

BANGLADESH INTERNATIONAL TUTORIAL LIMITED

Physics Worksheet

Class X

Subject Teacher: P.K. Saha

WEEK 03

Marks: 30

STUDENT'S NAME: _____

DATE: 4/4/2020

1. Describe an experiment to find the refractive index of glass using a glass prism. Your procedure should contain the following content-
 - a) Apparatus required
 - b) Procedure to carry out the experiment
 - c) How the data should be recorded in a table
 - d) A suitable graph
 - e) How can you use the graph to find refractive Index (10marks)

An electric vehicle has a rechargeable battery.

The battery is recharged by connecting it to a charging station.



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(a) The battery voltage is 385 V.

- (i) State the amount of energy transferred when one coulomb of charge passes through a potential difference of 385 V.

(1)

energy transferred = J

- (ii) Show that, when a charge of 180 000 C passes through the battery, the total amount of energy transferred to the battery is about 70 MJ.

(2)

- (iii) During the charging process, energy is also transferred to the charging station from the mains supply.

Explain why the amount of energy transferred from the mains supply is more than 70 MJ.

(2)

(a) A direct current passes around a flat, circular coil as shown.

On the diagram, sketch the magnetic field caused by the current in the coil.

(3)



- (b) The coil is suspended vertically so that it is free to swing.
A second, identical coil is placed beside it.

When direct currents pass, as shown,
the two coils move together.



When the current in the
right-hand coil is reversed,
the two coils move apart.



Explain why the coils move in this way.

(3)

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