INDIAN SCHOOL AL WADI AL KABIR

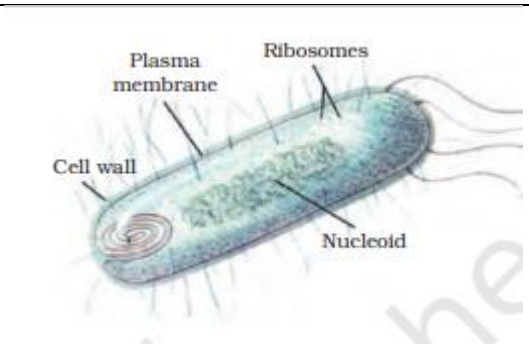
PRE-MIDTERM (2024 – 25)

Class IX

Set - 2

MARKING SCHEME

NO	QUESTIONS	MARKS
	SECTION A	
1.	b) Endocytosis	1
2.	a) Gases have a definite shape	1
3.	b) Velocity is a vector quantity while speed is a scalar quantity.	1
4.	c) A is true, R is false	1
5.	a) Both A and R are true, and R is correct explanation of the assertion.	1
6.	a) Both A and R are true, and R is correct explanation of the assertion.	1
	SECTION B	
7.	When we place few crystals of potassium permanganate in a beaker containing water, we get two distinct layers—colourless water at the top and pink colour at the bottom. After few minutes, pink colour spreads and whole solution turns pink due to diffusion. Since potassium permanganate is a solid substance, it does not possess so much space. Water molecules due to liquid state, collide with solid particles and intermix due to sufficient space between molecules.	1+1
8.	Plasmolysis. Plasmolysis is the process in which cells lose water in a hypertonic solution. Plasmolysis is the process of shrinking of plasma membrane from the cell wall when the cell is placed in a hypertonic solution. This happens due to exosmosis as water moves out of cell into the solution. OR Functions: controls all metabolic functions, central role in cellular reproduction, protein synthesis etc.	(1+1 = 2marks)
	SECTION C	
9.	i. Particles are closely packed (1/2) and there is no space for the movement. ii. Very less/no interparticle space (1/2) hence no movement (1/2) iii. When it is a higher temperature the diffusion rate (movement) of particles will be very fast when compared to the diffusion rate of particles at a lower temperature and since the temperature of hot sizzling food is higher than cold food, the smell of hot sizzling food will be reaching us from several meters away. OR	1 ½ + ½ ½ + ½ 1 (1+1+1)

	Definition (1+1+1)	
10.	 b) any one-point difference	**1 mark for drawing** ½ + ½ **Labelling** ½ + ½
	SECTION D	
11.	a) a= v-u / t ½ mark 36 km/h = 10 m/s ½ mark 54 km/h = 15 m/s ½ mark a=(15 – 10) / 10 = 0.5 m/s^2 ½ mark Rate of change of displacement SI unit is m/s When an object is moving in a straight line in a particular direction. OR a= v-u / t ½ mark 18 km/h = 5 m/s ½ mark 36 km/h = 10 m/s ½ mark a=10-5/5 = 1 m/s^2 ½ mark Rate of change of distance. SI unit is m/s Yes. If a body starts its motion from a point and comes back to the same point after a certain time, the displacement is zero, the average velocity is also zero, but the total distance travelled is not zero and therefore, the average speed is not zero. ½ mark	1 ½ mark ½ mark 1 mark 1 mark (1 mark) ½ mark x4 1 mark 1 mark ½ + ½ 1+1
	SECTION E	
12.	a) distance = 1000 m, displacement = 0 m b) Average speed = total distance/ total time = 1000m / 10*60 = 1.67 m/s c) Any difference	½ + ½ mark ½ + ½ mark ½ + ½ mark

13.	a) liquid b) Liquids have less force of attraction between molecules. Less mass and more volumes as compared to solids. c) Oxygen <milk < salt	1 1 1
14.	a) Raisins in the beaker A will swell as solution surrounding them is hypotonic in nature. Raisins in the beaker B will shrink as the solution surrounding them is hypertonic in nature. b) Since animal cells do not have a cell wall, when too much of this water enters to make the concentration of water on both sides even, the animal cell may eventually burst, and die. c) The two conditions that must be present for osmosis to happen are having a selectively permeable membrane and differing concentrations of solute on either side of the membrane.	½ + ½ 1 1