Practice Paper

CBSE Class 8 Science (Curiosity) — Chapter 2: The Invisible Living World: Beyond Our Naked Eye

Time: 1½ hours	**Maximum Marks:** 40	**Session:** 2026–27
Name: _____	Roll No.: _____	Date: _____

General Instructions: (1) All questions are compulsory. (2) Questions marked **[Fig. N]** are figure-based (Fig. 1 to Fig. 7); study the figure carefully. (3) Write answers in the answer sheet; draw neat labelled diagrams wherever needed. (4) Marks for each question are shown in square brackets.

SECTION A — Multiple Choice Questions (1 mark each)

1. Who is called the "Father of Microbiology" for being the first person to clearly see and describe bacteria and blood cells through his improved microscopes? **[1]**

(a) Robert Hooke

(b) Antonie van Leeuwenhoek

(c) Ananda Mohan Chakrabarty

(d) Charles Darwin

2. [Fig. 1] Fig. 1 shows a cell with four parts labelled P, Q, R and S. Which of the following correctly matches a labelled part with its function? **[1]**

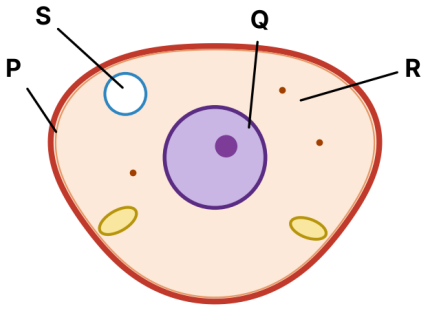


Fig. 1

(a) P – regulates all the activities of the cell

(b) Q – regulates all the activities and the growth of the cell

(c) R – provides rigidity and strength to the cell

(d) S – carries out photosynthesis in the cell

3. [Fig. 2] Two bowls, P and Q, contain dough made from the same flour, a pinch of sugar and warm water. Only one of them has yeast. Fig. 2 shows the bowls after five hours in a warm place. Which statement is correct? **[1]**

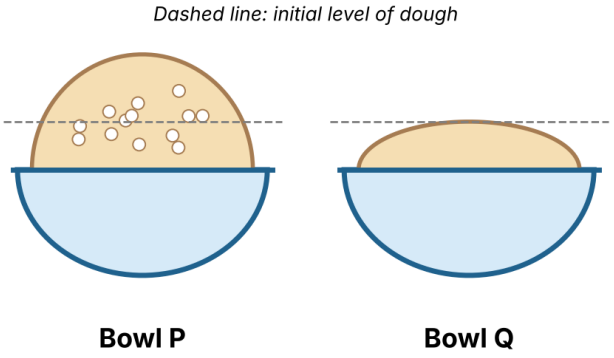


Fig. 2 (after 5 hours, same warm place)

(a) Yeast was added to bowl Q; it released oxygen that made the dough rise.

(b) Yeast was added to bowl P; the carbon dioxide bubbles it released made the dough rise.

(c) Yeast was added to bowl P; it stopped respiring because of the warm water.

(d) No yeast was needed; the warm place alone made the dough in bowl P rise.

4. Bacterial cells differ from the cells of yeast, protozoa, algae, plants and animals because bacterial cells **[1]**

(a) do not have a cell membrane

(b) have a well-defined nucleus with a nuclear membrane

(c) have a nucleoid instead of a well-defined nucleus

(d) do not have cytoplasm

5. Which of the following pairs correctly gives a unicellular fungus and a multicellular fungus, in that order? **[1]**

(a) Mould, yeast

(b) Yeast, mould

(c) Bacteria, yeast

(d) Amoeba, mould

6. Biogas, used as a fuel for cooking and generating electricity, is a mixture of carbon dioxide and a high proportion of which gas, produced by microbes in an oxygen-free environment? **[1]**

(a) Hydrogen

(b) Methane

(c) Nitrogen

(d) Oxygen

Questions 7 and 8 consist of two statements – Assertion (A) and Reason (R). Answer these questions by selecting the appropriate option given below:

7. Assertion (A): Pickles and murabbas do not get spoiled easily by microorganisms.
Reason (R): The high concentration of salt or sugar in them does not allow microorganisms to grow. **[1]**

(A) Both A and R are true, and R is the correct explanation of A.

(B) Both A and R are true, and R is not the correct explanation of A.

(C) A is true but R is false.

(D) A is false but R is true.

8. Assertion (A): Fungi cannot make their own food by photosynthesis.
Reason (R): The cells of fungi do not have a cell wall. **[1]**

(A) Both A and R are true, and R is the correct explanation of A.

(B) Both A and R are true, and R is not the correct explanation of A.

