NAVODAYA VIDYALAYA SAMITI

नवोदय विद्यालय समिति

REGIONAL OFFICE CHANDIGARH

क्षेत्रीय कार्यालय चंडीगढ़

MID TERM /TERM IST EXAMINATION 2025-26

मध्यवर्ती परीक्षा / टर्म पहली परीक्षा 2025-26

SUBJECT : SCIENCE

विषय : विज्ञान

CLASS : IX

कक्षा :9

MARKING SCHEME

TIME: 3 HRS समय: 3 घंटे

MAX MARKS :80 अधिकतम अंक: 80

Q. No	Correct Answer	Marks
1	b	1
2	d	1
3	c	1
4	c	1
5	b	1
6	c	1
7	c	1
8	d	1
9	c	1
10	d	1
11	c	1
12	c	1
13	b	1
14	a	1
15	c	1
16	b	1
17	c	1
18	b	1
19	d	1
20	a	1
21	a) Homogeneous mixture (solution) b) Solute: Salt, Solvent: Water	1+1
22	In desert plants, the epidermis is present as a thick, waxy coating of cutin primarily to minimize water loss through transpiration	2
23	Diagram- Labeling-	1 Mark ¼ each
24	The acceleration of the bus is approximately a=(v-u)/t= (0-10) /6 =-1.67 m/s^2 , and the distance traveled before stopping is S=ut+1/2at^2 =30m. OR . The average velocity, is defined as the total distance divided by the total time:= (d+d) / (t_1+t_2) = 2d/($\frac{d}{30}$ +$\frac{d}{10}$) =	(1+1) **OR** 1+1

	$15ms^{-1}$.	
25	When the carpet is beaten, it is suddenly set into motion. The dust particiles tend to ramain at rest due to inertia of rest, therefore the dust comes out of it.	1+1
26	Mass and weight, while related, are distinct concepts. Mass is the amount of matter in an object and remains constant regardless of location. Weight, on the other hand, is the force exerted on an object due to gravity and varies depending on the gravitational field.	1+1
27	a) Liquid → Gas (Evaporation) b) Temperature and wind speed c) Evaporation occurs at all temperatures; boiling happens at a fixed temperature.	1+1+1
28	The plasma membrane, a vital structure in all cells, acts as a selectively permeable barrier separating the cell's interior from its external environment. It is primarily composed of a phospholipid bilayer, embedded with proteins and carbohydrates, giving it a "fluid mosaic" structure.	Structure-1 Function-1 Role-1
29	Voluntary muscles Also known as skeletal muscles • Attached to bones • Responsible for voluntary movements like walking, running, and lifting • Examples include the biceps and quadriceps Involuntary muscles Also known as smooth and cardiac muscles • Operate automatically and cannot be consciously controlled • Responsible for regulating essential bodily processes like digestion and heartbeat • Examples include the heart (cardiac muscle) and the muscles in the walls of the intestines (smooth muscle) (1/2 marks)	(1 mark) (1/2 marks) (1 mark) (1/2 marks)
30	**1.** Size of the Cell:	1 Mark

	○ Prokaryotic Cell: Smaller in size (0.1 - 5 micrometers). ○ Eukaryotic Cell: Larger in size (10 - 100 micrometers). **2.** Presence of Nucleus: ○ Prokaryotic Cell: Lacks a distinct nucleus; its DNA is freely present in the cytoplasm. ○ Eukaryotic Cell: Has a defined nucleus, where the DNA is enclosed within a nuclear membrane. **3.** Presence of Organelles: ○ Prokaryotic Cell: Does not have membrane-bound organelles like mitochondria, endoplasmic reticulum, etc. ○ Eukaryotic Cell: Contains membrane-bound organelles such as mitochondria, endoplasmic reticulum, Golgi apparatus, etc.	1 Mark 1 Mark
31	Mass of solute (salt) = 15 g Mass of solvent (water) = 200 g Mass of solution = 15 g + 200 g = 215 g Mass by mass percentage =15/215*100=6.98%	3
32	statement. Action &reaction are exchangeable. Both acts at same time. Diagram	1+0.5+0.5 +1 =3
33	F=ma, 10 N, 8N, require a greater force – acceleration a 2 Kg mass at $5m/s^2$	1+1+1
34	(a) Xylem and phloem are an example of complex permanent tissues. These tissues are named so because they are made up of more than one type of cells and all these different types of cells coordinate to perform the same function. (b) Complex plant tissues for conduction of materials, primarily xylem and phloem,	1 2

