**PM SHRI KENDRIYA VIDYALAYA SITAPUR SHIFT-1**
**PT-1 SESSION- 2025-26**

| Class: IX | SUBJECT: SCIENCE | MAX.TIME: 90 Min. | Total Marks: 40 |
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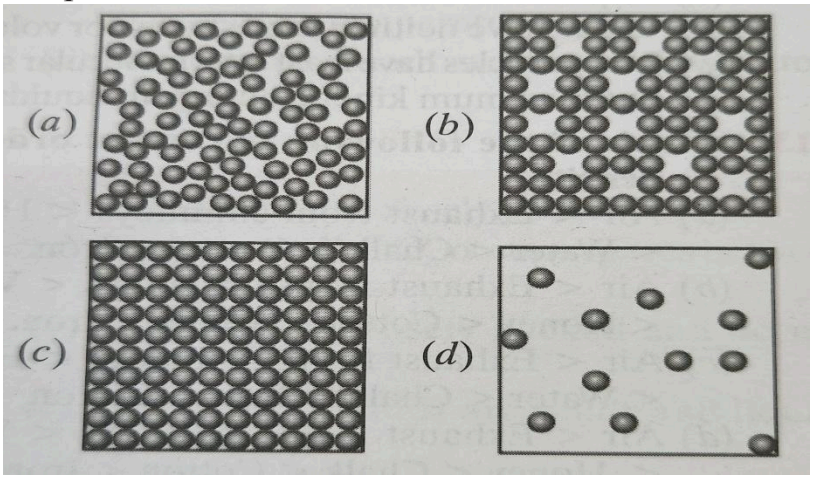
**General Instructions:**

**(1) All questions are compulsory. There are 21 questions in all.**

**(2) This question paper has four sections: Section A, B, C, & D**

**(3) Section A contains 10 Multiple Choice questions of 1 mark each and Section B has 05 questions of 02 marks each, Section C has 04 questions of 03 marks each and Section D has 02 questions of 04 marks each.**

| S. N. | SECTION-A | MARKS |
|---|---|---|
| **Q.1** | A student learns that the particles of brick are arranged in a manner so that they attract each other with greater force. Which diagram shows the arrangement of particles in a brick?<br>  <br> | **1** |
| **Q.2** | Liquid diffuse slowly as compared to gasses because:<br>a) The molecules of liquids are too heavy.<br>b) The molecules of liquid more fast.<br>c) The liquids do not have definite shape.<br>d) In liquid state molecules are held together by strong intermolecular forces as compared to gases. | **1** |
| **Q. 3** | Which of the following is not correct?<br>a) Matter is made up of particles.<br>b) Particles of matter attracts each other.<br>c) Particles of gasses and liquids are continuously moving.<br>d) Particles of matter are always in a state of motion. | **1** |
| **Q. 4** | The barrier between the cytoplasm and the outer environment in an animal cell is:<br>a) cell wall<br>b) plasma membrane<br>c) cytoplasm. | **1** |

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| | d) nuclear membrane | |
| **Q. 5** | New cells originate:<br>a) By fragmentation of pre-existing cells<br>b) By regeneration of old cells<br>c) By cell division of pre-existing cell<br>d) From inorganic and organic materials of the body. | **1** |
| **Q. 6** | Lysosome is called "suicidal bag" because it:<br>a) can digest parts of its own cell<br>b) contain hydrolytic enzymes<br>c) contain food Vacuole<br>d) has parasitic activity | **1** |
| **Q. 7** | The speedometer of a car measures:<br>a) Average speed<br>b) Average velocity<br>c) Instantaneous speed<br>d) Displacement | **1** |
| **Q.8** | Which one is the energy currency in living organisms?<br>a) Glucose<br>b) Pyruvate<br>c) ATP<br>d) Mitochondria | **1** |
| **Q.9** | ASSERTION-REASON QUESTION<br>Direction: In each of the following questions, a statement of Assertion is given followed by a corresponding statement of Reason. Of the statements, mark the correct answer as<br>(a) Both Assertion and Reason are true and Reason is the correct explanation of Assertion.<br>(b) Both Assertion and Reason are true but Reason is not the correct explanation of Assertion.<br>(c) Assertion is true but Reason is false.<br>(d) Assertion is false but Reason is true.<br><br>**Assertion (A)**: An object moving with uniform velocity has zero acceleration.<br><br>**Reason (R)**: Acceleration is the rate of change of velocity with time. | **1** |
| **Q.10** | **Assertion (A):** Displacement can be zero even if the distance is not zero.<br><br>**Reason (R):** Displacement is the shortest distance between the initial and final position of an object. | **1** |

