

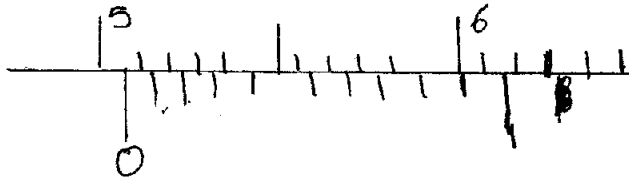
GATITU SECONDARY SCHOOL, P.O. BOX 327 – 01030, GATUNDU.

FORM 4 PHYSICS TUNE – UP EXAMINATION. TERM 1 2015.

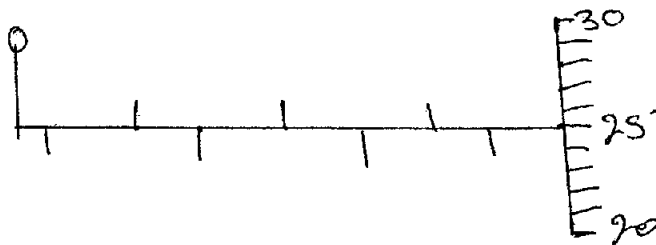
1. Give the readings shown in the diagrams below.

(2mks)

a)



b)



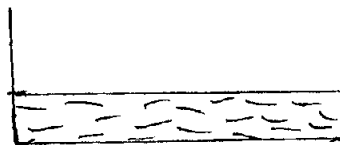
(2mks)

2. Find the force required to accelerate a mass of 600g from 20 cm/s to 140 cm/s in a time of seconds.

(3mks)

3. 4200 cm^3 of oxygen at 30°C and a pressure of one atmosphere is compressed to 1600 cm^3 and 2.3 atmospheres. Calculate the new temperature of the gas. (3mks)

4. The figure below shows two aluminium containers A and B on wooden table. They have equal volumes of water at the same temperature. Explain why the water in B cools faster. (2mks)



5. Name three factors that affect the rate at which heat travels through a conductor. (3mks)

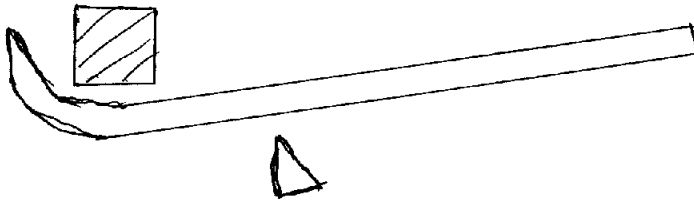
6. Calculate the total pressure acting on a diver working 20m below the surface of sea-water of density 1.05 g/cm^3 . Take atmospheric pressure = 100000 N/m^2 . (3mks)

7. Name one renewable and one non-renewable source of energy. (2mks)

Renewable:

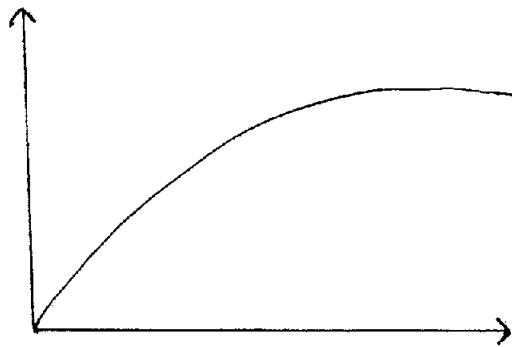
Non-renewable:

8. A worker uses a crowbar 2.0m long to lift a rock weighing 75N as shown below. (3mks)



9. In the space below, draw a well labeled diagram of a block and tackle pulley system with two pulleys in each block. (4mks)

10. The sketch below is a velocity – time graph for a steel ball falling through a column of some viscous fluid.



a) Explain the shape of the graph.

(2mks)

b) On the same axis, sketch the curve for the ball when falling through a less viscous fluid.(1mk)