

CBSE Class 10 Science Sample Paper Solution SA 1 Set 1

SUMMATIVE ASSESSMENT- 1

Subject: Science

CLASS:X

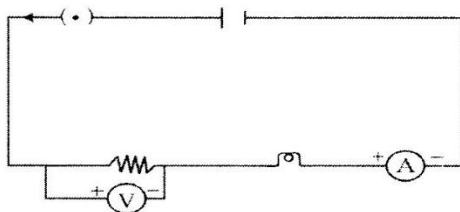
MARKING SCHEME

Max.marks:90

SECTION A

1	At anode-Chlorine At cathode-Hydrogen	½+ ½	1
2	2Ω		1
3	Shoot will bend towards light. phototropism		½ ½
4	Expensive, low efficiency, limited availability of special grade silicon etc.(any two)	1+1	2
5	By constructing dam across narrow opening to the sea A turbine fixed at the opening of the dam convert tidal energy in to electricity	1+1	2
6	Metal oxides which show both acidic as well as basic behaviour ZnO,Al ₂ O ₃	1+1	2
7	It is easier and economical to obtain a metal from its oxide as compared to its sulphides and carbonates A considerable amount of energy is required to break the strong inter-ionic attraction	1+1	2
8	Release lot of smokes which pollute air, low heat generation efficiency Convert wood in to charcoal by burning in a limited supply of oxygen Convert vegetable waste and animal waste in to biogas in a biogas plant	1 2	3
9	a) Magnetic field will increase b) Magnetic field will decrease c) Magnetic field will increase	1 1 1	3
10	a)Lead iodide, yellow colour b) Pb(NO ₃) ₂ + 2KI → PbI ₂ + 2KNO ₃	½+ ½ 2	3
11	Production of induced current in a coil placed in a region where the magnetic field changes with time Flemings right hand rule Statement	1 ½ 1 ½	3
12	a)X is copper,black coloured compound is copper oxide b) 2Cu + O ₂ → 2CuO	½+ ½ 2	3
13	a) The reaction in which one reactant gets oxidised while the other gets reduced b) Substance oxidised- HCl Substance reduced-MnO ₂ Oxidising agent -MnO ₂ Reducing agent -HCl	1 2	3
14	a)Calcium oxy chloride b) Ca(OH) ₂ + Cl ₂ → CaOCl ₂ + H ₂ O c) Disinfecting drinking water, bleaching linen and cotton	1 1 1	3

- 15 a) $R_2, R_3 = \text{Parallel}$ 3
 $1/R_p = 3/6 \quad R_p = 2\Omega$
 Total resistance = $2+4=6\Omega$ 1
 b) $I = V/R = 12/6 = 2A$ 1
 c) $V_1 = IR_1 = 2 \times 4 = 8V$ 1
 16 $P = I^2 R = 4^2 \times 60 = 960W$ 1 3
 $V = IR = 4 \times 60 = 240V$ 1
 $E = P \times t = 960 \times 2 \times 60 = 115200J$ 1
 17 Herbivores----- to allow cellulose to be digested $\frac{1}{2}$
 Carnivores----- meat is easier to digest $\frac{1}{2}$
 Bile juice secreted by liver 1 3
 Protein ---- trypsin $\frac{1}{2}$
 Lipid--- lipase $\frac{1}{2}$
 18 Diagram 1 $\frac{1}{2}$
 Labelling 1 $\frac{1}{2}$ 3
 19 Heart beats faster, supply of more oxygen to muscles, more blood to skeletal muscles, increased breathing rate. (Any three points) 3
 20 P.d across the ends of a metallic wire in an electric circuit is directly proportional to the current flowing through it, provided the temperature remains the same 5
 V is proportional to R OR $V/I = R$ $\frac{1}{2} + \frac{1}{2}$



- Different appliances need currents of widely different values to operate properly (any one point) 1
 21 A coil of many circular turns of insulated copper wire wrapped closely in the shape of a cylinder 1 5
 Fig.13.10 Text book page229 3
 If they did, it would mean that at the point of intersection, the compass needle would point towards two directions, which is not possible 1
 22 a) 5 molecules 1 5
 b) Sodium carbonate deca hydrate or washing soda 1
 c) Increase in concentration of H^+ ions increase the acidity or decrease the pH of the solution 1
 d) Baking soda (Sodium hydrogen carbonate) and a mild edible acid such as tartaric acid 1
 e) It changes to gypsum once again giving a hard mass $\frac{1}{2}$
 $CaSO_4 \cdot \frac{1}{2} H_2O + 1 \frac{1}{2} H_2O \rightarrow CaSO_4 \cdot 2H_2O$ $\frac{1}{2}$
 23 a) Impure copper as the anode, a thin strip of pure copper metal as the cathode and acidified copper sulphate solution as the electrolyte 1 $\frac{1}{2}$ 5
 Figure 3.12 Text book page 52 2 $\frac{1}{2}$
 b) $3Fe + 4H_2O \rightarrow Fe_3O_4 + 4H_2$ 1

- 24 Bacteria in the mouth act on sugars produce acids that softens the enamel. 1
Brushing the teeth after food, avoid eating sticky and sweet food items etc. 1+1 5
Alveoli – extensive net work of blood vessels provide large surface for the exchange of gases.
Nephron- consist of cluster of very thin walled capillaries which is associated with the cup
shaped end of a tube that collects the filtered urine 1+1

SECTION :B

- 25 c 1
26 a 1
27 a 1
28 d 1
29 b 1
30 c 1
31 c 1
32 a 1
33 c 1
34 a 1
35 b 1
36 c 1
37 b 1
38 b 1
39 d 1
40 b 1
41 d 1
42 c 1

