Practice Question Set For GCSE
Subject : Physics
Paper-2 Topic : 13_Electromagnetic Induction

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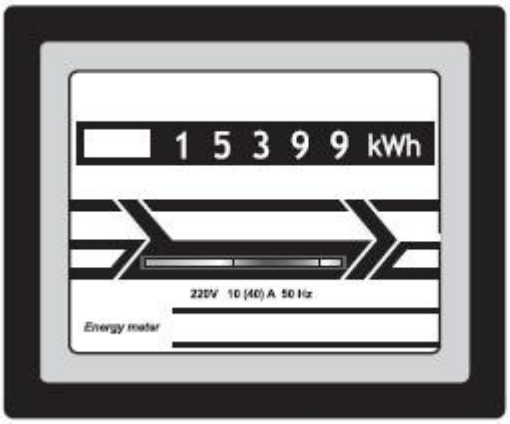
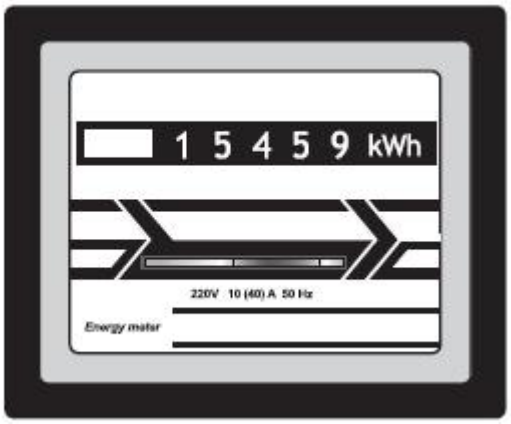
Name of the Student:_____
Max. Marks : 18 Marks **Time : 18 Minutes**

Q1.

(a) Electricity costs 20p for each kW h.
The pictures show a domestic electricity meter at two different times.





(i) Calculate the cost of the electricity used between the two readings.

(2)

cost =.....p

(ii) The time between these two readings is 15 hours.
Calculate the average power supplied.

(2)

average power =.....kW

(b) Explain why step-up transformers are used in the transmission of electricity in the National Grid.

(2)

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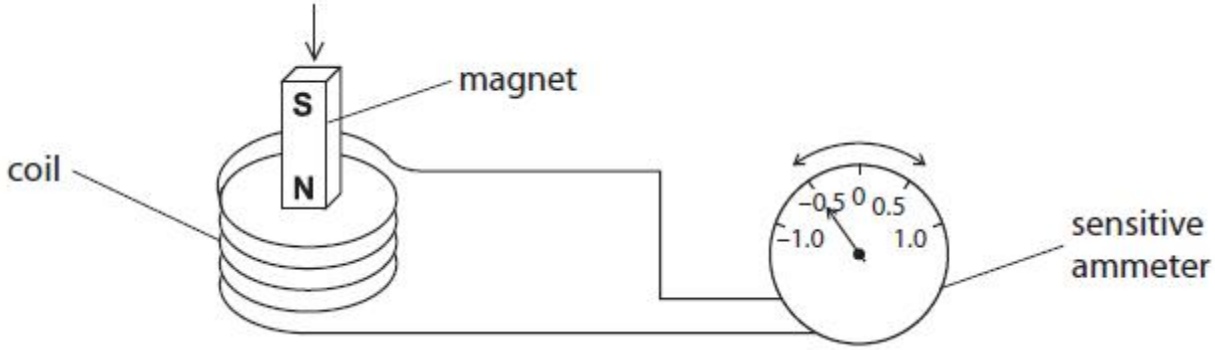
*(c) The diagram shows a magnet moving into a coil of wire.

The coil of wire is attached to a sensitive ammeter.



The moving magnet and the coil of wire are producing an electric current.

The size and direction of the current can be changed in a number of ways.

Describe changes that can be made to produce different currents and the effect of each change.

