Class - 10th Chemistry

Que-① Write one equation each per decomposition reactions where energy is supplied in the form of heat, light or electricity. (3)

Que-2 Write balanced chemical equations

1) Calcium hydroxide + Carbon dioxide → Calcium carbonate + Water

2) Aluminium + copper chloride → Aluminium chloride + copper

(3) Barium chloride + Potassium sulphate → Barium sulphate + Potassium chloride (3)

Que-3 (i) What is observed when a solution of potassium iodide is added to a solution of lead nitrate taken in a test tube?
(ii) What type of Reaction is this?
(iii) Write a balanced chemical equation to represent the above Reaction. (3)

Que-4 - A metal compound A reacts with dilute hydrochloric acid to produce effervescence. The gas evolved extinguishes a burning candle. Write a balanced chemical equation for the reaction if one of the compounds formed is calcium chloride. (2)

Que-5 - How would you distinguish between baking ~~powder~~ Soda and washing Soda by heating. (2)

Que-6 - A compound which is prepared from gypsum has the property of hardening when mixed with a proper quantity of water. Identify the compound. Write the chemical equation for its preparation. For what purpose is it used in hospital. (3)

Que-7 - You must have seen tarnished copper vessels being cleaned with lemon or tamarind juice. Explain why these sour substances are effective in cleansing the vessels. (2)

Que-8 What are amphoteric oxide? How you prove that ZnO is amphoteric oxide (3)

Que-9 -(i) Define - Metal, ore, gangue.
(ii) Why H_2 gas released in Rex^n b/w Metal and dilute acid. (4)

Que-10 (i) A Metal M is found in nature as MCO_3. It is used in galvanising iron articles. Name the metal.
(ii) How can the metal be obtained from its carbonate ore. (2)

Que-11 Write chemical equation of the reaction of ethanoic acid with the following (3)

(a) Sodium (b) Sodium hydroxide (c) Ethanol.

Que-13 Explain the cleansing action of soap with the help of a diagram. (2)

Que-14 (i) What are hydrocarbons? Give example.

(ii) What is homologus series of compound and give its three characteristics. (3)

Que-15. List two tests for experimentlly distinguish b/w an alcohol and a carboxylic acid. (2)

Que-16 (a) How would the tendency to lose electrons change as you go

(i) from left to right across a period?

(ii) down a group?

(b) An element X (2,8,2) combines separately with $(NO_3)^-$, $(SO_4)^{2-}$ and $(PO_4)^{3-}$ radicles. Write the formulae of the three compounds so formed. To which group of the periodic table does the element 'x' belong? will it form covalent or ionic compound? why? (3)

M.M-40 Class - 10th Chemistry Mega test

① What is a balanced chemical equation? Why should the chemical equation be balanced? (2)

② What does one mean by exothermic and endothermic reactions? Give Examples - (3)

③ Consider the following Reactions (2)

(i) $Fe + CuSO_4 \longrightarrow FeSO_4 + Cu$

(ii) $Cu + FeSO_4 \longrightarrow CuSO_4 + Fe$

which of these two reactions will take place and why?

④ (i) Why do HCl, HNO_3 etc. show acidic character in aqueous solutions while solutions of compound like C_2H_5OH and glucose do not show acidic character?

(ii) How is the concentration of Hydronium ions (H_3O^+) affected, when a solution of an acid is diluted?

(iii) How is the concentration of hydroxide ion (OH^-) affected, when excess is dissolved in a solution of Sodium hydroxide? (3)

⑤ A compound 'X' is bitter in taste. It is a compound of washing powder and react with dil. HCl to produce brisk effervescence due to colourless and odourless gas 'Y' which turns lime water milky due to the formation of 'Z' when excess of CO_2 is passed, milkiness disappear due to formation of a 'P'. Identify 'X', 'Y', 'Z' and 'P'. Write the equations involved in the formation of Y, Z and P. (3)

⑥ (i) What are indicators? Give two examples each of natural and artificial indicators.

