

Carbon Compounds

VERY SHORT ANSWER QUESTIONS

1. How many covalent bonds are present in ethane, C_2H_6 .
2. What do you mean by catenation ?
3. Name the simplest hydrocarbon .
4. Which functional group is present in (a) Methanal (b) Propanone ?
5. Draw electron dot structure of the first member of alcohol homologous series.
6. Give name and formula of simplest ketone .
7. What is absolute alcohol ?
8. Write the structure and name of compound A in the following reaction :
 $CH_3CH_2OH + A \rightarrow H_2O$
9. Name and give formula for higher homolog of ethanol .
10. What do you mean by octet rule ?
11. Differentiate between soaps and detergents on the basis of their chemical composition .
12. What is glacial acetic acid ?
13. Draw the structure of a micelle .
14. Which of the following hydrocarbons will give addition reaction ?
 C_2H_6 , C_3H_8 , C_3H_4 , C_2H_4
15. Write IUPAC name of following

SHORT ANSWER QUESTIONS.

1. Explain the nature of covalent bond using the bond formation in CH_3Cl
2. What are isomers ? explain with an example.
3. What are hydrocarbons ? Give general formulae of alkanes , alkenes , and alkynes
4. What is homologous series ? Give its characteristics .
5. State two conditions under which hydrocarbons give sooty flame on combustion.
6. How will you differentiate ethane and ethanoic acid by a simple chemical test ? Also draw electron dot structure for these two .
7. What do you mean by (a) denatured alcohol (b) glacial acetic acid ?
8. Explain the following reactions (a) esterification (b) saponification .
9. A brisk effervescence is produced when a piece of sodium metal is added to ethanol . (a) write the chemical equation for reaction (b) Name the gas evolved . How will you test this gas ?
10. Why are carbon and its compounds used as fuels ?
11. How ethanol and ethanoic acid can be differentiated on the basis of their physical and chemical properties ?
12. What happens when ethanoic acid is (a) treated with sodium bicarbonate (b) heated with conc. H_2SO_4 (c) heated with ethanol in the presence of conc. H_2SO_4 ? Give equations .
13. Explain following reactions of carbon compounds ? (a) addition reaction (b) oxidation (c) substitution .
14. What is a covalent bond . Describe the formation of O_2 and N_2 .
15. An organic compound X is an essential constituent of wine and beer . Oxidation of X yields an organic acid Y which is present in vinegar . Name the compounds X and Y . Also write their formulae.

Long answer questions

1. (a) Explain cleansing action of soap ? (b) Differentiate between soaps & detergents.
2. Explain formation of scum when soap reacts with hard water. Why is detergent a better cleansing agent than soap?
3. (a) Why does carbon form compounds mainly by covalent bonding ? (b) List any two reasons for carbon forming very large number of compounds ?
4. Name the class of organic compounds to which $CH_3 - CH = CH_2$ belongs . Give its IUPAC name . Which product is formed when this compound is treated with H_2 in the presence of nickel catalyst . also give name and formula of higher homolog of $CH_3 - CH = CH_2$
5. Two compounds A & B have molecular formulae C_3H_6 & C_3H_8 respectively, which one is likely to show addition reaction ? Give an equation to show how addition reaction is useful in making vegetable ghee.
6. An organic compound X is a liquid which often freezes during winter time in cold countries , has the molecular formula $C_2H_4O_2$. On warming it with ethanol in the presence of a few drops of conc. sulphuric acid , a compound Y is formed , which is having sweet smell.
(a) Identify X & Y.
(b) Write a chemical equation for the reaction involved.
(c) Write electron dot structure of X & Y.

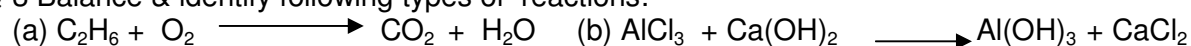
Ch:- Chemical reactions & equations

(1 mark questions)

- Q-1 Define rancidity. Q-2 Why do we apply paint on iron articles? Q-3 What are precipitates?
Q-4 Why nitrogen gas is flushed in packets of chips? Q-5 Write an equation showing change of colour.

(2 mark questions).

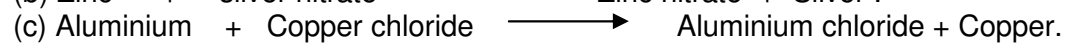
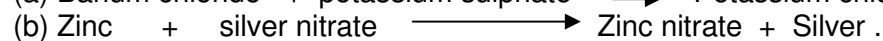
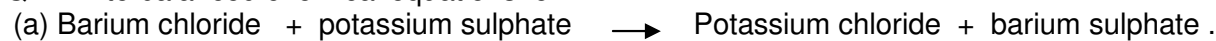
- Q-1 What are redox reactions? Give two examples. Q-2 Why is respiration considered as exothermic reaction?
Q-3 Balance & identify following types of reactions:-



- Q-5 Write equations for reactions involving:- (a) formation of precipitate (b) evolution of gas.

