



Delhi Public School, Howrah

PERIODIC ASSESSMENT I (2024-2025)

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 NO.: 086)

Time-1.5 Hours

F.M.- 40

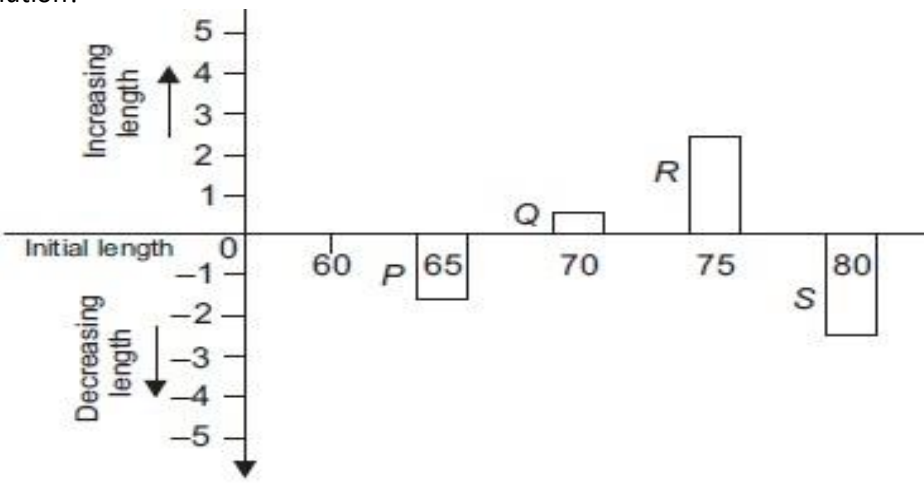
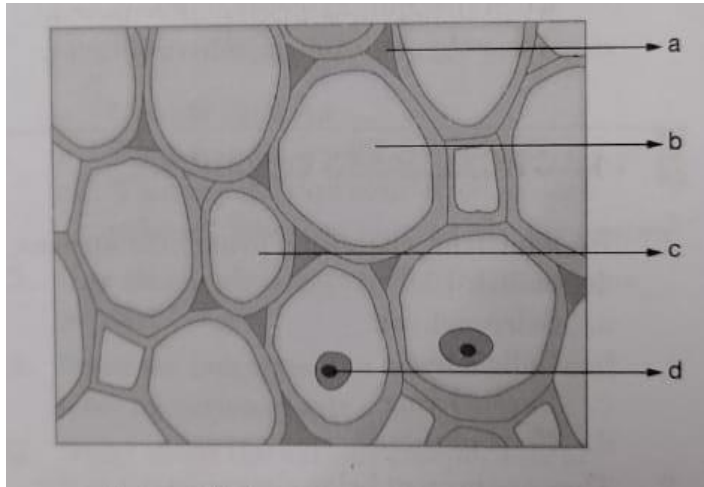
General Instructions:

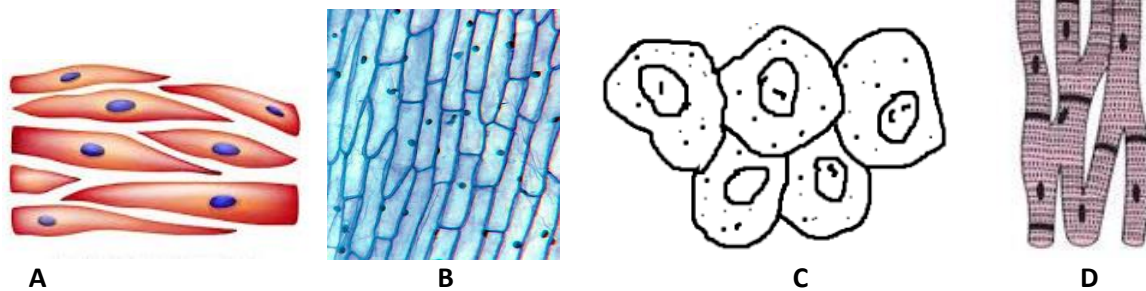
- This question paper consists of 20 questions in 5 sections.
- All questions are compulsory.
- Section A consists of 11 Objective Type Questions carrying 01 mark each.
- Section B consists of 3 Very Short Questions carrying 02 marks each. Answers to these questions should be in the range of 30 to 50 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.

