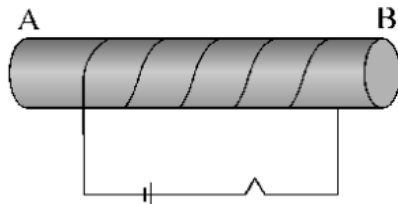


Answer any two questions from 1 to 3(Each question carries 1 score)

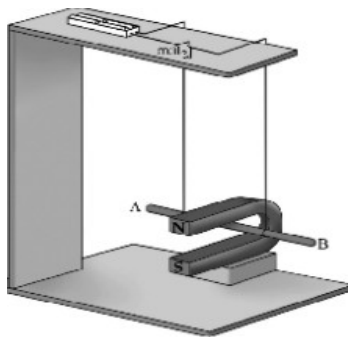
1. In terms of energy efficiency ,which of the following is the best choice for lighting purpose?
 (Fluorescent lamp, C F L, Incandescent lamp, L E D)
2. Name the arrangement used in a D C motor to change the direction of current through the coil after every half rotation ?
3. What is the frequency of AC generated for distribution in our country ?

Answer any two questions from 4 to 6(Each question carries 2 score)

4. 2A current flows through a heating device of resistance 200 ohm. Calculate the power of the device. What will be the amperage of the fuse wire to be used in the circuit?
5. Observe the figure of the solenoid given below.



- (a) What will be polarity at the end A when the switch is kept on?
 - (b) What are the features of the magnetism of an electromagnet compared to that of a bar magnet?
6. A straight conductor AB is arranged so as to move freely in a magnetic field of U magnet as shown in figure below. Current flows from A to B

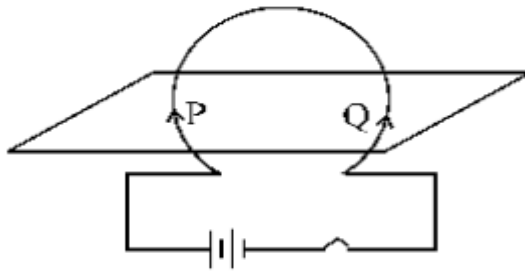


- (a) In which direction will the conductor AB move when the switch is ON?
- (b) List the factors influencing the direction of motion of the conductor?

Answer any two questions from 7 to 9 (Each question carries 3 score)

7. Safety fuse ensures safety in electrical circuits.
 - (a) Based on which effect of electric current does safety fuse work?
 - (b) What are the peculiarities of fuse wire?
 - (c) What are the precautions to be taken while connecting fuse wire in electrical circuits?
8. A moving coil microphone is a device that convert sound energy to electrical energy.
 - (a) Name the working principle of moving coil microphone?
 - (b) State the principle.
 - (c) Explain the working of a moving coil microphone?

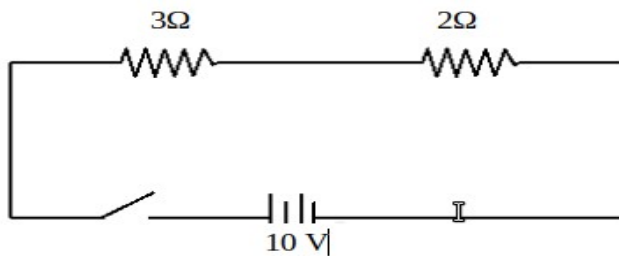
9. A circular coil is inserted into a card board as in figure. The portions passing through the card board marked as P and Q.



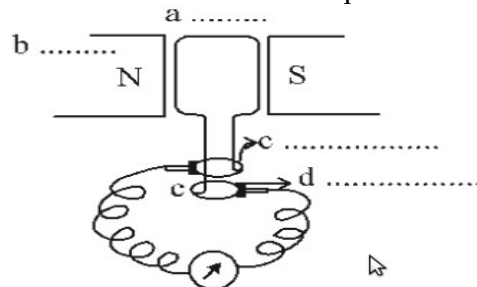
- (a) Draw one magnetic field line each around P and Q.
 (b) Name the law helped to draw the field lines.
 (c) State the law.

Answer any two questions from 10 to 12 (Each question carries 4 score)

10. Tungsten is used as filament in incandescent lamps.
 (a) What properties of tungsten make it suitable for being used as a filament?
 (b) Can nichrome be used for making filaments? Why?
 (c) Why the bulb is filled with an inert gas or nitrogen?
11. Observe the circuit.



- (a) In which method the resistances are arranged in the circuit?
 (b) Calculate the effective resistance of the circuit?
 (c) Find the intensity of electric current flowing through the circuit?
 (d) Calculate the amount of heat generated in this circuit when the switch is kept ON for 2 minutes.
12. Observe the figure below and answer the questions



- (a) Identify the type of the generator shown in figure?
 (b) Write the energy change taking place in this device?
 (c) Identify the parts marked a, b, c & d in figure?