



INDIAN SCHOOL SOHAR  
PERIODIC TEST I (2024-25)  
SUBJECT: SCIENCE

CLASS: IX

DATE: 19/05/2024

SET I

MAX. MARKS: 20

TIME: 40 MINUTES

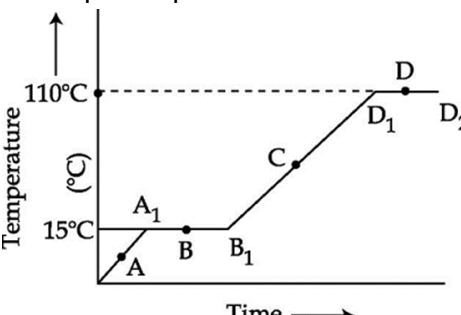
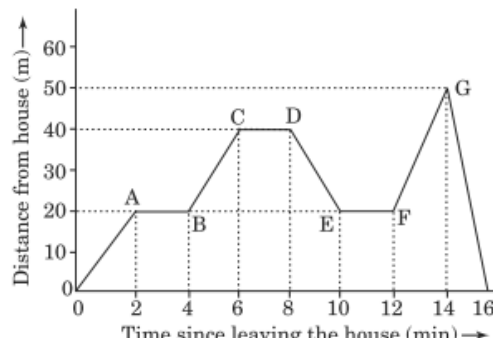
General Instructions:

- This question paper consists of 10 questions in 5 sections.
- All questions are compulsory. However, an internal choice is provided in some questions. Student is expected to attempt only one of these questions.
- Section A consists of six objective type questions carrying 1 mark each.
- Section B consists of one very short question carrying 02 marks.
- Section C consists of one short answer type question carrying 03 marks.
- Section D consists of one descriptive type question carrying 05 marks.
- Section E consists of one case-based question carrying 04 marks with sub-parts.

**SECTION – A**

**Select and write one most appropriate option out of the four options given for each of the questions 1 to 4**

Q. No	Questions	Marks
1	Normally, in the process of osmosis, the net flow of water molecules in or out of the cell depends upon differences in the (a) Concentration of enzymes on either side of the cell membrane. (b) Concentration of water molecules inside and outside the cell. (c) Rate of molecular motion on either side of the cell membrane. (d) Rate of movement of insoluble molecules inside the cell.	1
2	A student put 5 raisins each in two beakers A and B. Beaker A contained 50 mL of distilled water and beaker B had 50 mL of saturated sugar solution. After some time, the student would observe that (a) raisins in beaker A were more swollen than those in beaker B. (b) raisins in beaker B were more swollen than those in beaker A. (c) raisins in both beakers A and B were equally swollen. (d) raisins in beaker A did not swell up at all.	1
3	A quantity has a value of -6 m/s. It may be the: (a) Displacement of a particle (b) Speed of a particle (c) Velocity of a particle (d) Position of a particle	1
4	The three states of water: ice, water and steam can be arranged in the increasing order of interparticle forces as (a) ice < steam < water (b) water < steam < ice (c) ice < water < steam (d) steam < water < ice	1
<b>Q. no 5 and 6 are Assertion - Reasoning based questions. These consist of two statements – Assertion (A) and Reason (R). Answer these questions by selecting the appropriate option from below:</b> (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		
5	<b>Assertion (A):</b> Naphthalene, camphor, iodine, ammonium chloride are some common examples of the substances which undergo sublimation. <b>Reason (R):</b> The conversion of a gas directly into solid is called sublimation.	1

6	<p><b>Assertion (A):</b> The average speed of a body over a given interval of time is equal to the average velocity of the body in the same interval of time if a body moves in a straight line in one direction.</p> <p><b>Reason(R):</b> Here, the distance travelled by a body is equal to the displacement of the body.</p>	1
<b>SECTION – B</b>		
7	<p>(a) Ravi added a small amount of common salt to water taken in a graduated cylinder. On dissolving, there was no detectable change in the level of water. What characteristic of matter is illustrated by this observation?</p> <p>(b) A gas jar containing air is inverted over another jar containing NO<sub>2</sub> gas which is brown in colour and heavier than air. After some time, brown colour is seen in the inverted gas jar too. State and define the phenomenon associated with this observation.</p>	2
<b>SECTION – C</b>		
8	<p>The temperature-time graph given below shows the heating curve for pure substance X at 1 atmospheric pressure. Observe the graph given and answer the following questions:</p>  <p>(a) What is the physical state of the substance at points A and D?</p> <p>(b) What is the melting point of the substance in Kelvin scale?</p> <p>(c) Name the terms used for heat absorbed during change of states involved in above case.</p>	3
<b>SECTION-D</b>		
9	<p>The following graph describes the motion of a girl going to meet her friend who stays 50 m from her house.</p>  <p>(a) How much time she takes to reach her friend's house?</p> <p>(a) What is the distance travelled by the girl during the time interval 0 to 12 minutes?</p> <p>(b) During which time interval she is moving towards her house?</p> <p>(c) For how many minutes she was at rest, during the entire journey?</p> <p>(d) Calculate the speed by which she returned home.</p>	5
<b>SECTION – E</b>		
10.	<p><b>Answer questions on the basis of your understanding of the following paragraph and the related studied concepts:</b> The nucleus was first observed 300 years ago, and research in the past century revealed many of its components. Only recently, however, have we begun to fully appreciate their dynamic, self-organizing behavior. We cannot know who first saw the nucleus but we do know that the father of optical microscopy, Antony van Leeuwenhoek, did so with amphibian and avian erythrocytes in 1710. The nucleus is the largest organelle in most cells. Nuclear structures are associated with important cellular functions while defects in nuclear mechanics can cause a multitude of human diseases. (Source: PMC articles)</p> <p>(a) Give reason: Nucleus covering is important in cell functioning.</p> <p>(b) DNA contains information for inheritance of characters from parent to offspring. What is its functional segment called?</p> <p>(c) What is the difference between chromatin and chromosome?</p>	4

**OR**

(c) Explain how nucleoid is different from nucleus and how it helps in classification of cells.