

**SCIENCE – Code no. 086**  
**MARKING SCHEME**  
**CLASS – IX TERM-I**  
**(2025-26)**

Section–A Biology		Marks
1	A) Growth in tip of stem	1
2	b) Sclerenchyma	1
3	b) Heart	1
4	c) Chloroplast	1
5	c) Cell wall	1
6	d) Xylem	1
7	b) Epidermis of leaves	1
8	C [ A is true and R is false]	1
9	Both A and R are true, and R is the correct explanation of A	1
10	A-Swell      B-shrink	1+1
11	1. Meristematic: Cells divide actively; Permanent: Cells have lost ability to divide. 2. Meristematic: Cells are small, thin-walled, with dense cytoplasm; Permanent: Cells are large, vacuolated. 3. Meristematic: Found in growing regions of plant (tips); Permanent: Found in mature parts of plant.  OR  : ligament connects bone to bone Tendon connectys bone to muscle	1+1
12	1. Provides protection against mechanical injury, water loss, and infection. 2. Regulates gaseous exchange through stomata.	1+1
13	Drawing composition of animal cell.... CELL MEMBRANE, CYTOPLASM , NUCLEUS	1.5 1.5
14	[i] mitosis [ii] mitosis [A] [iii] parent [46], daughter cell [23]	1+1+1
15	a) Cell wall b) Chloroplasts – they perform photosynthesis c) Vacuole stores water, maintains turgidity and shape	1+1+1+1

	d) Safranin	
16	<ol style="list-style-type: none"> <li>1. Apical meristem – Found at root and shoot tips; causes increase in length.</li> <li>2. Intercalary meristem – Found at internodes; causes growth in length of internodes (grasses).</li> <li>3. Lateral meristem (cambium) – Found in stem sides; causes increase in girth/thickness of plant.</li> </ol> <p>OR</p> <ol style="list-style-type: none"> <li>1. Fluid connective tissue- blood</li> <li>2. HARD connective tissue- bone, cartilage</li> <li>3. Ligament, tendon</li> <li>4. Areolar tissue</li> <li>5. Adipose tissue</li> </ol>	5

### Section –B - Chemistry.

17	a) Heat is used to break bonds between water molecules	1
18	c) Muddy water	1
19	a) Smell of perfume spreading in a room	1
20	a) Air	1
21	a) Heat required to convert solid into liquid at melting point	1
22	b) Gold	1
23	a) Sublimation	1
24	a) Assertion and Reason both are correct and reason is correct explanation of assertion.	1
25	Steam produce more heat due to release of latent heat of vapourisation	2
26	<p>(a) <math>\text{Mass \%} = (\text{Mass of solute} \div \text{Mass of solution}) \times 100</math>  <math>= (40 \div (40+320)) \times 100</math>  <math>= (40 \div 360) \times 100 = 11.11\%</math></p> <p>OR</p> <p>(b) Particles of colloidal solution are big enough to scatter the light whereas particles of true solution are too small to scatter light.</p>	3

	Examples- sugar solution does not show Tyndall effect whereas colloidal solution of starch can show Tyndall effect	
27	a) Gas fills the entire vessel in which it is kept attraction between the particles of gas is very less and their volume is the volume of vessel b) We can smell hot food from a distance more easily than cold food because diffusion is faster at high temperature c) Due to the condensation of water vapor present in atmosphere on the surface of metallic pot.	3 (1+1+1)
28.	a.sugar in water is homogeneous mixture. b.correct differences OR 2. i) Dispersing medium- gas Dispersed phase -solid ii) Dispersing medium- Solid Dispersed phase - liquid 3. correct example	4 (1+2+1)
29	Option A: a) Because its particles continuously strike on the wall of the container. (1 mark) b) A helium balloon is left in sunlight. Its volume is increased due to increase in temperature. (2 marks) c) correct two differences . (1 mark) d) petrol (any correct example) . (1 mark) OR Option B: a) Earthen pot → cooling due to evaporation (2 marks) b) Solids → definite shape and volume due to fixed particle arrangement (2 marks) c) Gas has highest compressibility (1 mark)	5
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<b>Section –C - Physics</b>		
30	b) $m/s^2$	1
31	a) An equal and opposite reaction	1
32	C) A is true but R is false.	1

