SSLC PRE MODEL EXAMINATION- 2023

SET-1

TIME: 1.30 HOUR   **PHYSICS**   **TOTAL SCORE: 40**

Answer any FOUR questions from 1 to 5. Each question carries one score.   **(4X1=4)**

1. Identify the relation in the first pair and complete the second.
   Heating Coil – **Nichrome**
   Fuse Wire -................................

2) Find the odd one from the group
   (Peat, lignite, LNG, Anthracite)

3) If an electric heater works with 230 V potential difference, consumes 1500 J electrical energy in 2 second, what will be its power?
   **(1500 W, 500 W, 750 W, 230 W)**

4) Which type of mirror is used by the Dentist, for observing the teeth of patients?

5) Near point of a person, having healthy vision is ....cm

Answer any FOUR questions from 6 to 10. Each question carries 2 score.   **(4X2=8)**

6) State the law, which is used to find the heat produced in a conductor, when current is passed through it?

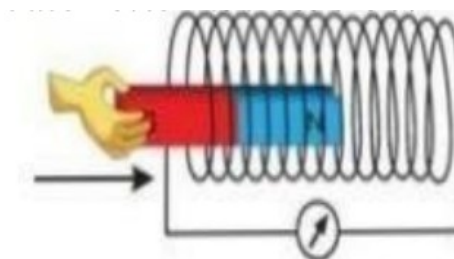7) A conductor AB is placed in a magnetic field as shown in the figure.
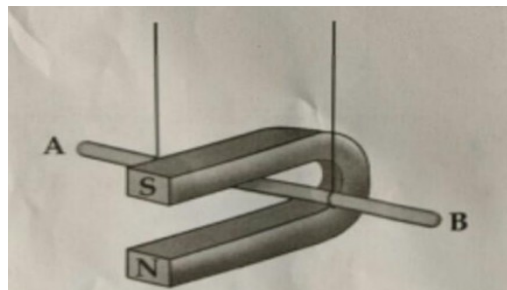
   a) If you have to move the conductor inwards, then what will be the direction of current?
   b) Which rule is used here to find the above answer?

8) Observe the figure.

   a) Why did the galvanometer needle deflect when the magnet was moved into the solenoid?
   b) By what name is this phenomenon is known?

9) What kind of mirror is used as rear view mirror in vehicles. Which speciality of this mirror is made use of there?
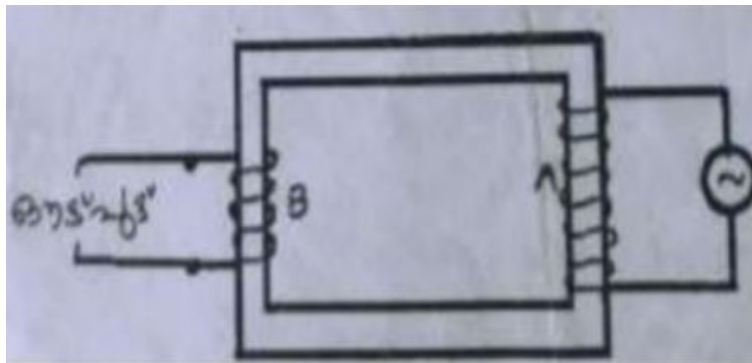
10) Classify the given energy sources as green energy and brown energy.
    (Fossil fuel, Solar energy, Nuclear energy, Wind energy)

Answer any FOUR questions from 11 to 15. Each question carries 3 score.   **(4X3=12)**

11) Analyse the picture of a transformer and write the answers to the questions given.

AC INPUT

    a) Which is the primary coil in this Figure, **A or B?**
    b) What kind of transformer is in the picture?
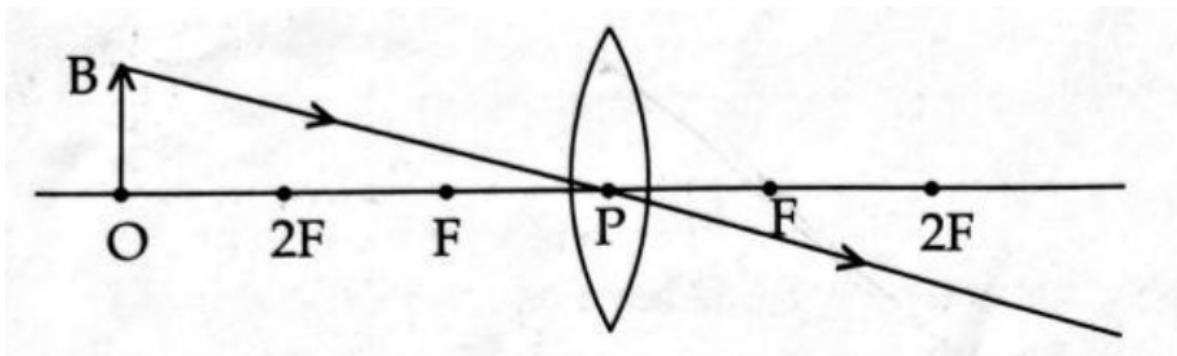   c) Write an instance, in which this type of transformer is used?

12) See the circuit.
    a) The resistors are connected in...........
        (series/parallel)
    b) What is the effective resistance in the circuit.
    c) Calculate the heat produced in the 200 Ω resistor in 2
minute.
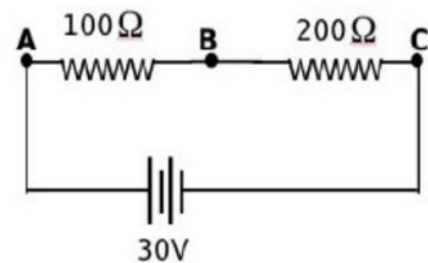
13) Observe the diagram given below.

    a) Redraw the diagram and complete it to get the image.
    b) Write any two characteristics of the image obtained.