(ii). Write the name and formula of each of the following (a) acidic salt (b) basic salt

(iii) ~~How~~ What is the Nature of NH_3 gas in water. (5)

(7) What would you take as the anode, the cathode and the electrolyte in the electrolytic Refining of Metal - M (2)

(8) Give Reason
(i) which property of graphite is utilised in making electrodes
(ii) Why ionic compounds usually hard
(iii) Why do silver articles become black on prolonged exposure to air? (3)

(9) (i) Write the formation of magnesium chloride.
(ii) Why in Rexn b/w Metal and HNO_3, H_2 gas not evolved
(iii) Write a chemical Reaction to illustrate the use of aluminium for joining cracked railway lines (3)

(10) Two carbon compounds A and B have a molecular formula C_3H_8 and C_3H_6 respectively. Which one of the two is most likely to show addition Reaction. Justify your Reaction. (2)

(11) Draw the electron dot str. of ethyne. A mixture of ethyne and oxygen is burnt for welding. In your opinion, why cannot we use a mixture of ethyne and air for this purpose? (3)

(12) (i) What is meant by isomers? Draw the structures of two isomers of butane C_4H_{10}.
(ii) two main reasons for carbon forming a large no of compounds. (3)

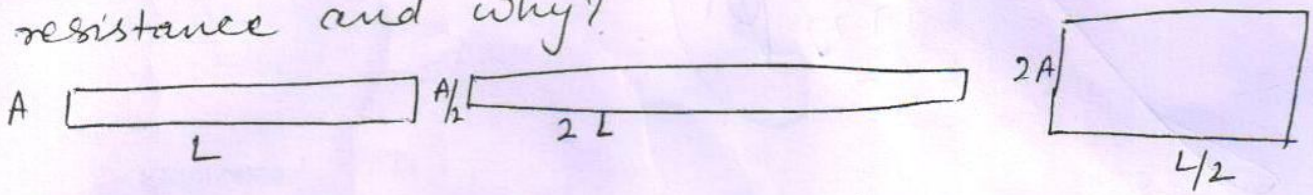
(13) What were the limitations of Newland's law of octave. (3)

(14) (i) If an element X is placed in group 14, what will be the formula and the nature of bonding of its chlorides
(ii) what is atomic radius? Why does atomic radius decreare across a period. (3)

Class - 10th Physics

(1) Two lamps one rated 100 W at 220 V, and the other 60 watt 220 V, are connected in parallel in electric supply. what current is drawn from the line if the supply of voltage is 220 V.

(2) figure (a), (b) and (c) show three cylindrical copper conductor along with their face areas and length. which of the conductors will have highest resistance and why?



(3) A circuit has a fuse of 5A. what is the max. number of 100 watt bulb (220V) which can be safely used in the circuit?

(4) A person cannot see objects nearer than 75cm from his eyes while a person with normal vision can see objects up to 25 cm. from his eyes find the nature, the focal length and the power of the correcting lens used for the defective vision.

(5) A 2.0 cm tall object is placed perpendicular to the principal axis of a concave mirror of focal length 10cm. The distance of the object from the mirror is 15 cm. find the nature, position and size of the image formed. Represent the situation with the help of Ray diagram.

(6) A Real image $\frac{4}{5}$ size of the object is formed 18 cm from a lens. calculate the focal length of the lens.

