



Delhi Public School, Howrah

PERIODIC ASSESSMENT I (2025-2026)

Class-IX

Care must be taken not to write anything on the question paper. All the questions must be attempted in the correct sequence.

Subject- Science (CODE 086)

Time-1.5Hours

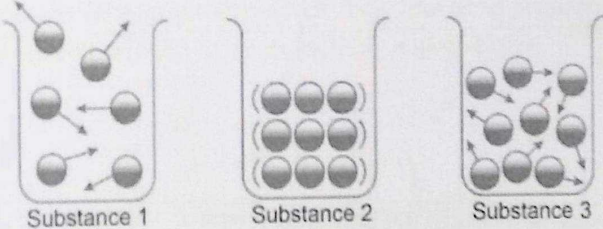
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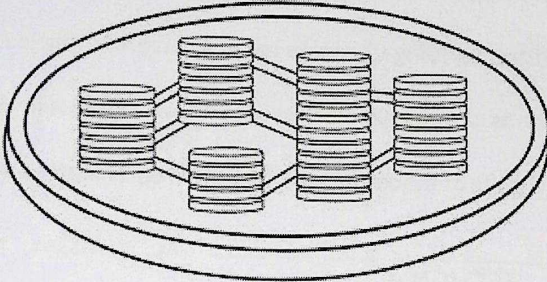
General Instructions:

- This question paper consists of 20 questions in 5 sections.
- All questions are compulsory.
- Section A consists of 11 Objective Type Questions carrying 01 mark each.
- Section B consists of 3 Very Short Questions carrying 02 marks each. Answers to these questions should be in the range of 30 to 50 words.
- Section C consists of 3 Short Answer Type Questions carrying 03 marks each. Answers to these questions should be in the range of 50 to 80 words.
- Section D consists of 2 Long Answer Type Questions carrying 05 marks each. Answer to these questions should be in the range of 80 to 120 words.
- Section E consists of 1 source-based/case-based units of assessment of 04 marks each with sub-parts

SECTION A

Select and write one most appropriate option out of the four options given for each of the questions 1-11. There is no negative mark for incorrect response.

Q. No.	Questions	Marks
1.	The following picture shows the arrangement of particles in three different substances.  Substance 1 Substance 2 Substance 3 Which substance will show maximum diffusion rate? A. Substance 2 B. Substance 1 C. Substance 3 D. Diffusion does not depend on the arrangement of the particles.	1
2.	On converting 26°C, 38°C and 67°C to kelvin scale, the correct sequence of temperature will be A. 299 K, 311 K and 340 K B. 299 K, 300 K and 339 K C. 274 K, 278 K and 544 K D. 299 K, 310 K and 339 K	1

3.	In a uniformly accelerated motion, identify which of the following statement(s) is correct. I: velocity(v)-time(t) graph is a straight line not parallel to t or v axis. II: displacement - time graph is not a straight line. III: Slope of velocity - time graph varies. IV: Slope of displacement - time graph is constant. A. Only I is correct B. Only I and II are correct. C. Only I, II and III are correct. D. Only II, III and IV are correct.	1
4.	A tennis ball and a bowling ball are kicked with the same force. Which of the following option relates the distance travelled by the balls to the inertia of the balls? A. tennis ball moves farther than bowling ball because it has less inertia B. tennis ball moves farther than bowling ball because it has high inertia C. bowling ball moves farther than tennis ball because it has less inertia D. bowling ball moves farther than tennis ball because it has high inertia	1
5.	Identify the function of the cell organelle shown below.  A. Energy storage B. Detoxifying cell C. Food production D. Packaging and transport	1
6.	Ravi is suffering from a disease and doctor told him that it is an acute disease. Which of the following characteristics better describes his ailment? I. It will last for few days. II. It will have major effect on general health. III. No drastic change in physical character. A. I and II B. Only I C. Only II D. I and III	1
7.	A student observes a cell under a microscope and notices the absence of nucleus. Which of the following could it be? A. A plant cell B. A fungal cell C. A prokaryotic cell D. An animal cell	
8.	In a lab experiment, a cell exposed to toxic substances manages to break them down effectively. Which organelle is playing the most active role? A. Golgi apparatus B. Lysosome C. Mitochondrion D. Nucleus	1

