CBSE Class 10 Science Question Paper Solution 2010

MARKING SCHEME CLASS X

Code No. 31/1/1

SECTION - A

	Expected Answer / Value point	Marks	Total
1.	Iron nails get coated with a reddish brown substance.	1/2	
	Copper sulphate solution becomes light green	1/2	1
2.	Catenation / Tetravalency / Ability to form multiple bonds / Carbon – Carbon		
	bond is very stable. (any two)	1/2, 1/2	1
3.	Because the angle of incidence is 0 ⁰ / Ray passing through the centre of		
	curvature is incident normally to the mirror.	1	1
4.	Virtual / Erect	1	1
5.	Positive charge / Proton	1	1
6.	Ciliary muscles	1	1
7.	(i) A white precipitate / Insoluble substance is formed.	1/2	
	(ii) If the reactants are in solid state.	1/2	
	(iii) $Na_2SO_4 + BaCl_2 \longrightarrow 2 NaCl + BaSO_4$	1/2	
	(iv) Double displacement / Double decomposition / Precipitation	1/2	2
8.	(i) Methane / CH ₄	1/2	
	(ii) By anaerobic decomposition of bio mass in the presence of micro-		
	organisms.	1/2	ž.
	(iii) It is a clean fuel		
	It burns without smoke	19.	
	It leaves no residue	1	
	Its heat capacity / calorific value is high		
	It is used for lighting purpose		hit
	Safe and efficient method of waste disposal		
	slurry left behind can be used as an excellent manure. (Any two)	1/2, 1/2	2
9.	a) X - Violet	1/2	
	Y - Red	1/2	
	b) Due to difference in speed of different colours / Difference in		
	wavelength and frequency / Refractive index of glass is different for	-01	
	different colours of light.	1	2
10.	Solenoid is a coil of many circular turns of insulated copper wire wrapped		
	closely in the shape of a cylinder.	1/2	
			No.

	Expected Answer / Value point	Marks	Total
	pattern .	1/2	
	direction	1/2	
	Pattern indicates that the magnetic field is uniform at all points inside the solenoid	1/2	2
	Soleriold	/2	2
11.	(i) Momentary deflection in the galvanometer to one side	1/2	
	(ii) Momentary deflection in the galvanometer, now in the opposite direction.	1/2	
	(iii) No deflection in the galvanometer	1/2	
	Phenomenon involved is electromagnetic induction	1/2	2
12.	Any four of the following:		
	(i) It can be used only at those places where wind blows for the greater part		
	of the year.		
	(ii) Wind speed should be higher than 15 km/h to rotate the turbine at the		
	required speed		
	(iii) Need of a back up facility when there is no wind		
	(iv) Requires large area for setting up wind energy farms		
	(v) Tower and blades require a high level of maintenance		181
	(any other point)	½x4	2
	1_1 1		
13.	$\frac{1}{f} = \frac{1}{v} - \frac{1}{u}$	1/2	
	$\frac{1}{u} = \frac{1}{24} \cdot \frac{1}{18}$	1/2	
	가게 하는 마이지 않아면 하는 것도 되었다. 하는 것 같아 있는 것 같아요. 그리고 있는 것 같아 하는 것이 모든 것이 없는 것이다. 그리고 있는 것이다. 그리고 있다고 있어 없었다. 얼마나 없다.	72	
	$= \frac{3-4}{72} = \frac{-1}{72}$		
	u = -72 cm		
	object should be placed at a distance of 72 cm from the lens	1	
	$m = \frac{v}{}$	1/2	
	u	12	