(7) The absolute Refractive indices of two media 'A' and 'B' are 2.0 and 1.5 respectively. If the speed of light in medium 'B' is 2×10^8 m/s. calculate the speed of light in

(i) Vaccume (ii) medium 'A'

Mega test of physics, class -10th, M.M.-40

Q1. Name the type of mirror used in the following 3
(a) headlight of car (b) rear view of a vehicle (c) solar furnance
Q2. Why does a light ray incident on a rectangular glass slab immersed in any medium images parallel to itself explain using a diagram. 3
Q3.(i) what are the indications of negative and positive signs in the value of the magnification?
(ii) in a concave mirror where should an object be placed to obtain an image of real inverted and reduced in size to the object?
(iii) what type of lens in air bubble inside water?
(iv) minimum size of a plane mirror required to see a full size image 4
Q4. State the laws of refraction of light explain the term absolute Refractive Index of a medium and write an expression to relate it with the speed of light in vacuum. 3
Q5. Explain why A Ray of light passing through the centre of curvature of a concave mirror gets reflected along the same path 1
Q6. what I defect is hypermetropia describe with the ray diagram how this defect of vision can be corrected by using an appropriate lens 3
Q7. (i) Give one advantage of scattering of light
(ii) why do true solutions not show tyndall effect
(iii) what is the function of iris 3
Q8. (i) draw a ray diagram to show the refraction of light through a glass prism in the diagram make the following: angle of emergence ,angle of deviation ,angle of incidence ,emergent Ray.
(ii) what is atmospheric refraction use this phenomenon to explain the natural event twinkling of stars
(iii) draw a diagram to explain formation of rainbow 5
Q9. Why does a magnetic compass needle pointing North and South in the absence of a nearby magnet get deflected when a bar magnet aur a current carrying loop is brought near a describe some silent features of magnetic lines of field concept.3
Q10.(i) When does an electric short circuit occurs
(ii) when is the force experienced by a current carrying conductor placed in magnetic field largest. 2
Q11. What is induced current? Explain different ways to induce current in a coil?3
Q12. What are the advantages of connecting devices in parallel with the battery instead of connecting them in series? 2
Q13. (i) Why does the cord of an electric heater not glow while the heating element does
(ii) define the unit of current
(iii) define heating effect of current. 3
Q 14. (i)What is a good fuel
(ii) what are the limitations of the energy that can be obtained from the oceans give only two limitations. 2

SKYWINGS INTERNATIONAL SCHOOL

Subject – Physics

Class -10th

Q1. the magnification produced by a plane mirror is +1.what does this mean 2
Q2. Array of light travelling in air enters obliquely into water .does the light ray bend towards the normal or away from the normal? why?1
Q3. (i) which mirror has larger field of view
(ii) name the type of mirror which always forms a virtual and diminished image
(iii) what is the angle of reflection when a Ray of light falls normally on a plane mirror.
(iv) under what condition a lens become invisible when placed in a transparent liquid 4
Q4. Why does a Ray of light parallel to the principal axis
(i) bend towards the principal axis in the case of a concave mirror and
(ii) goes away from the principal axis in the case of a convex mirror as shown here?
(iii) Draw a ray diagram to show the image formed when an object is placed between pole and focus of the mirror.3
Q5. (i)why there is no Dispersion of light refracted through a rectangular glass slab
(ii) why do different rays developed differently in the prism
(iii) what is the cause of dispersion?3
Q6. What is mean by scattering of light use this phenomenon to explain why the clear sky appears due or the sun appears reddish at sunrise.4
Q7. (i)Draw the formation of rainbow in the sky
(ii) draw a labelled ray diagram for correction of myopia using the lens 3
Q8.(i) Why are coils of electric toaster and electric irons made of an alloy rather than a pure metal
(ii) on what factors does the resistance of a conductor depend
(iii) define the unit of current and 1 watt. 5
Q9. (i) why is the tungsten used almost exclusively for filament of electric lamp
(ii) why are Copper and Aluminium wires usually employed for Electricity Transmission.
(iii) to the same current flows through line wires or the filament of a bulb get only the latter glows why?3
Q10. (i) state Fleming's left hand rule
(ii) state different ways to induce current in a coil
(iii) why do two magnetic field lines of force never intersect each other 3
Q11. What is an electromagnet? Draw a circuit diagram to show how a soft iron piece can be transformed into an electromagnet 3
Q12. (i)How can the magnitude of the induced current be increase
(ii) explain principle of electric motor 2