

GURU GOBIND SINGH PUBLIC SCHOOL
SECTOR – V, B.S.CITY – 827006

Half Yearly Revision Assignment

Std : X

Subject: - Chemistry

Level: - I

1. (a) What is observed when a solution of potassium iodide is added to a solution of lead nitrate taken in a test tube?
(b) What type of reaction is this?
(c) Write a balanced reaction to represent the above reaction?
2. Identify the oxidizing and reducing agent in the following reactions :-
(a) $3\text{Fe} + 4\text{H}_2\text{O} \rightarrow \text{Fe}_3\text{O}_4 + 4 \text{H}_2$
(b) $4\text{NH}_3 + 5\text{O}_2 \rightarrow 4\text{NO} + 6\text{H}_2\text{O}$
(c) $\text{Pb}_3\text{O}_4 + 3\text{HCl} \rightarrow 3\text{PbCl}_2 + \text{Cl}_2 + 4 \text{H}_2\text{O}$
3. A blue coloured salt of copper sulphate becomes white on heating. Give reason.
4. Compound 'A' when dissolved in water gives compound 'B' which is used in whitewashing. Compound 'B' reacts with CO_2 to form a white precipitate of compound 'C'. Identify Compound 'A', 'B' and 'C'. Also write the equations involved.
5. (a) Define the term corrosion. Under what conditions does corrosion take place?
(b) Give the formula and the chemical name of rust.
(c) Give two methods to slow down rusting.
6. Why acetic acid is called a weak acid though there are four hydrogen atoms in the molecule.
7. (a) Write the formula and chemical name of bleaching powder.
(b) Write the chemical equation to represent the action of atmospheric CO_2 gas on bleaching powder when left exposed in open.
(c) State for what purpose is bleaching powder used in water treatment plants.
8. Why do acids not show acidic behavior in absence of water?
9. A milkman adds a very small amount of baking soda to fresh milk.
(a) Why does he shift the pH of the fresh milk from 6 to slightly alkaline?
(b) Why does this milk take a long time to set as curd?
10. What is an olfactory indicator? Name two such indicators.

Metals & Non-Metals

1. Give example of :-
 - a) Metal liquid at room temperature
 - b) Non-metal liquid at room temperature
 - c) Amphoteric oxide
 - d) Metalloid
 - e) Highly ductile metal used for electrical conductivity
 - f) Metal used for jewelry due to lustrous & highly malleable
 - g) Ore oxidized by Calcination
 - h) Ore oxidized by Roasting
 - i) Ore concentrated by froth floatation method
 - j) An alloy of iron and its composition
 - k) An alloy of copper and its composition
 - l) An alloy of lead and its composition
 - m) A reducing agent used during metallurgy
 - n) Metal reduced by electrolytic reduction.
2. Distinguish between :-
 - a) Physical properties of metal and non-metal
 - b) Chemical properties of metal and non-metal
 - c) Roasting and calcination
 - d) Reduction with carbon and electrolytic reduction
 - e) Ionic and covalent compound
 - f) Anion and cation
 - g) Ore and mineral

3. What happens when :-
- Metal reacts with oxygen.
 - Nonmetal reacts with oxygen
 - Metallic oxide reacts with water.
 - Non-metallic oxide reacts with water.
 - Metal react with dilute acid.
 - More reactive metal react with less reactive metallic salt solution.
 - Dry blue litmus paper react with non-metallic oxide
 - Wet blue litmus paper reacts with non-metallic oxide.
4. Write short answers:-
- What is corrosion?
 - What is rust?
 - Write different method of preventing rusting?
 - What do you mean by galvanization?
 - What do you mean by alloying?
 - Write the composition and uses of following alloys:-
 - Brass
 - Bronze
 - Steel
 - Stainless Steel
 - Solder
 - Write the steps involved in extraction of :-
 - Metal with high reactivity
 - Metal with low reactivity
 - Metal of medium reactivity.
5. Explain:-
- How ionic compounds are prepared. Explain with an example. Write four properties of ionic compound.
 - What is thermite reaction? Write one use of this reaction.
 - What is meant by refining metal? Diagrammatically explain the electrolytic refining of metal copper.
1. Write the electron dot structure of the following ;-
- Cl_2
 - CH_4
 - C_2H_4
 - C_2H_2
2. Define the following terms with an example:-
- Saturated Hydrocarbon
 - Unsaturated Hydrocarbon
 - Homologous Series
 - Functional Group
3. What happens when :-
- ethanol is oxidized.
 - dehydration of ethanol
 - ethanol is heated with ethanoic acid in presence of conc. H_2SO_4
 - ethanol is treated with Na metal.
 - acetic acid with NaOH solution.
- 4.
- Write the all possible Isomers of Pentane.
 - Write the functional group of following with example:
 - Alcohol
 - Carboxylic Acid
 - Ketone
 - Ester
- 5.
- What is Saponification?
 - Write the cleansing action of soap.

