PADASALAI CENTUM COACHING TEAM
SPECIAL INTERIOR (5MARKS)

Class: **X STD** Subject: **SCIENCE (CHEMISTRY)**

Chapter 10 **ATOMS AND MOLECULES**

1. **Explain the findings of modern atomic theory**
2. **Define : Avogadro's Law & its Applications.**
3. **Explain how TO DEDUCE THE ATOMICITY OF ELEMENTARY GASES**
4. **Explain the following terms i) Isobars ii) Isotones iii) Isotopes with egs**
5. **Establish the relationship between vapour density and relative molecular mass of a gas:**
6. **How to arrive at the value of GRAMMOLAR VOLUME (GMV)?**
7. **Explain about ATOMS AND MOLECULES**
8. **State Gay-Lussac's Law of Combining Volumes of Gases(2m)**

   Define Molar Volume(2m); what is the value of molar volume?(1m)
9. **Define; Atomicity(2m), Difference between an Atom and a Molecule:(2m)**

   What are the two types of Molecules(1m)
10. **Explain homo atomic molecules and hetero atomic molecules.**
11. **Explain RELATIVE ATOMIC MASS (RAM) based on hydrogen scale) & carbon - 12 scale**
12. **Explain RELATIVE MOLECULAR MASS(RMM) based on hydrogen scale) & carbon - 12 scale**
13. **Find the gram molecular mass of water (H_2O) & (CO_2) – (4marks)**

    Value of Avogadro number is_____(1m)
14. **Definition of Mole(2m); Define; Avogadro Number(2m)**

    Chemical name of Aspirin is_____(1m)
15. **Calculate the number of moles in i) 81g of aluminium ii) 4.6g sodium (iii) 5.1g of ammonia iv) 90g of water v) 2g of NaOH**
16. **Calculate the mass of 0.5 mole of iron (2m)**

    Calculate the number of molecules in 11g of CO_2 (2m)

    Find how many moles of atoms are there in 2 g of nitrogen. (1m)
17. **a. Calculate the mass of 18.069 x 1023 molecules of SO_2**

    b. Calculate the mass of glucose in 2 x 10 24 molecules
18. **a. Calculate the number of moles for a substance containing 3.0115×10^{23} molecules in it.**

    b. Calculate the number of moles in 12.046×10^{22} atoms of copper.
19. **Calculate the number of moles in 24.092 x 1022 molecules of water(3m)**

    Classify it based on atomicity: i) Chlorine ii) Neon (2m)
20. **what is gram atomic mass Give. e.g. (2m)**

    what is known as gram molecular mass (2m)

    Define One atomic mass unit(1m)

Chapter 13

CARBON AND ITS COMPOUNDS

1.Explain the BONDING IN CARBON AND ITS COMPOUNDS

2. Explain the Allotropes of carbon

3. Explain the PHYSICAL NATURE OF CARBON AND ITS COMPOUNDS

4. Explain the CHEMICAL PROPERTIES of Carbon and its compounds

5. Explain the Characteristics & importance of Homologous series

6. Explain about Saturated and unsaturated Hydrocarbons of carbon

7. Explain Classification of organic compounds based on functional group

8.Describe about Manufacture of Ethanol from Molasses

9. Explain about the Chemical Properties of Ethanol.

10. Give any 5 Uses of Ethanol

11. Explain about the Chemical Properties of Ethanoic acid

12.Explain the processes (i) Esterification (ii) Decarboxylation

13.Explain the EVIL EFFECTS of consuming more ALCOHOL

14.What is Dehydration? Explain its Types

15.Give the CHEMICAL PROPERTIES of ETHANOIC ACID

16.Mention some uses of ETHANOIC ACID

17.Revise all the TABULAR COLUMN in all page nos.

18.An organic compound (A) is heated with excess Conc.H_2SO_4 at 443 K to form the product (B) with water.

(a) Identify the compounds (A), (B).

(b)Name the Process involved in the above reaction.

(c) Write the Chemical Equation for above reaction.

(d)Mention the role of Conc. H_2SO_4

(e) Give one use of (A) and its IUPAC Name.

19. An organic compound (A) is heated with excess Conc.H_2SO_4 at 413 K to form the product (B) with water.

(a).Identify (A) ,(B)

(b)Name the process involved in the above reaction.

(c)Write the corresponding equation.

(d)Which is called as ''King of chemicals"?

(e)Write the FUNCTIONAL GROUP of (B).

20.An organic compound (A) is used as a preservative in pickles, reacts with Ethanol to form the product(B).

(a)Identify (A), (B)

(b) Name the process involved in the above reaction.

(c)Write the corresponding equation.

(d) Mention the role of Conc. H_2SO_4

(e)Name the odour of the product (B).

(f)What is the product (B), otherwise called?