Q. no 9 to 11 are Assertion - Reasoning based questions.

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

- 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.**

9.	Assertion(A): A rocket works on the principle of conservation of linear momentum. Reason(R): For two bodies system when there is a change in momentum of one body, the same change occurs in the momentum of the second body but in the opposite direction.	1
10.	Assertion(A): With increase in temperature the rate of evaporation does not change. Reason(R): Evaporation occurs at room temperature.	1
11.	Assertion(A): Mitochondria are more numerous in muscle cells than in skin cells. Reason(R): Muscle cells require more energy for contraction and movement.	1

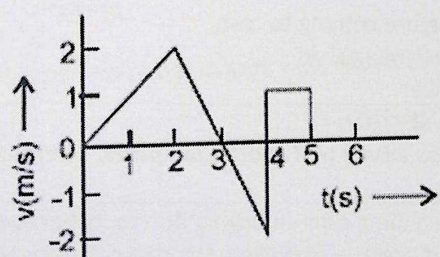
SECTION B

Q. no. 12 to 14 are Very Short Answer Type Questions.

12.	A student mixed iron filings and sulfur powder and divided the mixture into two parts. The first part was heated strongly while the second part was left untreated. Describe what would happen if a magnet was brought near both samples. Explain the difference in observations with scientific reasoning.	2
13.	(a) Displacement-time graph of a moving object is obtained as a curved line. What can you conclude about the velocity of the object? (b) Athlete completes one and half round of a square shape park of each side 200 m in 40 seconds. Find magnitude of its average velocity during the journey.	2
14.	'When we think about health, we think about societies and communities. On the other hand, when we think about disease, we think about individual sufferers.' Justify the statement.	2

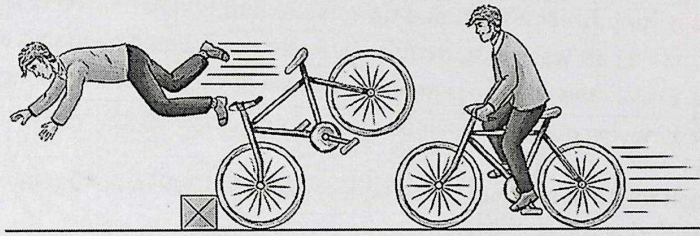
SECTION C

Q.no. 15 to 17 are Short Answer Type Questions.

15.	(a) During a demonstration, a teacher placed some dry ice on a bench and students observed that it was disappearing without forming a liquid. Name this phenomenon. (b) Identify this phenomenon as chemical or physical change. (c) Name any other substance which shows the same property.	3
16.	The velocity-time graph of a moving body is given below.  (a) Find displacement of the body in 5 seconds. (b) Did the body ever move uniformly? Justify it. (c) Calculate acceleration of the body during 3s to 4s of its journey.	3
17.	Give reason for the following statements. (a) Gargling with saltwater prevents bacterial infection. (b) Plant cells have deposition of lignin and suberin. (c) Nucleus is considered the control center of the cell.	3