Subject: - Physics

- 1.
- State ohm's law
 - Define unit of electric current
 - What does an electric current mean

- d. Name the device which is used to maintain the potential difference across the conductor
- e. On what factor that a resistance of a conductor depends
2. Why are the coil of an electric toaster, heater and iron made up of an alloy rather than pure metal
3. Will current flow more easily through a thick wire or a thin wire of same metal when connected to the same source
4. Draw a systematic diagram of a circuit consisting of a battery of three cells of 2V each, a 5 Ω resistance, 8 Ω resistance and 12 Ω resistance and plug key all connected in series.
5. An electric lamp whose resistance is 20 Ω and a conductor of 4 Ω are connected in series to a 6V battery.
 - a) calculate the resistance of circuit
 - b) current through the circuit
 - c) p.d. across the electric lamp and conductor
6. What are the advantages of electrical devices connected in parallel with the battery instead of connecting them in series?
7. How can three resistors of 2 Ω , 3 Ω and 6 Ω be connected to give an equivalent resistance
 - a) 4 Ω
 - b) 5 Ω
8. Explain the following -
 - a) why is tungsten used almost for filament of electric lamp?
 - b) Why are copper and aluminium wire used usually for electric transmission?
9. Write the characteristic of magnetic field lines?
10. Why magnetic field lines do not intersect each other?
11. Draw the magnetic field lines around a bar magnet
12. State the principle of electric generator? Write the working of electric generator with a labelled diagram.
13. A) Name two safety measures commonly used for electric current and appliances.
B) How does a solenoid behave like a magnet? Can you determine north and south pole of a current-carrying solenoid with the help of a bar magnet? Explain it.
14. List two methods of producing a magnetic field.
15. A) What is the function of an earth wire? B) Explain short-circuiting.
16. State the rules to determine the direction of -
 - a) magnetic field produced around a straight conductor
 - b) force experienced by a current-carrying conductor
 - c) current induced in a coil due to its rotation in a magnetic field
17. A) Draw the labelled diagram of a biogas plant?
B) Write the energy conversion of i) thermal power plant ii) hydroelectric power plant
18. A) Write the advantage and disadvantage of a solar cooker. Also draw its labelled diagram.
B) Write the limitation of a solar cell.
19. Show the ray diagram of forming images using a concave mirror when an object is placed-
 - a) at F
 - b) between F and P
 - c) beyond C
20. An object of size 4cm is placed at 20cm from a concave mirror of focal length 15cm. Find the position, nature and size of image.

Subject: - Biology

1. Define excretion. Name the basic filtration unit present in the kidney. Draw the excretory system in human beings and label the following organs of the excretory system performing the following functions – i) Form urine, ii) Is a long tube which collects urine from kidney, iii) Store urine until it is passed out.
2.
 - a) Mention any two functions of blood. Write any two components of blood.
 - b) Define double circulation. Write its significance.
 - c) Write any two differences between an artery & vein.
3. Explain the pathways of breakdown of glucose in the presence of oxygen as well as in the absence of oxygen.

4. Draw a diagram of human alimentary canal and label on it. Oesophagus, Gall bladder, Liver, Pancreas.
5.
 - a) Why does absorption of digested food occurs mainly in the small intestine.
 - b) How are the alveoli designed to maximize the exchange of gasses.
6.
 - a) What is stomata. Write its functions.
 - b) Describe the mechanism of opening and closing of stomata.
7. Draw the diagram of sectional view of human heart and label the following parts–
 - a) The chamber of the heart that pumps out deoxygenated blood.
 - b) The blood vessel that carries away oxygenated blood from the heart.
 - c) The blood vessels that receives oxygenated blood from the lower part of the body.
 - d) Part which prevents the backward flow of blood.
8.
 - a) What are the differences between transport of material in xylem and phloem.
 - b) Why and how does water enter continuously into the rootxylem.
9. Name the hormones secreted by the following endocrine glands and specify one function of each – a) Thyroid b) Pituitary c) Pancreas d) Adrenal
10.
 - a) Draw a neat diagram of human brain and label Medulla & cerebellum.
 - b) Write the function of the above mentioned parts.
11.
 - a) Draw a well labeled diagram of a neuron.
 - b) Write the function of the following parts – dendritic tips, axon.
 - c) Why is the flow of singles in a synapse from axonal end of one neuron to dendritic end of another neuron but not the reverse?
12.
 - i) Write one function of each of the given plant hormone –
 - a) Auxin b) Gibberellin c) Cytokinin d) Abscisic Acid
 - ii) Give one example for each –
 - a) Phototropic movement b) Chemotropic movement
13.
 - a) Draw a well labeled diagram of reflex arc.
 - b) What is reflex action? Give two example.
14. Why is DNA copying an essential part of the process of reproduction? What are the advantages of sexual reproduction over asexual reproduction?
15.
 - a) Draw a well labeled diagram of female reproductive system of human.
 - b) Write the function of following parts – i) Ovary ii) Oviduct iii) Uterus.
 - c) What is placenta? Write function of placenta.
16.
 - a) Draw a well labeled diagram of male reproductive system of human.
 - b) Write the function of following parts-
 - i) Testis ii) Vas deferens iii) Prostate gland iv) Seminal vesicle
17.
 - i) Name any two sexually transmitted disease (STDs). How do these infectious diseases spread from one person to another give two symptoms of STDs.
 - ii) Explain why fertilization is possible if copulation takes places during the middle of menstrual cycle.
18. Draw the diagram of a flower and label the four whorls. Write the name of gamete producing organs in a flower.
19.
 - i) A student observed a permanent slide showing asexual reproduction in yeast and Amoeba. Write name of mode of asexual reproduction in yeast and Amoeba. Diagrammatically show differences between both mode of asexual reproduction.
 - ii) Diagrammatically represent regeneration in Planaria.
20. A student conducted an experiment to show CO₂ is released during respiration. List two precaution that he/she must take for obtaining correct observation.

OR

List the three steps of preparation of temporary mount of leaf peel to observe stomata.