14) Analyse the table and answer the following
questions.

    a) What do you mean by optical density?
    b) Which medium has highest optical
density?
   c) Find the absolute refractive index of the
glass?

Medium	Speed of light (m/s)
Vacuum	3×10^8 m/s
Water	2.25×10^8 m/s
Glass	2×10^8 m/s (*approximately*)
Diamond	1.25×10^8 m/s

15) Match the following

A	B	C
DC motor	Electromagnetic Induction	No power loss
DC Generator	Mutual Induction	Electrical energy to Mechanical energy
Transformer	Fleming's left hand rule	Mechanical energy to Electrical energy

Answer any FOUR questions from 16 to 20. Each question carries 4 score.   (4X4=16)

16) Observe the picture below and answer the questions:
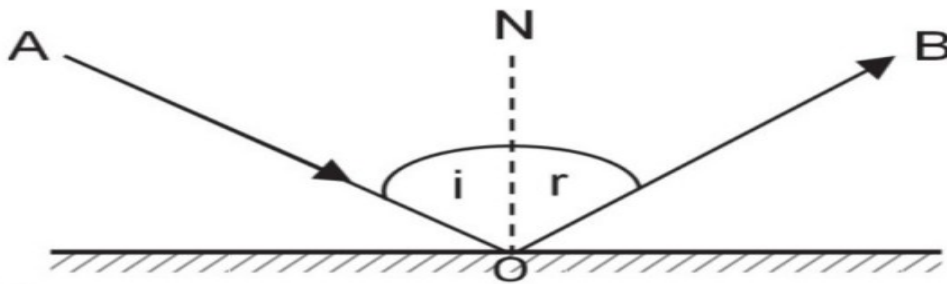
    a) Which phenomenon is depicted in the figure?
    b) Write the laws related to this phenomenon?
    c) Which is the incident ray?
    d) Which is the reflected ray?

17) An electric iron of resistance 115 ohm is working in a 230 V supply.
    a) Write the energy change taking place in this device.
    b) Calculate the current through the circuit.
    c) What is the power of this appliance?
    d) Calculate the heat produced if the current flows for 20 second.

18) Analyse the household electrical circuit.
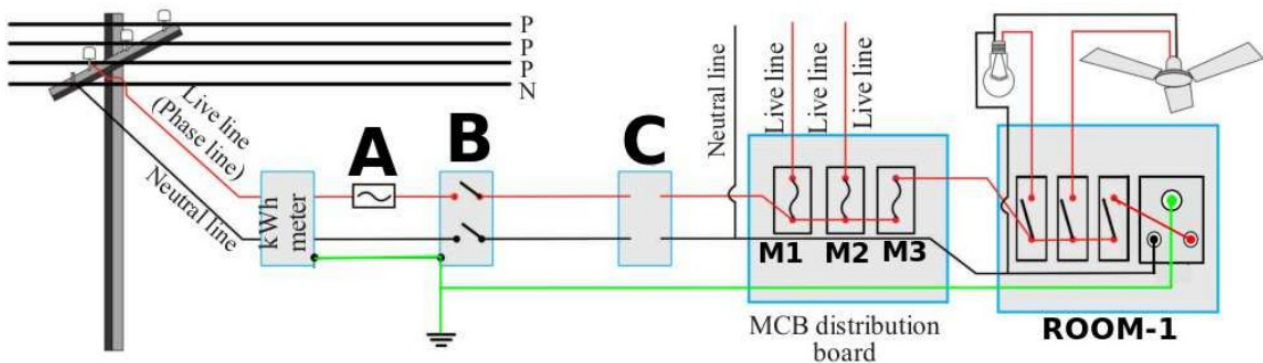
    a) Identify any two device labelled as **A,B,C**?
    b) Which MCB is used for the Room-1 among the **M1, M2 and M3?**
    c) What is the use of Watt Hour meter?
    d) How does appliances are connected in the household circuit? **(Series / Parallel)**

19) Diagrammatic representation of the image formed in two eyes are shown below.
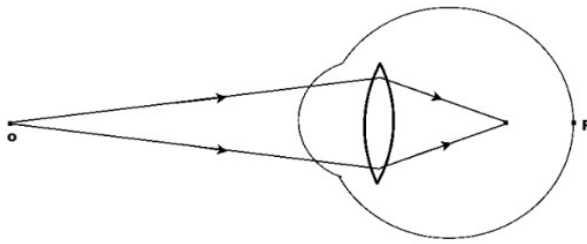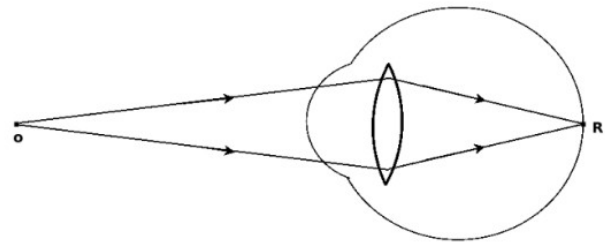

Figure-1   **Figure-2**

    a) Which figure represents the defected eye?
    b) Name the defect of that eye?
    c) Write any two reasons for this defect?
    d) What is the remedy for this defect?

20) The focal length of a convex lens is 10 cm. When an object is placed at a particular distance from the lens an image is formed on a screen at a distance of 30 cm.
    a) Calculate the distance of object from the lens?
    b) Find the magnification of the image?
    c) Write any two features of the image?