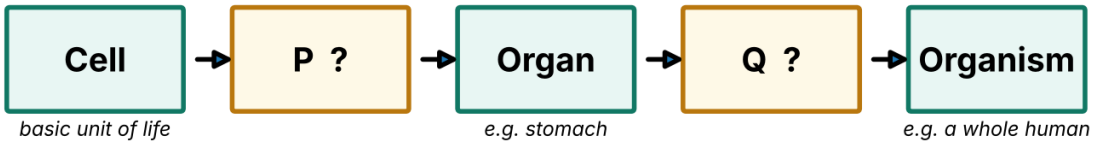
(C) A is true but R is false.

(D) A is false but R is true.

SECTION B — Short Answer Questions (2 marks each)

9. [Fig. 3] Fig. 3 shows the levels of organisation in the body of a multicellular organism. **[2]**

Fig. 3: Levels of organisation in a multicellular organism



(a) Name the levels of organisation represented by **P** and **Q**.

(b) The stomach contains muscle cells and cells that make digestive juices, all working together. At which level of organisation does the stomach belong?

10. [Fig. 4] Fig. 4 shows the root system of a pea plant with small swollen structures marked X. **[2]**

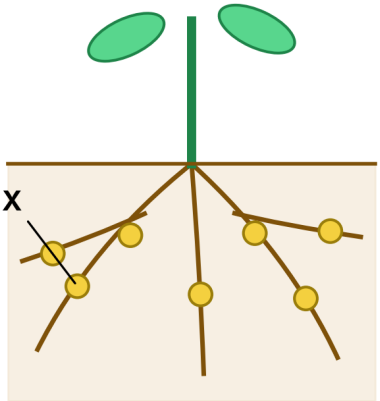


Fig. 4: Root of a pea plant

(a) Name the structures marked X and the bacterium that lives in them.

(b) Why do farmers grow such plants in rotation with other crops?

11. Priya added a spoonful of curd to lukewarm milk in bowl A and an equal spoonful to cold milk in bowl B. Both bowls were covered and kept overnight. Next morning, curd had formed in bowl A, but the milk in bowl B had not curdled. **[2]**

(a) Name the bacterium responsible for forming curd and the acid it produces.

(b) Give a reason why curd did not form in bowl B.

SECTION C — Long Answer Questions (4 marks each)

12. **[Fig. 5]** Fig. 5 shows four microorganisms, A, B, C and D, seen under a microscope. A is a single cell that keeps changing its shape; B is a green single-celled organism; C is made of branched thread-like filaments with brush-like tips and has no chlorophyll; D is a rod-shaped cell with one long hair-like structure. **[4]**

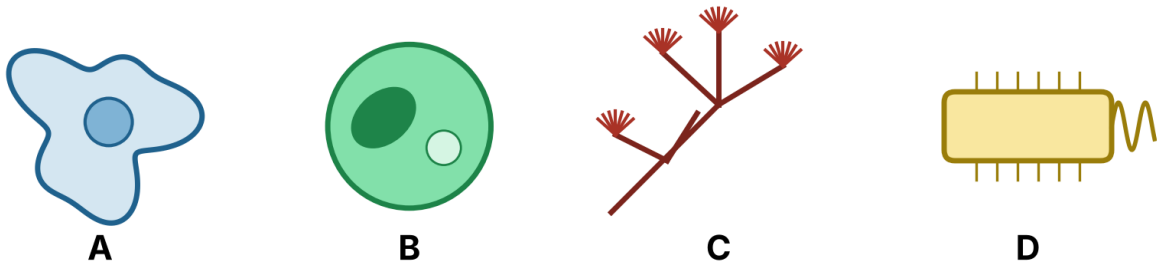


Fig. 5: Four microorganisms as seen under a microscope (not to scale)

(i) Name the groups of microorganisms to which A and C belong. [1]

(ii) Which of the four organisms can make its own food? Give a reason. [1]

(iii) Which organism has no well-defined nucleus? What is the corresponding region in its cell called? [1]

(iv) State one way in which organisms like C help to clean the environment. [1]

13. **[Fig. 6]** Fig. 6 shows three types of cells, X, Y and Z, found in the human body. **[4]**

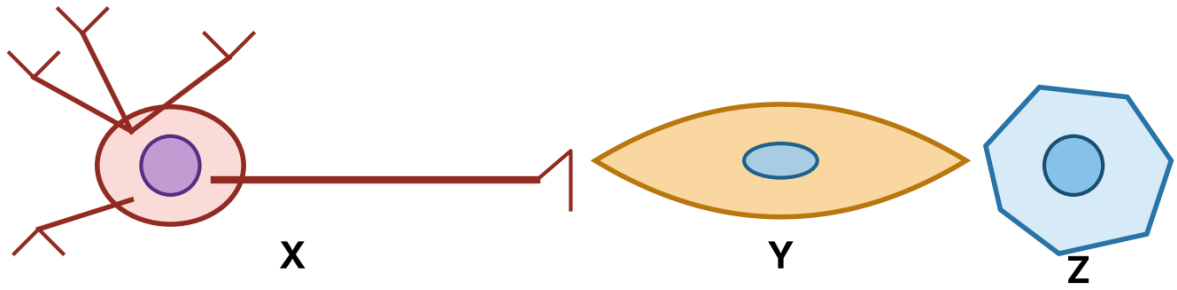


Fig. 6: Three types of animal cells

(i) Identify the cells X and Y. [1]