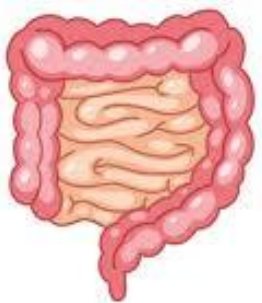
Q. No.	Questions	Marks
1.	Identify the substance that is more effective in cooling. a. Water at 0°C b. Water at 100°C c. Ice at 0°C d. Steam at 100°C	1
2.	Adarsh visited a Natural Gas Compressing Unit and found that the gas can be liquefied under specific conditions of temperature and pressure. While sharing his experience with his friends he got confused with the conditions. Help him to identify the correct set of conditions. a. Low temperature, low pressure b. High temperature, low pressure c. Low temperature, high pressure d. High temperature, high pressure	1
3.	The minute hand of a wall clock is 10 cm long. Find the displacement of the tip of it from 10:00 am to 10:30 am. a. 31.43 cm b. 10 cm c. 20 cm d. 30 cm	1

4.	<p>Motion of an athlete moving along a circular path with constant speed is an accelerated motion because</p> <ol style="list-style-type: none"> magnitude of velocity is constant direction of motion is changing at every point athlete's displacement is zero all of the above 	1
5.	<p>Four strips of fresh potato P, Q, R and S of equal length were immersed in solutions of different concentrations. Osmosis occurred according to the concentration difference between cell sap and ambient solution. The results are shown in the given graph. Which of these strips was placed in the most diluted solution?</p>  <ol style="list-style-type: none"> P Q R S 	1
6.	<p>Sheela labelled the parenchyma cells as shown below. Which one of the labelling is wrong?</p>  <ol style="list-style-type: none"> Intercellular space Vacuole Thick cell wall Nucleus 	1
7.	<p>A temporary mount of onion peel was observed under a compound microscope. Which of the following is the correct observation for onion peel cell?</p>	1



- a. A
- b. B
- c. C
- d. D

8. Identify the tissue found in the organ shown below.



- a. Stratified columnar
- b. Squamous epithelium
- c. Glandular epithelium
- d. Columnar epithelium

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):** If the net external force on the body is zero, then its acceleration is zero.
Reason(R): Acceleration does not depend on force.

1

10. **Assertion(A):** Sodium Chloride is not a mixture.
Reason (R): A substance which is made up of more than one constituent is called a mixture.

1

11. **Assertion(A):** Vascular or conductive tissue is a distinctive feature in complex plants.
Reason(R): Vascular tissue of plants has made survival of complex plants possible in terrestrial environment.

1

SECTION B

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

12. The melting point of 2 substances A & B are 280 K and 320 K respectively. Are these substances liquid at room temperature? Justify your answer.

2

13. (a) For a moving object velocity becomes zero but still has non-zero acceleration. Justify your answer with proper example.
 (b) Displacement-time graph of a moving object is obtained as a curved line. What can you conclude about the velocity of the object?

2

14.	Give reasons for the following: (a) Tea leaves do not rupture when excessively boiled but spinach leaves become soft and rupture even in low flame. (b) Cutting of rose is done timely in gardens but still it regains its length.	2
-----	--	---

SECTION C

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


15.	(a) A solution contains 40 g of common salt dissolved in 320 mL of water. Calculate the concentration of the solution in %w/v unit. (b) Give an example of a solution in which both solute and solvent exist in solid state.	3
-----	---	---

16.	The following table represents the velocity of a moving body at different instants of time.	1+2															
	<table border="1"> <tr> <td>Time (s)</td> <td>0</td> <td>5</td> <td>10</td> <td>15</td> <td>20</td> <td>25</td> <td>30</td> </tr> <tr> <td>Velocity (m/s)</td> <td>10</td> <td>15</td> <td>20</td> <td>20</td> <td>30</td> <td>15</td> <td>0</td> </tr> </table>		Time (s)	0	5	10	15	20	25	30	Velocity (m/s)	10	15	20	20	30	15
Time (s)	0	5	10	15	20	25	30										
Velocity (m/s)	10	15	20	20	30	15	0										
	(a) Draw the velocity-time graph for the motion (b) For which interval of time, the body has retardation? Calculate the retardation.																