	Expected Answer / Value point	Marks	Total
	$=\frac{+24}{-72}$		
	$\therefore m = \frac{-1}{3}$ $A : Fe_2O_3, B : AI$	1/2	3
14.	A:Fe ₂ O ₃ , B:Al	1/2, 1/2	
	(i) $Fe_2O_3(s) + 2 AI(s) \xrightarrow{heat} 2 Fe(l) + Al_2O_3(s) + heat$	1/2	
	condition of the reaction, physical state of reactants and products,		
	thermal status.	1/2	
	(ii) Displacement Reaction		
	Redox Reaction		
	Exothermic Reaction (any two)	1	3
15.	Double covalent bond / Alkenes / Triple covalent bond / Alkynes / Unsaturated		
	compounds	1/2	11390-1
	Example: $R = C = C $ $R = C = R$ $R = R = R$ $R = R$		
	Or		
	Unsaturated fat + H ₂ Ni / Pd → saturated fat	1	
	Condition : Presence of Nickel / Palladium as catalyst	1/2	
	Change : The liquid reactant changes to solid product	1/2	
	Natural source : Vegetable oil	1/2	3
16.	(i) Third Period / Group - 1, 2, 13, 14, 15, 16, 17, 18 respectively.	1/2	
	(ii) Ionic / Electrovalent	1/2	
	(iii) A and B	1/2, 1/2	1
	(iv) G/H	1/2	
	(v) CG ₃	1/2	3
17	Sodium / Na, Potassium / K, Rubidium / Rb, Cesium / Cs		
	(any two)	1/2, 1/2	
	그 사람들이 가게 되었다면 하다면 하는데 하는데 하는데 나는데 하는데 하는데 하는데 하는데 하는데 하는데 하는데 하는데 하는데 하		1

1.	Expected Answer / Value point	Marks	Tota
	Na • $+$ $\star \overset{xx}{\underset{x}{\text{cl}}} \overset{x}{\underset{x}{\text{cl}}} \overset{xx}{\underset{x}{\text{cl}}} \overset{xx}{\underset{x}{\text{cl}}} \overset{xx}{\underset{x}{\text{cl}}} \overset{x}{\underset{x}{\text{cl}}} \overset{x}{\underset{x}{c$	Control Con 2005	
	$K \stackrel{\times}{\bullet} \stackrel{\times}{\longleftarrow} \underset{\times}{\overset{\times}{\times}} \stackrel{\times}{\overset{\times}{\times}} \longrightarrow K^{+} \left[\stackrel{\times}{\bullet} \stackrel{\times}{\overset{\times}{\times}} \stackrel{\times}{\overset{\times}{\times}} \right]^{-} $ (any one)	1	to America et algorithment en entre esta A. E. de unique esta esta esta esta esta esta esta est
Ionic	/ Electrovalent bond	1/2	
Salts	/ Ionic compounds	1/2	
Phys	ical properties :-		
(i)	Crystalline solid at room temperature		
(ii)	Brittle, hard solid		
(iii)	Soluble in water		
(iv)	Have high melting and boiling point		
(v)	Conduct electricity in aqueous / molten form		
	(any four)	4x½	5
	OR		
Rem	oval of impurities from a crude metal is called refining of metals	1	
Elect	rolytic refining	1	
	Cathode Acidified copper sulphate solution Tank Impurities (anode mud)	4	AND THE PROPERTY OF THE PROPER
	Drawing	1	
Door	Any 2 labels	1	
	exiption: assing the current through the electrolyte, the pure metal from the anode		
	lves into the electrolyte. An equivalent amount of pure metal from the		
	rolyte is deposited on the cathode. The soluble impurities go into the		
	on, whereas, the insoluble impurities settle down at the bottom of the		
soluti	OH, WHELEGS, THE HISOTUDIE HITCHINES SELLIE COWIT AT THE DOLLOW AT THE		

(i) Work done in moving the charge W = VQ

Power input,
$$P = \frac{VQ}{t}$$

:- Energy, E = P x t = V I t

This energy gets dissipated in the form of heat

Applying ohm's law, we get

$$H = I^2Rt$$

(ii) The relation is known as Joule's law of heating

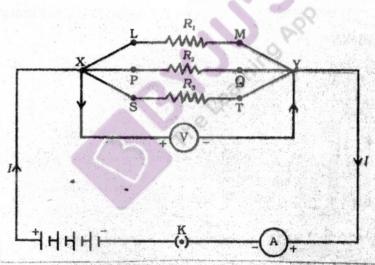
(iii)
$$P = 12 W$$
 $t = 1 minute = 60s$