SECTION-D

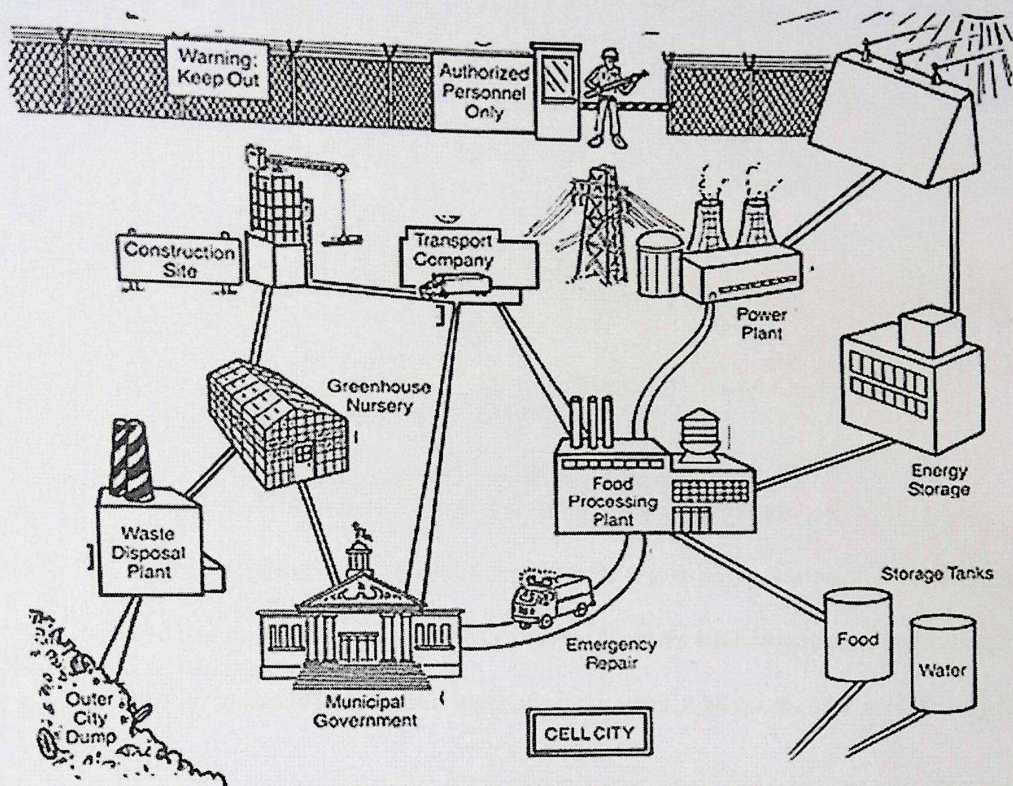
Q.no. 18 to 19 are Long Answer Type Questions.

18.	(a) A mixture contains 70% Table salt and 30% sand by mass. If a student needs to prepare 250g of this mixture for an experiment, calculate the mass of salt and sand required. (b) When the mixture is mixed with water, the salt dissolves completely. The resulting solution has a volume of 500mL after filtration. Calculate the concentration of the resulting solution in g/L. OR (a) A student prepared a solution by dissolving 15g of sodium chloride in 85g of water. Calculate: i. The mass percentage of sodium chloride in the solution ii. If 20g of this solution is evaporated to dryness, how much solid sodium chloride would be recovered? (b) How can you make a saturated solution from an unsaturated solution?	5
19.	(a) A boy was cycling on a straight road with sufficient velocity. Suddenly the cycle hit a stone and the boy flew away as shown below.  Explain with proper reason why the boy flew away at the front instead of falling back. (b) State Newton's 2nd law of motion. (c) Same amount of force is applied on two bodies A and B. Acceleration produced in them as 2.5 m/s² and 4 m/s² respectively. Which one of them will have greater amount of inertia? Why? (d) Define momentum. Write its CGS unit. OR (a) For a moving object velocity becomes zero but still has non-zero acceleration. Justify your answer with proper example. (b) A car of mass 400 kg was moving initially at a speed of 20 m/s along a straight road. Suddenly brakes are applied and the car stopped in 10s. (i) Calculate the distance the car has moved before coming to rest. (ii) Find the acceleration of the car after brakes are applied. (iii) Also calculate the force applied by the brakes.	5

SECTION - E

Q.no. 20 is case - based/data -based questions with 2 to 3 short sub - parts. Internal choice is provided in one of these sub-parts.

20.	"Cellville" is a high-functioning city where everything runs smoothly due to its hardworking departments. Each part of the city has a specific role — just like parts of a cell. Mayor's Office issues all orders and stores important information (like blueprints for buildings). Power Plant supplies energy to the city. Factory Zone produces goods required by the city. Highway Network transports materials across the city. Post & Packaging Centre sorts, packs, and ships goods to the right destinations. Security Gate checks what enters and leaves the city. Cleanup Crew breaks down waste and recycles material. Outer City Wall gives shape and protection. In Cellville, the city's transport system is very efficient, ensuring smooth movement of goods and services. However, lately, the storage center has been struggling to manage shipments, and the clean-up team has not been working at full capacity.	4
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- (a) Identify the organelle that is being compared to the 'Security Gate'? Also explain the structure of that cell organelle.
- (b) Which organelle in the cell is equivalent to the transport system of Cellville, and what is its role in the cell?
- (c) What would be the consequences if the clean-up team of Cellville is not functioning properly? Explain in terms of cellular structure.

OR

- (d) If Cellville's city walls were destroyed, how would the city be affected? Explain in terms of cellular structure.