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	Plant tissues : Supportive, provide structural strength, most of them are dead. Animal tissues : Most of the tissues are living because they consume more energy as compared to plants.	1
2	The earth is not perfect sphere Radius of earth increases from the poles to the equator, value of g becomes greater at the poles than at the equator.	1
3	Balanced force, net force = 0	1
4	Because the different gases present in air can be separated by fractional distillation.	2
5	(1) Unstriated/smooth/involuntary (2) Spindle shaped	2
6	(a) Uniform linear motion is not accelerated while uniform circular motion is accelerated. (b) (i) Motion of artificial satellite around the earth (ii) Motion of earth around the sun.	2
7	<table><tr><th>Substance</th><th>Mixture</th></tr><tr><td>(1) Pure form of matter is called a substance (2) Cannot be separated into other kinds of matter by any physical process. Eg : Pure water</td><td>(1) Mixture are constituted by more than one kind of pure forms of matter (2) Mixture can be separated into its constituents by physical process. Eg : sea water</td></tr></table>	3
8	(a) B.pt in Kelvin and celcius scale - ½ + ½ (i) 373 K (ii) 100°C	3

	(b) Conversion of two temp. = 1+1 (i) 17°C, (ii) 207°C	
9	(a) 273 + 25 = 298 K (b) differ w.r.t interparticle spaces minimum in solid state, maximum in gaseous state.	3
10	**Chloroplast** **Chromoplast** **Leucoplast** Green coloured colourless Site of gives colours storage Photosynthesis to fruits + flowers	3
11	(a) To protect and support, To protect from mechanical injury and infection, To prevent loss of water (b) It has stomata which helps in exchange of gases and transpiration (c) Water absorption	3
12	M = p/v M = F/a	3
13	<table><tr><th>Mass</th><th>Weight</th></tr><tr><td>1. Quantity of matter, contained in it</td><td>It is the force with which it is attracted toward the centre of the earth</td></tr><tr><td>2. S.I unit kilogram</td><td>S.I unit Newton</td></tr><tr><td>3. It is constant</td><td>Not constant, changes with the value of 'g'</td></tr><tr><td>4. Can never be zero</td><td>Can be zero where value of g is zero</td></tr><tr><td>5. Measured by beam / pan balance</td><td>Measured by spring balance</td></tr></table>	3
14	(a) a = 16 m/s^2 and v = 64 m/s. (b) t = 2 sec.	3
15	(a) Here Distance travelled = h + h = 2h Displacement = 0 (b) Length of the track = 200 m (i) Total distance to be covered by the athletes in four rounds = 200 × 4 = 800 m (ii) Displacement of the athletes when they touch the finish line = 0 (iii) Non - uniform	3
16	(i) Newton's law of gravitation is called 'Universal law' because it is true for all things in the universe i.e. There is a force of attraction between two bodies which is directly proportional to product of their masses and inversely proportional to the square of the distance between them.	3

	(ii) $W = mg$ $120\ N = m \times 9.8$ Or $m = \frac{120}{9.8} = 12.24$ kgs. g moon $= \frac{9.8}{6} = 1.63\ ms^{-2}$ $\therefore$ Weight on moon $= 12.24 \times 1.63 = 19.99\ N$	
17	Expected Answer / Value Points of Test item – 58 (i) Apiculture (ii) Pasturage – flowers available for nectar and pollen collection, kind of flowers determine the quality and taste of honey (iii) Social concern, analytical skills can be assessed, helping nature applying knowledge, honesty in doing her work, learning nature	3
18	(i) Cutting root stem (ii) Sucking cell sap (iii) Bearing stem and fruits	3
19	Physical change: (1) Change occurs without Change in composition. No new substance is Produced. Change in physical properties only Chemical change: (1) Change occurs with Change in composition. (2) New substances are produced. (or Any other) (3) Change in chemical properties (a) Water freezes to form ice - Physical (b) Sugar is dissolved in water - Physical (c) Burning of Paper - Chemical (d) Chemical	5
20	(a) Definition of fluidity and diffusion. (b) Gases will have more fluidity because of two reasons – (i) Particles of gases have more space between them (ii) Force of attraction between particles is not strong	5
21	(a) Diagram (Neat) of animal cell as Fig. 5.5 NCERT Text Book IX and correct 4 labellings are : (i) Golgi apparatus (ii) Lysosomes (iii) Mitochondria (iv) Plasma Membrane (b) Nucleoid is a Primitive nucleus of prokaryotic not covered by nuclear membrane.	5
22	Third Law - when an object exerts a force on another object the second object instantaneously exerts a force back on the first object, where the two forces are always equal in magnitude but opposite in	5

		direction. (a) When the passengers alight from the boat they push the boat backwards, thus the boat slips back into water. (b) The hot gases come out with great force (action) and the rocket moves with high speed upwards (reaction) (c) The air rushes out vertically downwards (action), the balloon moves vertically upwards (reaction)	
23	(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}	
24	(a)	Refer 15.1.2 (ii) –	5
	(b)	Refer 15.1.2 (i) –	
		भाग–ब / SECTION - B	
25	(c)	The solution turned magneta	1
26	(a)		1
27	(b)		1
28	(c)		1
29	(a)	magnesium oxide	1
30	(b)		1
31	(a)		1
32	(a)	sublimation, filtration, evaporation	1
33	(b)		1
34	Suspension Opaque, shows Tyndall effect		2
35	(i)	Bulb of thermometer should dip into crushed ice.	2
	(ii)	Bulb of thermometer should be above the surface of water.	
36	$w_1 = (8.4 - 3.6)g = 4.8g$ $w_2 = 8.4g$ $\% = \frac{w_2 - w_1}{w_1} \times 100 = \frac{3.6g}{4.8g} \times 100 = 75\ \%$ $w_2 = 8.4g$ $w_1 = 8.4g - 3.6g$ $= 4.8$		2
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