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| | **SECTION-B** | |
| **Q.11** | How does spreading of wet clothes quicken their drying? Explain. | **2** |
| **Q.12** | Why do solids cannot be compressed whereas gasses can be compressed? | **2** |
| **Q.13** | Write down the differences between hypertonic solution and hypotonic solution. | **2** |
| **Q.14** | A car travels a distance of 300 km in 5 hours. What is the speed in $ms^{-1}$ ? | **2** |
| **Q.15** | Which cell organelle is known as powerhouse of the cell? Write a short note on that organelle. | **2** |
| | **SECTION-C** | |
| **Q.16** | Define the following terms:<br>a) Latent heat of fusion.<br>b) Melting point.<br>c)Evaporation. | **3** |
| **Q.17** | Tabulate the differences in the characteristics of state of matter.<br>(Shape, volume, compressibility, diffusion) | **3** |
| **Q.18** | A car travels at 54 km/h for first 20 s, 36 km/h for next 30 s and finally 18 km/h for next 10 s. Find its average speed. | **3** |
| **Q.19** | a) Write at least three differences between plant and animal cells.<br>b) Draw a well labelled diagram of plant cell. | **3** |
| | **SECTION-D** | |
| **Q.20** | **Read the given passage and answer the questions that follow based on the passage and related studied concepts.**<br><br>During a discussion in class, the teacher asks the students to compare bacteria and human cells. One student mentioned that bacteria lack a nucleus and another said that they don't have membrane-bound organelles. The teacher then explained the key differences between prokaryotic and eukaryotic cells.<br><br>a) Which of the two- bacteria or human cells - is prokaryotic? Why?<br>b) List any two differences between prokaryotic and eukaryotic cells?<br>c) Name two cell organelles that are membrane-bound and absent in prokaryotes.<br><br>**OR**<br>Why do prokaryotic cells lack a well defined nucleus? | **4** |
| **Q.21** | **Read the given passage and answer the questions that follow based on the passage and related studied concepts.** | **4** |

Reena is driving her car from her home to her workplace. Her home is located in a quiet residential area, and the workplace is in a busy commercial hub. The total distance from her home to her workplace is 20 kilometers. For the first 5 kilometers, she drives on a clear, open road where she maintains a constant speed of 40 km/h. As she approaches the city outskirts, the traffic becomes moderate, and she has to reduce her speed to 20 km/h for the next 5 kilometers. Finally, when she enters the busy market area near her workplace, the traffic is very heavy, and she covers the last 10 kilometers at an average speed of 10 km/h, constantly changing her speed and applying brakes due to congestion.

**i)** What type of motion is Reena exhibiting during the first 5 kilometers of her journey?
a) Non-uniform motion
b) Uniform motion
c) Oscillatory motion
d) Random motion

**ii)** What is Reena's average speed during the second 5 kilometers of her journey?
a) 40 km/h b) 20 km/h c) 10 km/h d) Cannot be determined

**iii)** When Rina enters the busy market area, her motion can be described as:
a) Uniform velocity
b) Uniform acceleration
c) Non-uniform motion
d) Constant speed

**iv)** If Reena took a total of 1 hour to reach her workplace, what is her average speed for the entire journey?
a) 20 km/h
b) 40 km/h
c) 10 km/h
d) Cannot be determined from the given information.