17.	Draw a neat labelled diagram of the section of the tissue that is responsible for the translocation of food from leaves to other parts of the plant. OR Draw a neat labelled diagram of the tissue found in the lining of kidney tubules and around blood vessels.	3
-----	---	---

SECTION-D

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

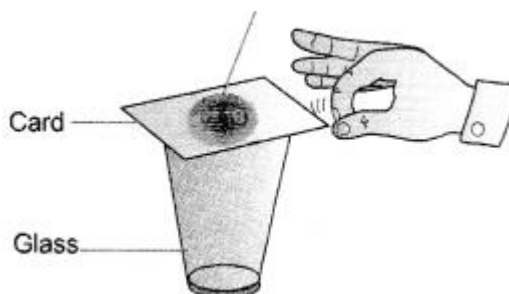
18.	(a) <div style="text-align: center;">  </div> <p>Sreetam has been practicing Karate for last 3 years in Martial Arts club of DPS Howrah. Now he is able to break bricks with his expertise. His classmate Sounak is unable to do so as he has not learnt the same but he can move around his hands in air. Explain the reason behind it.</p> <p>(b) Write one point of similarity & one point of difference between evaporation & boiling.</p> <p>(c) Give example of a phenomenon where diffusion is harmful to us.</p> <p align="center">OR</p> <p>(a)</p>	5
-----	--	---



Although refrigerator is a modern machine by which we can easily cool water but using earthen pots to cool down water is a symbol of the rural culture of India. Refrigerator uses CFC as coolant which is harmful for the environment but there is no such hazard in using earthen pots. Discuss how water gets cooled in earthen pot.

- (b) Convert the following temperature to the Celsius scale: 573 K
- (c) Suggest one method to liquefy gas apart from decreasing temperature.
- (d) A sample of water under study was found to boil at 102°C at normal temperature and pressure. Is the water pure? Justify.

19. (a) In the given experimental setup a student gave the card a sharp, fast horizontal flick with a finger as shown in the figure below.



What will happen to the coin? Give reason for your answer.

- (b) Two bodies A and B of same mass are moving with velocities v and $2v$ respectively. Compare their (i) inertia and (ii) momentum
- (c) Name the SI unit of force and define it.

OR

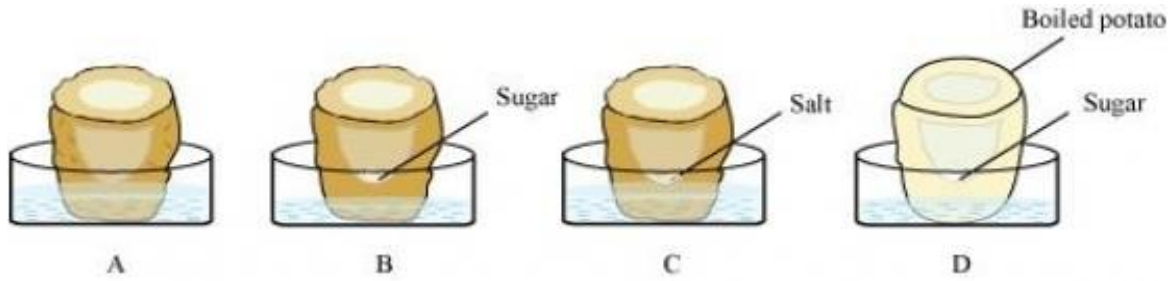
- (a) Why is it easier to stop a tennis ball in comparison to a cricket ball moving with the same speed?
- (b) A car of mass 500 kg was moving initially with a velocity of 12 m/s. Suddenly brakes are applied and its velocity decreases at a rate of $\frac{1}{2} \text{ m/s}^2$.
 - (i) Find the time it will take to come to rest.
 - (ii) Find the distance covered by it before coming to rest.
 - (iii) Calculate the force exerted by the brakes on the car.

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. Rohit carried out an osmosis experiment. He took four peeled potato halves and scooped each out to make potato cups. He used boiled potato to make one of these potato cups. Each potato cup was kept in a trough containing water. He set up his experiments as follows:
- a. Kept cup A empty
 - b. One teaspoon of sugar in cup B

- c. One teaspoon salt in cup C
d. One teaspoon sugar in boiled potato cup D



- (a) Explain the observation seen in potato B, C and D. Is there any difference in observation? Explain.
(b) Why is potato A necessary for this experiment?
(c) Give one difference between osmosis and diffusion.

OR

- (c) What changes will be seen in the observation of potato B if the potato is not peeled.