



Name _____ Class _____ Roll no. _____ Date _____ Marks _____ / 40

1 Key words**[4]**

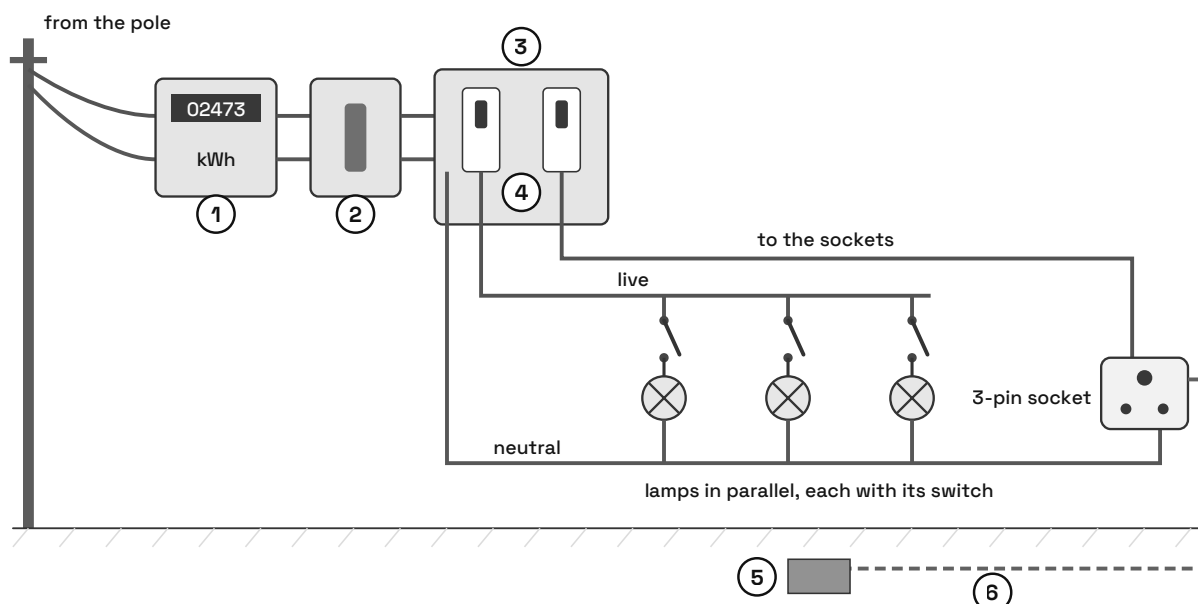
Fill in the blanks with words from the box. Two words in the box are not needed. Each blank carries 0.5 mark.

angle of dip demagnetization electromagnet geomagnetism keeper kilowatt-hours
lodestone magnetic declination magnetic saturation MCB

A magnet found in nature, such as _____, is a natural magnet. A magnet made by passing an electric current through a coil of wire around a piece of soft iron is an _____. When all the molecular magnets of a material are lined up, it is as strongly magnetized as it can be: this is _____. Losing magnetic properties is called _____. The magnetic properties of the Earth are called _____. The angle between the geographic meridian and the magnetic meridian at a place is the _____. Electrical energy is sold in _____, which everyone calls units. An automatic switch that trips by itself when too much current flows is an _____.

2 Label the diagram**[3]**

The diagram shows how electricity enters a house. Write the names of the parts numbered 1 to 6. Each carries 0.5 mark.



1. _____

2. _____

3. _____

4. _____

5. _____

6. _____



[5]

Choose the correct option for each of the following questions.

- i. Which of these is a natural magnet? [1]
 - a. limestone
 - b. nickel
 - c. lodestone
 - d. electromagnet
- ii. To which wire in a house's wiring is a switch connected? [1]
 - a. the neutral wire
 - b. the earth wire
 - c. the fuse wire
 - d. the live wire
- iii. A magnet is broken into three pieces. How many north poles are there now? [1]
 - a. one, on the piece that had the N-pole
 - b. none: breaking destroys magnetism
 - c. three, one on each piece
 - d. two, on the end pieces only
- iv. Why is a fuse made of a tin-lead alloy and not of copper? [1]
 - a. the alloy conducts better than copper
 - b. the alloy melts at a low temperature
 - c. copper is magnetic
 - d. the alloy never melts
- v. Where on the Earth would a dip needle stand straight up and down? [1]
 - a. at the magnetic equator
 - b. in Kathmandu
 - c. at a magnetic pole
 - d. everywhere, at noon

[3]

Write very short answers to the following questions.

- a. Name any two magnetic materials. [1]
- _____
- _____
- b. What is the angle of dip at the magnetic equator? [1]
- _____
- _____
- c. How many units of electricity does a 2,000 W heater use in half an hour? [1]

[8]

Write short answers to the following questions.

- a. Give a reason: a magnet gets demagnetized when it is hammered. [2]



b. Give a reason: the angle of dip at the magnetic poles is 90° . [2]

c. Give a reason: the fuse is always connected in the live wire in domestic wiring. [2]

d. Write any two differences between the live wire and the neutral wire. [2]

6 Long answers [8]

Write long answers to the following questions.

a. Write the main points of the molecular theory of magnetism. [4]

b. What is earthing? Why is earthing necessary in domestic wiring? [4]



[7]

a. The electric meter in Bhawana's house records 75 units of electricity used in 15 days. Calculate the average monthly bill (30 days) if one unit costs Rs 9.50.

Answer:

- b. Eight bulbs of 25 W each are used in a house for 4 hours 40 minutes every day. Calculate the electricity consumed in a day, in units.

[illegible]

Answer:

- c. A municipality has 14 street lights of 1,500 W each, used for 6.5 hours a day. If one unit costs Rs 12.50, calculate the monthly bill (30 days).

[illegible]

Answer:

[2]

When one bulb is pulled out of a string of Tihar lights, the whole string goes dark. When one bulb in your house fuses, the others stay on. Why the difference?

(not marked)

Hang a bar magnet by a thread tied round its middle, so that it can turn freely. Do each of these and write what the hanging magnet does.

What you do	What the magnet does
Let it come to rest. Which way do its poles point?	
Bring pins near its ends, then its middle.	
Bring a north pole near its north pole.	
Bring a south pole near its north pole.	