	differ structurally in the types of cells they contain, with xylem composed of tracheids and vessels for water transport, while phloem consists of sieve tubes and companion cells for food transport; functionally, xylem conducts water and minerals unidirectionally from roots to leaves, whereas phloem transports organic nutrients bi-directionally throughout the plant. (c) The husk of a coconut is made up of sclerenchyma tissue	2
35	Evaporation is the process by which liquid changes into vapour at a temperature below its boiling point. It occurs at the surface of the liquid, where molecules with enough kinetic energy escape into the air. Factors Affecting the Rate of Evaporation: 1. Surface Area: Larger surface area allows more molecules to escape. Example: Wet clothes dry faster when spread out. 2. Temperature: Higher temperature gives more energy to molecules, increasing evaporation. Example: Water dries faster under the sun than in the shade. 3. Humidity: Lower humidity increases evaporation because the air can hold more water vapour. Example: Clothes take longer to dry on a humid day. 4. Wind Speed: Higher wind speed removes vapour particles from the surface, increasing evaporation. Example: Clothes dry faster on a windy day. Evaporation Causes Cooling – How? During evaporation, the particles of liquid absorb energy from their surroundings to overcome the forces of attraction and escape as vapour. This energy is taken in the form of heat, which lowers the temperature of the surroundings, causing a cooling effect. Examples from Daily Life:	1+2+2

	1. Sweating: Sweat evaporates from our skin, taking away body heat and cooling us down. 2. Water in Earthen Pots (Matkas): Water oozes out through the tiny pores and evaporates, cooling the water inside. 3. Spraying Water on Rooftops: The water evaporates by absorbing heat from the roof, thus reducing the temperature.	
36	15 (a) statement of Newton's law. (b)(i), ($F \propto 1/r^2$) the force becomes one-fourth (1/4) of its original value when the distance is doubled, (b)(ii), ($F \propto m_1m_2$) the force becomes four times its original value when both masses are doubled. **OR** (i) The maximum height to which the ball rises is 122.5 m . (ii) The total time it takes to return to the surface of the earth is 10 s.	1+2+2 OR 2.5+2.5=5
37	(i)When salt is dissolved in water, a homogeneous mixture or a true solution is formed. (ii) When sand is added to saltwater, it forms a heterogeneous mixture or a suspension. (iii). No, the components of the salt solution cannot be separated by filtration because salt is completely dissolved in water and passes through the filter paper. (iv) True solution : particles are not visible. Stable ; does not settle down, Suspension : particles are visible. Unstable particles settle on standing.	1+1+1+1
38	D)positive & negative uniform acceleration *(D) d_{AD}=67.5m* (c) zero acceleration (a) 7.5 ms^{-2}	1+1+1+1
39	(a) Mitosis (b) Meiosis is a type of cell division that's also known as reductional division because it reduces the number of chromosomes in a cell by half. (c) Meiosis is a type of cell division that results in the	1 1 2

	formation of four daughter cells each with half the number of chromosomes as the parent cell. Mitosis is the type of cell division that results in the formation of two daughter cells each with the same number and kind of chromosomes as the parent cell. Or Meiosis is crucial for generating genetic variation in offspring by facilitating the random assortment of chromosomes and the exchange of genetic material through a process called "crossing over,"	