

First Summative Assessment - Sept. 2026

9th Standard

Sub : Science

Sub. Code : 83E

Max Marks : 80

Time : 3.15 Hours

PART A - PHYSICS

I. Four alternatives are given for each of the following questions or incomplete statements. Choose the correct alternative and write the complete answer along with its option. $(2 \times 1 = 2)$

1. What is the S.I. unit of speed?
A. m/s
B. km/h
C. m/h
D. m.s
2. If a body of mass 5kg is attracted towards the Earth by a force of 20N, its acceleration is:
A. 40 m/s^{-2}
B. 4 m/s^{-2}
C. 10 m/s^{-2}
D. 2 m/s^{-2}

$(2 \times 1 = 2)$

II. Answer the following questions:

3. What does the area under a velocity-time graph represent?
4. Which of Newton's laws of motion is known as the Law of Inertia?

$(3 \times 2 = 6)$

III. Answer the following questions:

5. Among a cricket ball and a tennis ball moving at the same speed, it is easier to stop the tennis ball compared to the cricket ball. Why?
6. An object travels 16m in 4 s and then another 16 m in 2 s. Calculate its average speed?
7. What are the effects on the inertia of an object in the following situations?
i) If the force applied on the object is doubled
ii) If the force applied is reduced to half

$(3 \times 3 = 9)$

IV. Answer the following questions:

8. What is motion? Explain different types of motion with examples.
9. When a person jumps from a ship to the shore, which law of motion causes the ship to move backward? Explain the reason why the ship moves backward.
10. A body of mass 5kg is initially moving with a velocity of 20m/s. If it comes to rest in 4s, calculate the opposing force applied on it.

V. Answer the following questions:

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VI. Four alternatives are given for each of the following questions or incomplete statements. Choose the correct alternative and write the complete answer along with its option letter. (3 × 1 = 3)

- VII. Answer the following questions:**

16. Define Tyndall effect.
17. What is melting point?
18. Give an example of a compound.

(3 × 2 = 6)

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IX. Answer the following questions:

(3 × 3 = 9)

22. Convert the following temperatures into Kelvin scale:

i) 25°C

ii) 373°C

iii) 100°C

23. A solution is prepared by dissolving 40 g of sugar in 320 g of water. Calculate the mass of the solution and the concentration in terms of mass percentage.

24. Draw a neat diagram showing the sublimation of Ammonium Chloride and label its parts.

X. Answer the following question:

(1 × 4 = 4)

25. a) Write four properties of a solution.

b) List two differences between physical and chemical changes.

PART C - BIOLOGY

XI. Four alternatives are given for each of the following questions or incomplete statements. Choose the correct alternative and write the complete answer along with its option letter.

(3 × 1 = 3)

26. The nuclear region containing only nucleic acid is called:

A. Nucleoid

B. Nucleus

C. Nucleolus

D. Nuclear membrane

27. The connective tissue that possesses elasticity is:

A. Cartilage

B. Ligament

C. Blood

D. Bone

28. The plant tissue whose cells are irregularly thickened at the corners is:

A. Parenchyma

B. Collenchyma

C. Sclerenchyma

D. Xylem

XII. Answer the following questions:

(3 × 1 = 3)

29. State the functions of stomata.

30. Which cell organelle contains digestive enzymes?

31. Why is bone tissue considered a strong tissue?

(2 × 2 = 4)

XIII. Answer the following questions:

32. What is the significance of cell division in living organisms?
33. Draw a neat diagram of a neuron (nerve cell) and label its parts.

(3 × 3 = 9)

XIV. Answer the following questions:

34. Explain the structure and function of the Endoplasmic Reticulum.
35. Draw a neat diagram of a plant cell and label the following parts:
 - a) Cell wall
 - b) Nucleus
36. Differentiate between striated, unstriated, and cardiac muscles based on their structure and function.

XV. Answer the following question:

(1 × 4 = 4)

37. What happens to a cell, when it is placed in a hypertonic solution and a hypotonic solution? Explain with reasons.

XVI. Answer the following question:

(1 × 5 = 5)

38. Name the following:
- i) Tissue that forms the inner lining of our mouth
 - ii) Tissue that connects bone to bone
 - iii) Connective tissue that contains a matrix
 - iv) Tissue present in the brain
 - v) Tissue that stores fat