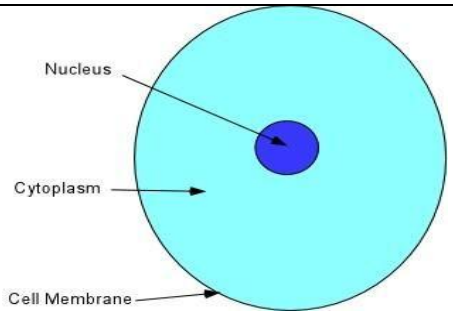
Indian School Al Wadi Al Kabir
Pre-midterm (2025-2026)

Class: IX | Subject: SCIENCE | Max. marks: 30
Date: 18/05/2025 | SET-II | Time: 1 hour

ANSWER KEY

SECTION - A Select and write one most appropriate option out of the four options given for each of the questions 1 – 6		
Q.NO	ANSWERS	MARKS
1	(B) 5m	1
2	(D) kerosene	1
3	(C) The nucleus was discovered – 1831	1
4	(A) Both A and R are true, but R is the correct explanation of the assertion.	1
5	(A) Both A and R are true, but R is the correct explanation of the assertion.	1
6	(A) Both A and R are true, but R is the correct explanation of the assertion.	1
SECTION – B **Q. no. 7 and 8 are very short answer questions**		
7	(a) Weak force of attraction between the particles in the air (b) The particles do not move from their fixed positions.	(1+1=2)
8	(a) Endocytosis is the process by which an amoeba takes up a food particle. During the process of endocytosis, the outermost membrane of the amoeba folds inwardly and extends outwards to catch the food. Endocytosis is found only in animal cells because animal cells lack a cell wall outside the plasma membrane	2

	OR (b) (i) A cell is capable of independently carrying out all necessary activities of life. So, they are called the basic or functional unit of life. ii**) Plasma membrane:** • It is a living membrane • It is the phospholipid layer • It helps in protecting the protoplasm and checks the passage of molecules inside the cell • It is Semi-permeable • It is made up of lipoproteins **Cell wall:** • It is a non-living, rigid layer • It is freely permeable • It protects the cell from external shocks, and provides rigidity and shape to the cell • It is composed of cellulose • It is the outermost boundary of the cell (if present) • It is seen in plant cells, fungi, and bacteria only	(1+1=2)
SECTION - C **Q.no. 9 and 10 are short answer questions.**		
9	(a) (i) (I) 300-273= 27ºC (II) 25+273=298 K (1+1) (ii) At a temperature below the melting point, the substance will be in a solid state **OR** (b) (i) (I) and (II) Definition (II) Oxygen < water < sugar	(1+1+1=3) (2+1=3)

10	(a)  (b) Due to cell walls, cells of plants, fungi and bacteria can withstand greater changes in surrounding conditions than animal cells. E.g. Cell wall enables the cells to withstand a hypotonic solution without bursting.	2+1=3
SECTION - D **Q.no. 11 is a long answer question**		
11	(a) (i) Distance travelled=31km Displacement=3km (ii) Any two differences (iii) Let the distance travelled by car be x. Since car travelled two times(A to B & B to A), so total distance will be 2x. <u>Find the time taken by car to cover the distance from stop A to stop B:</u>Time A = x/36 hr <u>Find the time taken by car to cover the distance from stop B to stop A :</u>Time B = x/54 hr <u>Find the total time taken by car to cover the distance:</u> Total Time = x/36 + x/54 Total Time = 5x/108 <u>Find the average speed of the car:</u> Average Speed = Total Distance/Total Time Average Speed = 2x/ 5x/108	½+½ 2 ½ ½ ½ ½

	Average Speed = 2x/5x × 108 Average Speed = (108 × 2)/5 Average Speed = 43.20 km/hr OR (b) (i) Acceleration is the rate of change of velocity of an object with respect to time. Unit-m/s^2 (ii) vector quantity Positive acceleration -the velocity of the body is increasing with time Negative acceleration or retardation - the velocity of the body is decreasing with time. (iii) The time will be 9:45-9:25 = 20min = 20×60 u=36km/h=10m/s v= 72km/h=20m/s acceleration =v-u/t = 20-10/t a=20-10/20×60=10/20×60=1/120m/s2= 0.0083m/s^2	1 ½ ½ ½+½ ½ ½ ½ ½
SECTION – E **Q.no. 12,13, and 14 are case-based/data-based questions with 3 short sub-parts.**		
12	(a) uniform motion- Car B non-uniform motion- Car A, Car C	½+½
	(b) Difference	1
	(c) Distance travelled- 2 km Time taken- 30 minutes =1/2 hr Speed= Distance/time= 2/½= 4 km/h	½+½
13	(a) The amount of heat energy that is required to change 1 kg of a liquid to vapours at atmospheric pressure at its boiling point is known as the latent heat of vapourisation.	(1+1+1=3)

	(b) Solid to Gas - Sublimation	
	(c) Solid carbon dioxide obtained by cooling and applying pressure on carbon dioxide gas. It does not melt, so it is called dry ice.	
14	(a) Raisins in the beaker A will swell as the solution surrounding them is hypotonic in nature. Raisins in beaker B will shrink as the solution surrounding them is hypertonic in nature**.**	1
	(b) selectively permeable	½
	(c) An isotonic solution is one where the concentration of solutes is equal inside and outside the cell, resulting in no net movement of water across the cell membrane. The type of solution in Beaker A is hypotonic with respect to the raisins, while the solution in Beaker B is hypertonic.	1½