$$H = P \times t$$

$$= 12 W \times 60s$$

$$H = 720 J$$

OR



resistances in parallel

2

1

1/2

1/2

1

1/2

1/2

1/2

1/2

1

5

- placement of ammeter
- · direction of current
- · terminals to be marked

From the circuit, voltmeter and ammeter readings to be noted down. The ratio

of V and I gives the resistance

	Expected Answer / Value point	Marks	Tota
	By using the formula $\frac{1}{R} = \frac{1}{R_1} + \frac{1}{R_2} + \frac{1}{R_3}$		
	resistance of the combination can be found.		
	Ammeter is connected in series with the resistor	1	
	Voltmeter is connected in parallel with the resistor	1	
	SECTION - B		
9.	Chloroplast, chlorophyll	1/2, 1/2	1
).	Vertebral column / Back bone		1
ŀ	Excessive use of natural resources / Causes pollution		1
2.	Chemical compounds which are poured into blood, help to control and		
	coordinate	1	
	Thyroxin	1/2	
	Regulates carbohydrate, protein and fat metabolism	1/2	2
3.			
		½ x4	2
	Inherited Acquired	½ x4	2
	Inherited Acquired passed on to the not passed on to the next generation generation but are acquired	1/2 x4	
	passed on to the not passed on to the next	1/2 x4	2
	passed on to the not passed on to the next generation generation but are acquired eg. shape of ear lobe / eg. obesity / acqiuring	1/2 x4	2
	passed on to the next generation not passed on to the next generation but are acquired eg. shape of ear lobe / eg. obesity / acqiuring knowledge / skills	½ x4	2
7.7 2.7 2.7 3.7 3.7 3.7 3.7 3.7 3.7 3.7 3.7 3.7 3	passed on to the next generation eg. shape of ear lobe / color of eye / skin not passed on to the next generation but are acquired eg. obesity / acqiuring knowledge / skills (any one example)		2
	passed on to the next generation and passed on to the next generation but are acquired are generated are gen	1 1	
	passed on to the next generation generation but are acquired eg. shape of ear lobe / color of eye / skin eg. obesity / acqiuring knowledge / skills (any one example) Deoxyribose nucleic acid Nucleus contains information for inheritance of features from parents to next generation	1 1	
	passed on to the next generation and passed on to the next generation but are acquired are generated are gen	1 1	3

	Expected Answer / Value point	Marks	Total
	Accumulation is progressive at each trophic level	1	
	Maximum accumulation (concentration) is found in tertiary consumers.	1	3
27.	MOUTH : Salivary amylase secreted by salivary glands breaks starch to		
	sugar.	1/2	
	STOMACH : Pepsin digests proteins and		
	HCI facilitates action of enzyme pepsin and creates acidic	1/2	
	meduim.	1/2	
	SMALL INTESTINE: Receives secretions from liver and pancreas.		
	Pancreas : Trypsin digests proteins	1/2	
	Lipase digests fats	1/2	
	Liver : Bile juice emulsifies fat	1/2	
	Bile juice makes the medium basic (for the action of pancreatic		
	enzymes)	1/2	
	: Intestinal juice converts proteins to aminoacids, carbohydrates		
	to glucose, fats to fatty acids and glycerol.	1/2,1/2,1/2	5
	OR		
	a) (i) Absorption of light energy by chlorophyll.	1/2	
	(ii) Conversion of light energy to chemical energy and splitting of water		
	into hydrogen and oxygen.	1/2	
	(iii) Reduction of carbondioxide to carbohydrates.	1/2	
	 Massive amounts of gaseous exchange takes place through stomata 	1/2	
	b) • Take a destarched potted plant.	1/2	
	 Cover part of a leaf with black paper and keep it in the sunlight for 		
	about 6 hrs.	1/2	
	 Decolorize the leaf by boiling in water and then alcohol in a water bath. 	1/2	
	Dip the leaf in dilute solution of iodine for a few minutes.	1/2	
	 Part of the leaf covered with black paper does not turn blue black, 		
	covered portion turns blue black.	1/2	
	 Covered portion does not synthesize starch, uncovered portion 		
	synthesizes starch.	1/2	