3055 BA SANGAM COLLEGE

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WORKSHEET 19

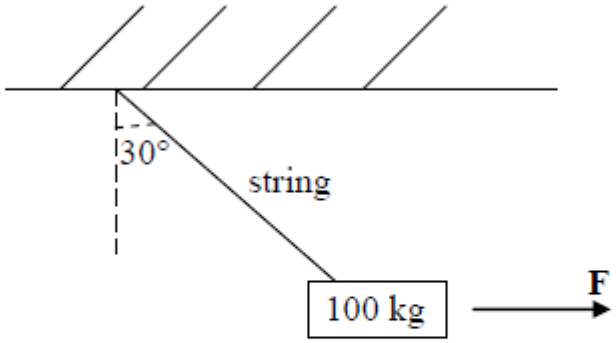
SCHOOL:BA SANGAM COLLEGE YEAR 12

SUBJECT: PHYSICS NAME OF STUDENT: _____

ASSESSMENT 3

Question 1

A 100 kg object hanging from the ceiling is pulled to the right by a force **F** as shown below.



If the system is in a state of equilibrium, calculate :

(i) the force **F**.

(ii) the tension in the string joining the mass to the ceiling.

(2 Marks Each)

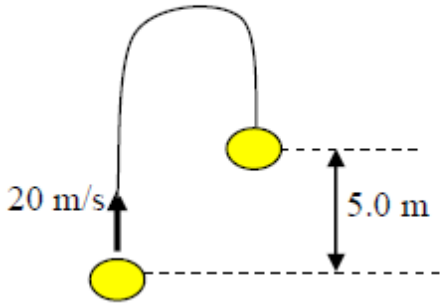
Question 2

A duck flying due North at 15 m/s passes over a place where the magnetic field of the earth is 5×10^{-5} T in a direction 60° below a horizontal line running North and South. If the duck has a positive charge of 4×10^{-8} C, calculate the magnetic force acting on the duck.

2 MARKS

Question 3

A stone is thrown straight upward with a speed of 20 m/s. It is caught on its way down at a point 5.0 m above, relative to where it was thrown from.

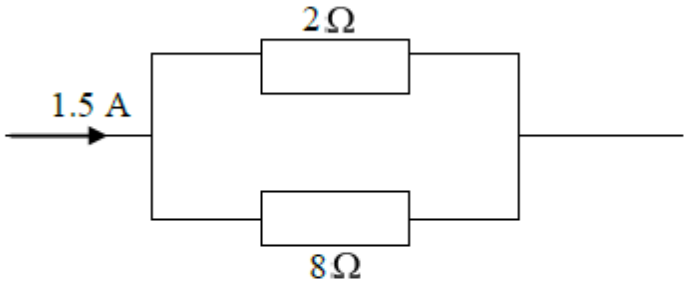


(i) How fast was it going when it was caught ? **(1 mark)**

(ii) How long did the trip take ? **(1 mark)**

Question 4

The diagram given below shows an electric current of 1.5 A entering a parallel connection of resistors.



Calculate :

(i) the current that flows through the 8 Ω resistor.

(ii) the power dissipated in the 2 Ω resistor. **(2 marks)**