33	<p><b>definition of acceleration :</b></p> <ul style="list-style-type: none"> <li>Acceleration is the change in velocity divided by the time taken for that change.</li> <li><b><math>a = (v - u) / t</math></b> <span style="float: right;">1</span></li> <li>Where: <ul style="list-style-type: none"> <li><math>v</math> = final velocity</li> <li><math>u</math> = initial velocity</li> <li><math>t</math> = time</li> <li><math>a</math> = acceleration</li> </ul> </li> </ul> <p><b>rearrange the formula Solve for the final velocity (v):</b>  <b><math>v = u + at</math></b> <span style="float: right;">1</span></p>	2
34	<p><b>A.</b></p> <p style="text-align: right;">Use <math>F = ma</math> <span style="float: right;"><math>\frac{1}{2}</math></span></p> <p style="text-align: right;">Find <math>F</math> for both. <span style="float: right;"><math>\frac{1}{2} + \frac{1}{2}</math></span></p> <p style="text-align: right;">Compare <span style="float: right;"><math>\frac{1}{2}</math></span></p> <p><b>B.</b></p> <p style="text-align: right;">Use <math>F = ma</math> <span style="float: right;"><math>\frac{1}{2}</math></span></p> <p style="text-align: right;">Find <math>a = F/m = 15/5 \times 10^{-3} = 3000 \text{ m/s}^2</math> <span style="float: right;"><math>\frac{1}{2}</math></span></p> <p style="text-align: right;"><math>a = (v-u)/t</math> or <math>v = u+at</math> <span style="float: right;"><math>\frac{1}{2}</math></span></p> <p style="text-align: right;">Calculate <math>v = 3000 \times 5 = 15000 \text{ ms}^{-1}</math> <span style="float: right;"><math>\frac{1}{2}</math></span></p>	2
35	<p>Any two differences - 2 Marks</p> <p>Each planet, moon, or other celestial body has a different mass and density, resulting in a unique gravitational field. Due to this, the same object will experience different gravitational forces and produce different accelerations. Hence, weight will be different.</p> <p style="text-align: right;">– 1 Mark</p>	3
36	<p>(i) use <math>v=u+at</math>, <math>v=0</math>, <math>t=u/a \rightarrow t = 2s</math> <span style="float: right;">1</span></p> <p>(ii) <math>v^2 - u^2 = 2as</math>, <math>v=0 \rightarrow s = h = u^2/2a \rightarrow h = 20m</math> <span style="float: right;">1</span></p> <p>(iii) velocity is equal at every level during the whole journey, <math>v = 20m/s</math> <span style="float: right;">1</span></p>	3

37	<p>Use the formula :</p> $F = G \frac{m_1 m_2}{r^2}$ <p>Put the values, Calculate</p> $F = 5.34 \times 10^{-10} \text{ N}$	<p>1</p> <p>2</p>	3
38	<p>A. ii) always acts on different bodies in opposite directions</p> <p>B. i) Third law of motion</p> <p>C. iii) The ground on the horse's feet</p> <p>D. iv) all the above     <b>OR</b></p> <p>E. i) Must act on different objects</p>		4
39	<p><b>A.</b> a) Uniformly accelerated motion</p> <p>b) Uniform motion</p> <p>c) Uniformly retarded motion</p> <p>d) Slope = a = (v-u)/t → a = 6/4 = 1.5 m/s<sup>2</sup></p> <p>e) Slope = a = (v-u)/t → a = -6/6 = -1.0 m/s<sup>2</sup></p> <p style="text-align: center;"><b>OR</b></p> <p><b>B.</b></p> <p>a. i) Uniform motion</p> <p>b. ii) It increases</p> <p>c) iii) Zero</p> <p>d) i) Distance = Speed × Time</p> <p>e) i) m/s</p>	<p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p></p> <p></p> <p></p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p>	5

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