



BCM SCHOOL BASANT AVENUE DUGRI LUDHIANA

Class 8 Science

Assignment -1

Ch-2 living world beyond our naked eye

Ch-4 Electricity: magnetic and heating effects

General instructions

Q1 and Q2 MCQ carry 1 mark each

Q3 and Q4 Assertion reason carry 1 mark each

Q5 and Q6 very short answer questions carry two marks each.

Q7 and Q8 short answer questions carry 3 marks each.

Q9 long answer question carry 5 mark.

Q10 case study carry 4 marks.

MCQ

Q1. An electromagnet is a temporary magnet. Which of the following conditions must be met for it to Function as a magnet?

- a) The circuit must be open.
- b) An electric current must flow through the coil.
- c) A permanent bar magnet must be placed nearby.
- d) The wire must be made of a non-conducting material.

Q2. If a laboratory has only a foldscope, what is its primary limitation when studying microorganisms compared to a high-powered laboratory microscope?.

- (a) It cannot be used to observe unicellular organisms.
- (b) It does not provide the same level of detail as a high-powered microscope.
- (c) It cannot be used to observe the nuclei of cells.
- (d) It is not foldable and is difficult to transport.

Assertion/ Reason

Choose the correct answer out of the following choices.

- (a) Both A and R are true and R is the correct explanation of A.
- (b) Both A and R are true but R is not the correct explanation of A.
- (c) A is true but R is false.
- (d) A is false but R is true.

Q3. Assertion (A): A nichrome wire is a good conductor of electricity.
Reason : Nichrome wire offers higher resistance and generates more heat compared to a Copper wire of the same size and length.

Q4. Assertion (A): The ostrich egg is considered the largest single cell in the living world.
Reason (R): All complex living organisms, whether plants or animals, begin their life as a single cell.

Very short answer questions –
Q5. Describe the key components of a Voltaic cell and explain how it generates electricity.

Q6. Explain why a dry cell is considered a "single use" cell, while a rechargeable battery can be used multiple times.

Q7. Imagine you are a scientist trying to find a new way to deal with waste from a local farm. Based on the chapter, explain how you could use microorganisms to help solve this problem. Detail the process, the microorganisms involved, and the potential products that could be created from this process.

Q8. A student makes an electromagnet and finds its poles by using a magnetic compass. What would happen to the poles of the electromagnet if the direction of the current flowing through the coil is reversed? Justify your answer.

Long answer question

Q9. a) How does yeast make dough soft and fluffy?
b) How does Rhizobium benefit legume plants?
c) Why is Spirulina called a "superfood"?
e) . Why are microorganisms, like bacteria and fungi, unable to grow on food items that have a high concentration of salt or sugar, such as pickles and murabbas?

Q10. Case study :

The Recycling Plant Crane In a bustling recycling plant, a large crane operator, named Arjun, controls a powerful lifting. Electromagnet to sort and move heavy metal waste. He uses a switch in his control cabin to turn The magnet on and off. When he turns the switch ON, the electromagnet attracts and lifts huge. Pieces of scrap metal. As he moves the crane over the correct collection bin, he turns the switch OFF, and the metal pieces fall cleanly into place. This process is highly efficient and safe, allowing . The plant to handle large quantities of metal waste quickly and effectively.



- (i) What is the function of the switch in Arjun's control cabin?
- (ii) Why do the metal pieces fall when Arjun turns the switch OFF?
- (iii) Why is an iron core used in lifting electromagnets?
- (iv) Can the lifting electromagnet lift a heavy piece of plastic? Justify your answer.