

BCM SCHOOL BASANT AVENUE LUDHIANA

Class- IX. Subject – Biology and Chemistry

Date- Sept. 9, 2024

General instructions -

Q1to Q3 - MCQs

Q4 & 5 - Assertion/Reason

Q6 to Q8 - Competency based

Q9 - Case study based

MCQs

Q1. Evaporation of a liquid takes place at:

- (a) Any temperature lower than its boiling point.
- (b) A fixed temperature higher than its boiling point.
- (c) A fixed temperature and pressure.
- (d) All temperatures.

Q2. Which of the following are homogeneous in nature?

- (a) Ice. (b) Wood. (c) Soil. (d) Air

Q3. In a non-dividing cell, DNA is present as part of chromatin material which can be seen as :

- (a) Entangled mass of thread like structures
- (b) Thick rod like structures
- (c) Fine Granules
- (d) Crystalline structures

A/R type

- (a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of the Assertion (A)
- (b) Both Assertion (A) and Reason (R) are true, but Reason (R) is not the correct explanation of the Assertion (A)



(c) Assertion (A) is true, but Reason (R) is false.

(d) Assertion (A) is false, but Reason (R) is true.

Q4. Assertion (A): The cells of connective tissue are loosely spaced and embedded in an intercellular matrix.

Reason (R): The matrix may be jelly like, fluid, dense or rigid. The nature of matrix differs in concordance with the function of the particular connective tissue.

Q5. Assertion (A): If we put dried raisins in plain water for sometime each raisin gains water and swells up.

Reason (R): Raisins swell due to exosmosis

Competency based

Q6. Calculate the mass of water and mass of glucose required to make 250g of 40% solution of glucose. 2

Q7. In brief state what happens when :

(a) Dry apricots are left for sometime in pure water and later transferred to sugar solution?

(b) A red blood cell is kept in concentrated saline solution?

(c) Rheo leaves are boiled in water first and then a drop of sugar syrup is put on it? 3

Q8. A) Matrix of a connective tissue can be fluid or solid. Give one example of each kind. Write the chemical composition of matrix. Write one important function of each of the tissues.

B) Give reason

I Presence of waxy layer (secreted by the epidermis) on the outer surface of plants.

II Meristematic cells have a prominent nucleus and dense cytoplasm but lack a vacuole. $3+2=5$

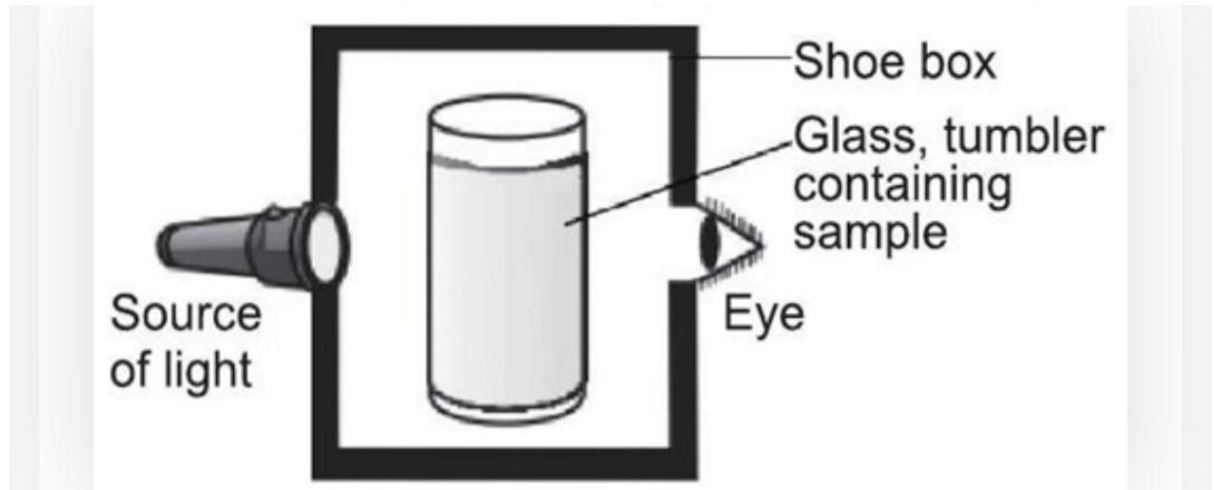
Case Study

Q9. Read the given passage carefully and give the answer of the following questions:

A group of students took an old shoe box and covered it with a black paper from all sides. They fixed a source of light (a torch) at one end of the box by making a



hole in it and made another hole on the other side to view the light. They placed a milk sample contained in a tumbler in the box as shown in the figure below. They were amazed to see that milk taken in the tumbler was illuminated. They tried the same activity by taking a salt solution but found that light simply passed through it.



- I. Explain why the milk sample was illuminated? Name the phenomenon involved.
 - II. Same results were not observed with a salt solution. Explain.
 - III. Can you suggest two more solutions which would show the same effect as shown by the milk solution?
 - IV. Give one example of above phenomenon observed in our surroundings.
- 4