21.When sodium salt of an organic compound (A) is heated with soda lime to form the product (B).

(a) Identify (A), (B)

(b) Name the process involved in the above reaction.

(c) What is soda lime?

(d) Give one use of (A).

(e)Mention the IUPAC name of the product (B)

(f) Write the corresponding equation.

PADASALAI CENTUM COACHING TEAM
SPECIAL INTERIOR (5MARKS)

Class: X STD **Subject: SCIENCE –(PHYSICS)**

1.Explain about BALANCED AND UNBALANCED FORCES

2 .Explain the first law of motion (or) the law of inertia.

3. Derive the Expression for F = ma

4. a) A constant force acts on an object of mass 10 kg for a duration of 4 s. It increases the object's velocity from 2 m s-1 to 8 m s-1.Find the magnitude of the applied force.

b) Which would require a greater force for accelerating a 2 kg of mass at 4 m s-2 or a 3 kg mass at 2 m s-2?

5. Explain the THIRD LAW OF MOTION

6. Prove that $m_1u_1 + m_2u_2 = m_1v_1 + m_2v_2$

7. A bullet of mass 15 g is horizontally fired with a velocity 100 m s-1 from a pistol of mass 2 kg. What is the recoil velocity of the pistol

8. Explain about MOMENT OF FORCE AND COUPLE

9. Derive the Expression for $G= Fd^2 / m_1m_2$

10. a) The mass of an object is 5 kg. What is its weight on the earth? (2m)

b) Difference between mass and weight (3m)

11. a) Derive an Expression for Acceleration due to gravity at the surface of the earth (3m)

b) Calculate the Mass of Earth (2m)

12. Explain about Chandrayaan-1

13. List out any five achievements of Chandrayaan

14. Give the applications of cryogens.

15. Explain about Space Stations

16. Discuss the effects of long-space flight on the human body

Chapter 17 MAGNETIC EFFECT OF ELECTRIC CURRENT AND LIGHT

1. **Explain about Magnetic Field due to Current Carrying Straight Conductor & Circular Loop.**
2. **Explain about FORCE ON A CURRENT CARRYING CONDUCTOR IN A MAGNETIC FIELD**
3. **Explain how an electric motor works?**
4. **State Fleming's left hand rule(2m) & Give the uses of commercial motors(3m)**
5. **Explain about electromagnetic induction(3m) & Fleming's right hand rule(2m)**
6. **Explain about AC generator with a neat diagram**
7. **How would you convert A.C. Generator to D.C. Generator?**
8. **State the laws of reflection of light (2m);*What is called a concave mirror & convex mirror(draw the images)*(3m)**
9. **Give an important advantage of AC over DC?(2m)**

   What is known as induced current.? (2m);

   The soft iron core on which the coil is wound is called an _____(1m)
10. **Explain these terms are commonly used in spherical mirrors;**

    (Pole, centre & radius of curvature and principal axis)
11. **State principal focus of the convex mirror(2m); focal length(2m)**

    The effective diameter of the reflecting surface of spherical mirror is called _____(1m)
12. **Describe the Reflection of Light by Spherical Mirror with ray diagrams**
13. **Draw the Image formation by concave mirror**
14. **List the Uses of Concave Mirror**

15. Draw the Image Formation by a Convex Mirror

16 List the Uses of Convex Mirrors

17 Write the Sign Convention for Reflection by Spherical Mirrors

18 A convex mirror used as rear-view mirror in an automobile has a radius of curvature of 3 m. If a bus is located 5 m from this mirror, find the position and nature of the image. (3m); State *Snell's law of refraction.*(2m)

19 A concave lens has focal length of 15cm. At what distance should the object from the lens be placed so that it forms an image10 cm from the lens? (3m)

An object is placed at a distance of 30cm from a concave lens of focal length 15cm. An erect and virtual image is formed at a distance of 10 cm from the lens. Calculate the magnification.(2m)

20 Define Magnification.(2m); Define Power of lens.(2m)

The lens formula is expressed as _____(1m)

21.The focal length of a concave lens is 2m.Calculate the power of the lens.(2m)

Define; Angle of deviation(2m); The splitting of light into its component colours is called___(1m)

21 Explain about Atmospheric Refraction(3m)

Name mainly three common refractive defects of vision.(2m)

22. Describe the Refraction of Light through a Prism with a neat diagram

23. Describe about Human Eye with a neat diagram

24. Explain the Defects of Vision and Rectification of eye with a neat diagram

25. Explain about the Hubble telescope

T.S.SARAVANAN B.Sc.,B.Ed.,M.A.,M.Phil., cell no – 8675509227 ,

NEHRU NAGAR, KARUMALAIKOODAL,

METTUR DAM (R.S),SALEM (D.T)

sharavananvepp@gmail.com