(3marks questions)

- Q-1 Write balanced chemical equations for :-



- Q-2 What are decomposition reactions? Explain three types of decomposition reactions with examples .

- Q-3 A lead compound on decomposition gives a yellow residue and brown fumes of a gas . Name the residue and brown gas. Also write the equation.

- Q-4 Give reason:- (a) Silver chloride turns grey in sunlight .

- (b) During electrolysis of water the ratio of H_2 & O_2 collected on electrodes is 2:1.

- (c) Copper powder when heated in china dish turns black.

- Q-5 Identify reducing & oxidizing agents in following reactions:-



HOLIDAY ASSIGNMENT

CLASS_X

PHYSICS

CHAPTER: LIGHT AND HUMAN EYE AND COLOURFUL WORLD

1. Define refractive index of a medium. 1
2. Find the power of a concave lens of focal length 75 cm. 1
3. What is magnification? How is it calculated? 1
4. What is the focal length of a plane mirror? 1
5. Although light is reflected from book you read, why is your image not visible in it? 1
6. Draw neat ray diagram to illustrate the formation of images due to a beam of light incident parallel to the principal axis of a (1) concave mirror (2) convex mirror. 2
7. Without touching how will you differentiate between concave and convex mirror? 2
8. An object is placed 20 cm. from a convex mirror.its image is formed 12cm. from the mirror. Find the focal length of the mirror. 2
9. Power of a lens is +4D. find the focal length of the lens. 2
10. An object is placed at a distance of 60cm. from a convex lens of focal length 40 cm. Find the position and magnification of the image. 2
11. The focal length of a convex mirror is 50 cm. Magnification is found to be $\frac{1}{2}$. Find the position of the object. 3
12. How will you find the net focal length of a combination of lenses whose focal lengths are 15 cms. And -5 cm. 3
13. A girl in the mirror finds her face appearing highly magnified, lower portion of her body of the same size but laterally inverted and the middle portion of the body highly diminished in size. Can you guess the design of the mirror? 3
14. Does the incident and emergent ray coincide in a glass slab refraction? Give reason. 3

NOTE : REVISE ASSIGNMENT 1 & 2 ALREADY GIVEN IN THE CLASS

HOLIDAY HOMEWORK
CLASS X (BIOLOGY)

Chp. LIFE PROCESSES

Answer these questions- (1 mark questions)

- 1.What is holozoic nutrition?
- 2.Give any two examples of symbionts.
- 3.Why aerobic respiration produces more energy than anaerobic respiration?
- 4.Wht are thyllakoids?
- 5.Define blood and give its components.
- 6.What are the two functions of kidney?
- 7.What do you mean by translocation in plants?
- 8.Name the instruments used to record heart beat and blood pressure.

2 mark questions-

- 1.What will be the effect if gastric glands become non-functional?
- 2.How oxygen and CO₂ are transported by blood?
- 3.What is lymph and mention its functions?
- 4.Why breathing rate is faster in aquatic animals than terrestrial animals?
- 5.How transpiration helps in the transport of water in plants?

3 mark questions

- 1.How is the amount of urine produced regulated?
- 2.Name the components of human circulatory system and mention their function.
- 3.How energy is produced from ATP molecule and what is he amount of energy?
- 4.Why the food in intestine has to be made alkaline?
- 5.Differentiate between blood and lymph.

5 mark questions

- 1.Explain how chemical energy is produced in the light reaction of photosynthesis?
- 2.Differentiate between----
 - (a)aerobic & anaerobic respiration.
 - (b)artery & vein
 - (c)systemic & pulmonary circulation
 - (d)autotrophic & heterotrophic nutrition

Chp.CONTROL & COORDINATION

- 1.Name the components of CNS and PNS.(1)
- 2.What do you mean by neuro-muscular junction?(1)
- 3.Define reflex action and reflex arc?(1)
- 4.Which part of human brain is responsible for body balance?(1)
- 5.What are tropic movements?(1)
- 6.What are phytohormones?Write theyr function.(2)
- 7.How gibberellins are different from auxins in their function?(2)
- 8.Describe the mechanism of reflex action.(3)
- 9.Why is the use of iodised salt advisable?(3)
- 10.How adrenaline prepares the body during emergency?(3)