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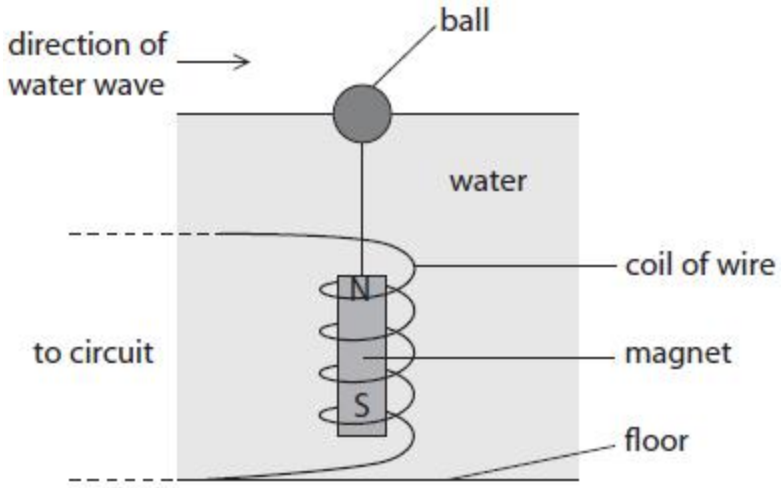
(Total for Question = 12 marks)

Q2.

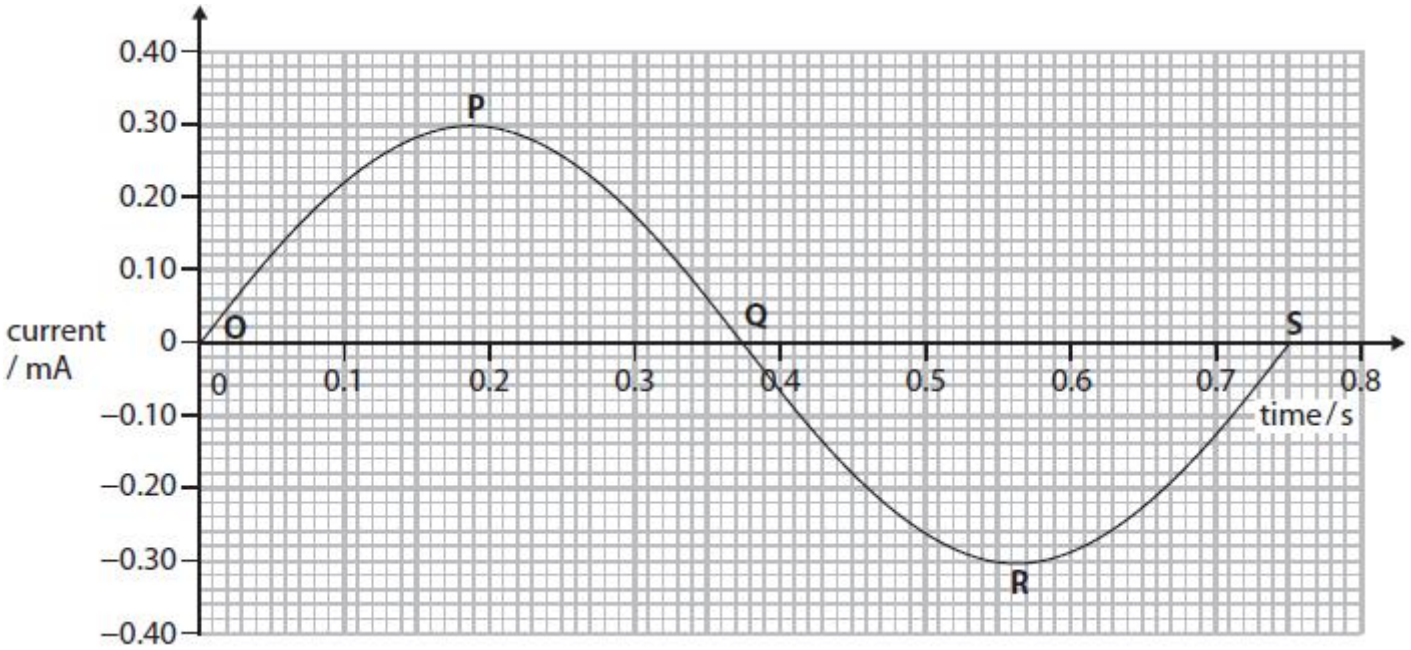
* The diagram shows a model used to generate electricity from water waves in a tank.

A ball floats on the surface of the water in the tank.
A coil of wire is fixed to the floor of the tank.
A magnet is suspended from the ball inside the coil.

When a wave is sent along the surface of the water the ball moves up and down.



The graph shows the current induced in the coil.



Explain how this current is induced in the coil in the model.
You should refer to the model and to the labelled points on the graph in your answer.

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(Total for Question = 6 marks)