(ii) How does the elongated, branched shape of cell X help it to do its work? [1]

(iii) A group of cells like Y is present in the food pipe. Explain how they help in moving the food. [1]

(iv) Cell Z is thin and flat. Where is it found in the body and what does it do? [1]

14. (a) Write any **three** differences between a typical plant cell and a typical animal cell. [3] (b) Name the three basic parts that are common to both plant and animal cells. [1] **[4]**

15. A student is preparing a temporary mount of an onion peel to observe it under a microscope. State the purpose of each of the following steps: **[4]**

(i) Placing the peel in a few drops of safranin.

(ii) Putting a drop of glycerin over the peel on the slide.

(iii) Lowering the coverslip slowly with the help of a needle.

(iv) Wiping the edges of the coverslip with blotting paper.

SECTION D — Case-Based / Practical Questions (5 marks each)

16. [Fig. 7] Case: Arjun set up the experiment shown in Fig. 7. Flasks P and Q each contain the same amount of sugar solution and a spoonful of yeast. Flask P is kept in a warm water bath and flask Q in an ice-cold water bath. Each flask is closed with a cork and a delivery tube dips into a test tube of lime water (P′ and Q′). After four hours, the lime water in P′ had turned milky, while the lime water in Q′ had remained almost clear. **[5]**

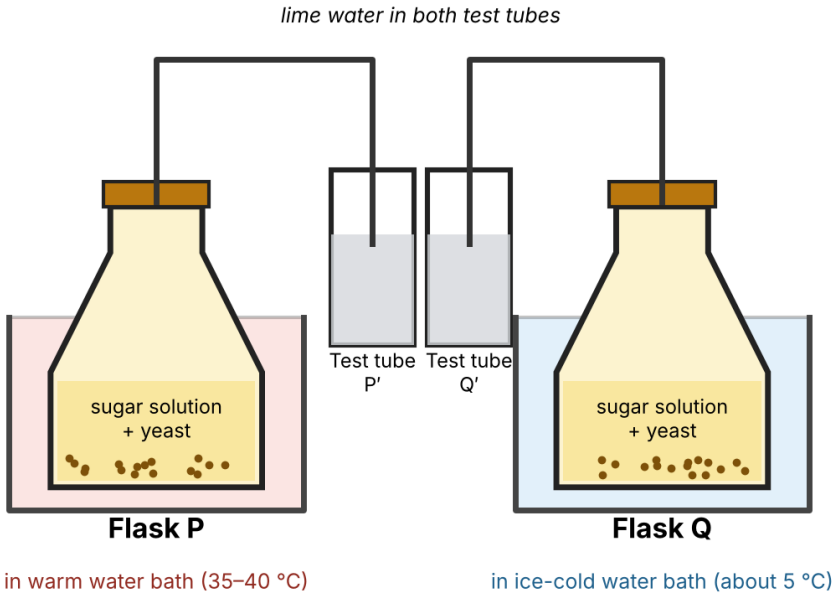


Fig. 7: Experimental set-up

(i) Name the gas released in flask P. What does the change in test tube P′ show? [1]

(ii) Why was there so little change in test tube Q′? [1]

(iii) Name the other substance that yeast produces in small amounts during this process. [1]

(iv) Name two food items made in the kitchen using this property of yeast. [1]

(v) What would Arjun observe in test tube P′ if yeast was **not** added to flask P? Give a reason. [1]

17. Case: The gardener of a school collected fruit and vegetable peels and dry leaves, put them in a pit, covered them with a layer of soil and kept the pit moist. After three weeks, the waste had turned into a dark-coloured, nutrient-rich material that was used for the school garden. In the school kitchen, cattle dung is put in an airtight tank where microbes decompose it and produce a fuel gas used for cooking. **[5]**

(i) Name the dark-coloured material formed in the pit. [1]

(ii) Which microorganisms are mainly responsible for the change? [1]

(iii) What is the process of breaking down complex substances into simpler, nutrient-rich substances called? [1]

(iv) What is likely to happen to the pit if it dries up completely? Give a reason. [1]

(v) Name the main fuel gas formed in the airtight tank and state why the tank must be airtight. [1]

— End of Question Paper —