7EF3M8U

Marking Scheme

SUMMATIVE ASSESSMENT – I (2015-16)

Science (Class–IX)

General Instructions:

1. The Marking Scheme provides general guidelines to reduce subjectivity and maintain uniformity. The answers given in the marking scheme are the best suggested answers.
2. Marking be done as per the instructions provided in the marking scheme. (It should not be done according to one's own interpretation or any other consideration).
3. Alternative methods be accepted. Proportional marks be awarded.
4. If a question is attempted twice and the candidate has not crossed any answer, only first attempt be evaluated and 'EXTRA' be written with the second attempt.
5. In case where no answers are given or answers are found wrong in this Marking Scheme, correct answers may be found and used for valuation purpose.

भाग–अ / SECTION-A

1	Division of labour in multi cellular organisms	1
2	692 m.	1
3	Becomes half	1
4	A solution of iodine in alcohol is known as 'tincture of iodine'. Solute – iodine Solvent - alcohol	2
5	(1) Tissues	2

		(2) Cell differentiation (3) Tendon (4) Guard cells	
	6	(a) $F \alpha M \times m,\ F \alpha \frac{1}{d^2} \Rightarrow F \alpha \frac{M \times m}{d^2}$ or $F = G\frac{Mm}{d^2}$ or $G = \frac{Fd^2}{M \times m}$ (b) As the force of gravity is less on moon. $[F = m \times g]$	2
	7	It is the amount of solute present in given amount (mass or volume) of solution or mass or volume of solvent. Ways of expressing concentration : (a) Mass by Mass percentage $= \frac{\text{Mass of solute}}{\text{Mass of solution}} \times 100$ (b) Mass by volume percentage $= \frac{\text{Mass of solute}}{\text{Volume of solution}} \times 100$	3
	8	Explanation of reason : Large latent heat of vaporization of water helps to cool the area.	3
	9	(a) Definition and states. (b) Variation in states	3
	10	A – concentrated solution, B – Isotonic solution, D – swells up, C – No change E – No movement of molecules F – turgid.	3
	11	**Tendon** | **Ligament**	3

		Join bones to muscles | Joins bone to bone Limited flexibility | Elastic More strength | Less strength (Any two) Adipose tissue stores fat and provides insulation.	
	12	(a) No effect (b) No effect (c) No effect	3
	13	$\frac{g(\text{Neptune})}{g(\text{earth})} = \frac{9}{8}$ $\therefore \quad \frac{\cancel{m} \times gN}{\cancel{m} \times ge} = \frac{W(\text{Neptune})}{792}$ or $\quad W = \frac{9}{8} \times 792 = 891\ N$	3
	14	(a) (i) speed of the body (ii) acceleration of the body. (b) uniform motion with constant velocity	3
	15	(i) Centripetal force necessary for circular motion is provided by the gravitational force between the sun and other planets. (ii) Centripetal force necessary for circular motion is provided by the gravitational force between sun and the earth.	3

	16	Fig.9 : 14 Page # 123 $F_{AB} = - F_{BA}$ $m_A \frac{(V_A - u_A)}{t} = - m_B \frac{(V_B - u_B)}{t}$ $m_A u_A + m_B u_B = m_B v_B + m_A v_A$	3
	17	Expected Answer / Value Points of Test item – 61 (i) enrich soil with humus to increase water holding capacity, use of drought resistant varieties (ii) water harvesting, check dams. (iii) critical and analytical thinking, preparedness, cooperation, team work, mutual concern, applying knowledge.	3
	18	Definition. The selected species do not compete for food	3
	19	By chromatography Fig 2.8 Page 21 Activity 2.7 Page 21	5
	20	(a) Two process are – Evaporation, Diffusion. (b) Definition of fluidity – Liquids flow because, the particles have more spaces between them and they have not strong force of attraction.	5
	21	(a) increase absorptive surface area	5

		(b)	prevent/check water loss, mechanical injury	
		(c)	stomata regulate exchange of gases	
		(d)	protection against water loss	
		(e)	makes the cells impervious to gases and water	
	22	(a)	graph showing slope = acceleration $S = ut + \frac{1}{2}at^2$, $S = oxt + \frac{1}{2} \times 3 \times 35^2$ $v = u + at$, $u = 0 + 3 \times 35$	5
		(b)	s = 1837.5 m and v = 105 ms^{-1}	
	23	(a)	The momentum, p of an object is defined as the product of its mass, m and velocity, v. $p = mv$ unit of momentum p = unit of mass × unit of velocity $= kg \times ms^{-1} = kg\ ms^{-1}$ $\text{Force} = \frac{\text{change in momentum}}{\text{time}}$	5
		(b)	(i) Ball B has more inertia than A as its mass is 2 times that of A (ii) momentum A = m × 2v = 2 mv B = 2m × 1v = 2 mv It is clear that both have same momentum	
	24	(a)	Capture fishing Culture fishery.	5
		(b)	finned fishes like mullets, pearl spots	

		Shellfish - prawns, mussels, oysters, seaweed (c) using satellites and echo sounders.	
		भाग–ब / SECTION - B	
	25	(d) appearance of pink colour in test tube A and B	1
	26	(d) all of the above	1
	27	(d)	1
	28	(c)	1
	29	(c)	1
	30	(b)	1
	31	(c)	1

32	(a)	By sublimation addition of CCl_4	1
33	(c)	Newton's third law of motion	1
34	A mixture of sand and chalk powder will be left on filter paper. Salt solution will be filtrate.		2
35	Arrangement of student C is correct. Because bulb of thermometer is dipped in crushed ice and glass stirrer is used.		2
36	$\frac{\text{Mass of swollen raisins - Mass of dry raisins}}{\text{Mass of dry raisins}} \times 100$ One precaution		2

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