

# Class IX Session 2025-26

## Subject - Science

### Sample Question Paper - 3

**Time Allowed: 3 hours**

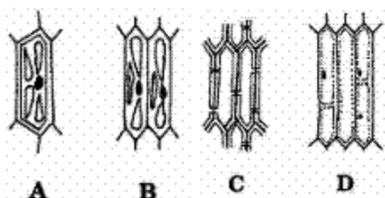
**Maximum Marks: 80**

**General Instructions:**

1. This question paper consists of 39 questions in 3 sections. Section A is Biology, Section B is Chemistry and Section C is Physics.
2. All questions are compulsory. However, an internal choice is provided in some questions. A student is expected to attempt only one of these questions.

**Section A**

1. While observing a thin section of a plant stem, four students sketched sclerenchyma as given below. The correct diagram is: [1]



- a) C [1]
- b) A
- c) D
- d) B
2. Where are proteins synthesised inside the cells? [1]
- a) Over centrosome
- b) Over the Nucleus
- c) Over the Ribosomes
- d) Over Golgi bodies
3. Match the following with the correct response: [1]

(a) Robert Brown	(i) Nucleus
(b) Purkinje	(ii) Cell
(c) Robert Hooke	(iii) Protoplasm
(d) Schleiden	(iv) Cell theory

- a) (a) - (iii), (b) - (ii), (c) - (iv), (d) - (i)
- b) (a) - (i), (b) - (iii), (c) - (ii), (d) - (iv)
- c) (a) - (iv), (b) - (i), (c) - (iii), (d) - (ii)
- d) (a) - (ii), (b) - (iv), (c) - (i), (d) - (iii)
4. Find out the incorrect sentence: [1]
- a) Meristematic tissues, in its early stage, lack vacuoles.
- b) Apical and intercalary meristems are permanent tissues.
- c) collenchymatous tissues are irregularly
- d) Parenchymatous tissues have intercellular

thickened at corners. spaces.

5. **Assertion (A):** The cells of sclerenchyma tissue are living. [1]

**Reason (R):** They are long and narrow as the walls are thickened due to the deposition of lignin.

- 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.

6. Nitrogen, phosphorus and potassium are examples of [1]

- a) Micro-nutrients and Macro-nutrients      b) Macro-nutrients  
c) Fertilizers      d) Micro-nutrients

7. **Assertion (A):** Mitochondria, nucleus, and chloroplast are regarded as semi-autonomous cell organelles. [1]

**Reason (R):** These organelles contain their own DNA, ribosomes and replicate independently of the nucleus.

- 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 and R is false.      d) A is false and R is true.

8. Determine the mineral nutrient/element whose loss is compensated by growing a pulse crop between two cereal crops. [1]

- a) Nitrogen      b) Magnesium  
c) Calcium      d) Sulphur

9. Which of the following type of irrigation system is used in areas closer to rivers? [1]

- a) River lift      b) Tanks  
c) Dug wells      d) Canals

10. What is the function of cellulose in a plant cell? [2]

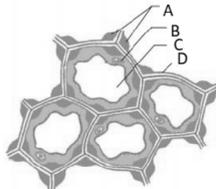
11. Draw a labelled diagram of a neuron. [2]

OR

Differentiate between meristematic and permanent tissue.

12. How do insect pest damage crop plants? [2]

13. Study the following figure and answer the following questions: [3]



- i. Identify the type of tissue shown in the given figure. Write the labellings - A, B, C, D.  
ii. Is the given type of tissue in the figure is flexible or not? Give a reason for your answer.  
iii. What are the functions of the tissue shown in the given figure?

[3]

14.



Answer the following questions:

- i. Fertilizers have short term benefits but long term use of it is harmful. Explain.
- ii. What are the uses of fertilizers?
- iii. What is the major problem of using fertilizers in a high dose?

