TEST PAPER: PHYSICS

Time: 45 Minutes **Class:** ICSE 9

Max. Marks: 30 Marks **Date:** 12th December 2018

Marking Scheme: *All questions carry 10 marks each. Subparts (A) and (B) carry 3 marks each and subpart (C) carries 4 marks.*

Question 1:

A. What is an electromagnet? State two ways of increasing the magnetic field of an electromagnet.
B. What are magnetic field lines? State any 4 properties of magnetic field lines.
C. Explain the working of a horse shoe magnet with the help of a diagram.

Question 2:

A. A conductor carries a current of 0.2 A.
   i. Find the amount of charge that will pass through the cross section of conductor in 30 seconds.
   ii. How many electrons will flow in this time interval if the charge on an electron is $1.6*10^{-19}$ C.
B. What are conductors and insulators of electricity? Give two examples of each.
C. Draw diagram of an electrical circuit and state the function of all components drawn in the circuit.

Question 3:

A. Answer the following:
   i. What is electrical resistance?
   ii. Explain the concept of electric potential difference in terms of work done in transferring the charge. Also provide a mathematical formula for the same.
   iii. What is the SI unit of potential difference (in terms of fundamental units)
B. Solve the following:
   iii. A cell of potential difference 12 V is connected to a bulb. The resistance of filament of bulb when it glows, is 24 ohms. Find the current drawn from the cell.
   iv. What amount of work is needed in moving 2 C charge through a potential difference of 8V
C. Answer the following:
   v. What is the cause of electrical resistance?
   vi. What is a rheostat?
   vii. Explain the working of rheostat with the help of a diagram.