area $0.4m^2$. The area of the other piston is $3m^2$. What is: a) The pressure transmitted through the liquid? **3marks**

b) The force on the other piston? **3marks**

Q14) An orange fruit of mass 0.4 kg falls 3m from a tree to the ground.

a) State the energy changes that occur as the orange falls to the ground. **2marks**

b) Calculate the potential energy possessed by the orange just before it falls.

(g = 10N/Kg).

c) Calculate the kinetic energy of the orange as it hits the ground. **3marks**

d) Does the orange stop immediately it hits the ground? Explain your answer. **2marks**

Q15) The position versus time graph below describes the motion of an athlete.
Copy the graph and answer the following questions: 4marks
a) What is the velocity of the athlete during the first 4 seconds? 3marks

b) What is the velocity of the athlete from t = 4 s to t = 7 s? **3marks**



3marks