15. **Read the following text carefully and answer the questions that follow:**

[4]

Leeuwenhoek discovered the free-living cells in pond water for the first time. Robert Brown discovered the nucleus in the cell. A single cell may constitute a whole organism as in Amoeba. These organisms are called unicellular organisms. On the other hand, many cells group together in a single body and assume different functions in it to form various body parts in multicellular organisms. The shape and size of cells are related to the specific function they perform. Each living cell has the capacity to perform certain basic functions that are characteristic of all living forms. Each kind of cell organelle performs a special function, such as making new material in the cell, clearing up the waste material from the cell and so on.

- i. Who first discovered cells? (1)
- ii. Is Chlamydomonas a unicellular or multicellular organism? (1)
- iii. Who suggested that all cells arise from pre-existing cells? (2)

**OR**

Identify the given cell. (2)



16. Write the main function of each of the following.

[5]

- (a) Plasma membrane
- (b) cell wall
- (c) Ribosome
- (d) Lysosome
- (e) Nucleolus
- (f) Endoplasmic reticulum

**OR**

Describe the types of connective tissues along with their functions.

**Section B**

17. The evaporation of a liquid occurs only at

[1]



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.

25. Why is it necessary to balance a chemical equation?

[2]

26. Differentiate between a true solution and a colloid.

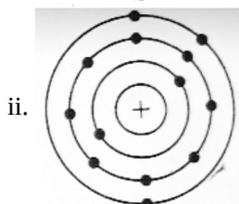
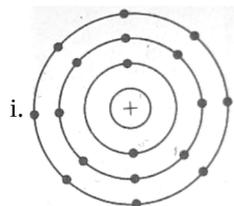
[3]

OR

List the points of difference between homogeneous and heterogeneous mixtures.

27. Find out the valency of atoms represented by the following figures.

[3]



28. **Read the following text carefully and answer the questions that follow:**

[4]

Everything in this universe is made up of material “matter”. The air we breathe, the food we eat, stones, clouds, stars, plants and animals, even a small drop of water or a particle of sand – everything is matter. when we make tea, coffee or lemonade, particles of one type of matter get into the spaces between particles of the other. This shows that there is enough space between particles of matter. Particles of matter are continuously moving, that is, they possess what we call kinetic energy. particles of matter have a force acting between them. This force keeps the particles together. The strength of this force of attraction varies from one kind of matter to another.



i. Define matter? give some examples. (1)

ii. Explain with activity that matter have space between them? (1)

iii. How can we say that solid has the strongest intermolecular force? (2)

OR

Which kind of matter have the largest intermolecular space between them? (2)

29. Explain with examples:

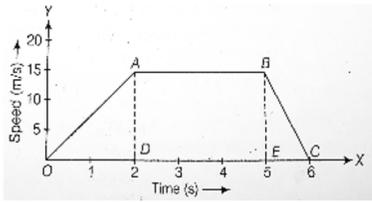
[5]

i. Atomic number,

ii. Mass number,



ii. What is the braking force applied at the end of 5 s to bring the car to stop within one second?

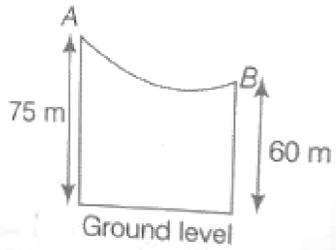


38. Work is **closely related to energy**. The work-energy principle states that an increase in the kinetic energy of a rigid body is caused by an equal amount of positive work done on the body by the resultant force acting on that body. [4]

i. Define potential energy.

ii. Give an example where potential energy is acquired by a body due to a change in its shape.

iii. A skier of mass 50 kg stands at A, at the top of a ski jump. He takes off from A for his jump to B. Calculate the change in his gravitational potential energy between A and B.



OR

An object of mass,  $m$  is moving with a constant velocity,  $v$ . How much work should be done on the object in order to bring the object to rest?

39. A car falls off a ledge and drops to the ground in 0.5 s. Let  $g = 10 \text{ ms}^{-2}$  (for simplifying the calculations). [5]

i. What is its speed on striking the ground?

ii. What is its average speed during the 0.5 s?

iii. How high is the ledge from the ground?

OR

What is the magnitude of the gravitational force between the earth and a 1 kg object on its surface? (Mass of the earth is  $6 \times 10^{24}$  kg and radius of the earth is  $6.4 \times 10^6$  m).