Andhra Pradesh Open School Society
Senior Secondary level (Intermediate)
Tutor Marked Assignments (TMA)-I
Chemistry

Set-1

1. Explain Planck's quantum theory give the value of Planck's constant in various units. Explain the generalization proposed by Einstein for the quantum theory?
2. i) What mass of Oxygen is required to react completely with 24 gms. of CH_4 in the following equation.

   $$CH_{4(g)} + 2O_{2(g)} \quad CO_{2\,(g)} + 2H_2O$$

   ii) How much mass of CH_4 would react with 96 gms. of Oxygen.
3. Calculate the weight of CaO produced when 200gm. of $CaCO_3$ is heated?
4. Write the charge and mass of an electron?
5. Calculate the volume of Oxygen at 27^0C and 2 atmospheric pressure. Give that the volume of Oxygen at STP is 22.4 litres.

Set-2

1. State the postulates of Bohr's atomic theory and how do they explain the live spectra of Hydrogen atom.
2. In the reaction $H_2 + Cl_2 \quad 2\,HCl$.
   How many gms. of Cl_2 are needed to react completely with 0.245 gms. of H_2 to give HCl? And how much HCl is formed.
3. HCl gas is sent into a 100 metres tube from one end A and NH_3 gas is sent into the tube from the other end B under similar conditions. At what distance from A will the two gases meet.
4. What will be the weight of $NaHCO_3$ that must give 0.56 litres of CO_2 at STP?
5. Define an atomic orbital and Nodel Plane?

Set-3

1. What are quantum numbers? Explain the significance and the purpose of each quantum number?
2. Explain in detail the type of bond formed between BF_3 and NH_3 during the formation of [NH_3- BF_3]
3. State the following terms with examples.
   i) Internal Energy ii) Entholpy iii) Energy of neutralisation
4. What are the empirical and molecular formulae of the compound?
5. Calculate the energy of a radiation of wave length $3000A^0$?

Set-4

1. Define ionization potential? Why is the second ionization higher than the first? Explain the factors influencing the ionization potential?
2. A compound on analysis was found to contain 53.33% C, 15.5% H and the rest is Nitrogen. Find the empirical formula of the compound?
3. What is molarity 4 gms of NaOH are dissolved in 4 litres of the solution. Find the molarity of the solution.
4. Calculate the weight of Oxygen required for the combustion of 2 moles of methane.
5. Write the Rydberg's equation and the value of Rydberg's constant?

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Tutor Marked Assignments (TMA)-II
Chemistry

Set-1

1. Describe the froath floation method for the concentration of sulphide ore. Give the name and formula of at least one ore of the following metals.
   a) Copper b) Zinc c) Iron d) Tin
2. Which metals are refined by Polling?
3. Explain Electro refining of 'Cu'.
4. What is gangue?
5. Give two examples for Coordinated Complexes.

Set-2

1. Write the preparation reactions of benzene from Acytelene and explain the reaction mechanism of methyl benzene from benzene.
2. Give the structures of CO_2 and SiO_2.
3. What happens when calamine is calcinated?
4. Define the inductive and mesomeric effect?
5. What is the difference between mineral & Ore.

Set-3

1. Explain Acidic nature of acetylene and how does acetylene react with a) Na in NH_3, b) Chromic acid
2. Give two oxidising and two reducing properties of H_2O_2.
3. Explain the Ortho, para and meta Oriented groups.
4. Write the functional isomers of C_2H_6O.
5. What is Nitrolim?

Set-4

1. Explain the mechanism of electrophilic addition reactions on ethylene and acetylene.
2. What is Isomerism? Explain functional isomerism with one example.
3. Give the equations of Alkaline earth metals reactions with water
4. Draw the Newman projection form of ethane eclipse ion formation isomer.
5. Give the structure of HNO_3.

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Chemistry

Set-1

1. Write about depletion of Ozone layer and its effects?
2. Write the names of different types of Special cements?
3. Describe Anaesthetics.
4. Name the two major Constituents of air
5. Define BOD

Set-2

1. In how many ways Carbon is fixed in the nature?
2. Explain biomagnifications.
3. How is Sludge utilized?
4. Define Background radiation.
5. What are Petro chemicals?

Set-3

1. Discuss the effects of air Pollution on humans and its control.
2. Explain the "Green house effect"
3. What is the Polar part in a soap molecule?
4. Mention the uses of Carbon black.
5. Interpret Photosynthesis.

Set-4

1. List the Radioactive waste management measures.
2. Discuss the effects of "Acid Rain".
3. Define Eutrophication
4. Classify the rocket propellants.
5. Differentiate colours and complementary colours.

Set-5

1. List the radiations which damage human health.
2. Tell two uses of Butyl Rubber.
3. Show the preparation of Vinyl Chloride from ethylene.
4. Draw a diagram showing the Carbon Cycle in nature.
5. Name two gaseous pollutants.

Set-6

1. Environment gets damages due to several threats. Describe.
2. Distinguish between Radiation and Radioactive decay.
3. Identify the controlling measures for Air Pollution.
4. Recall the effect of CFC on Ozone layer.
5. Classify the types of clay.