CHEMISTRY 2013

Time: 2 ½ Hours 9th Class Karachi Board Max. Marks: 68

SECTION "B" (SHORT-ANSWER QUESTIONS)

NOTE: Answer 14 questions from this section. (42)

2. Write one contribution of each of the following scientists towards the development of Chemistry.
(i) J.J. Thomson (b) Mendeleev (c) Rutherford
3. Balance the following chemical equations:
(i) $KClO_3 \rightarrow KCl + O_2$ (ii) $Fe + HCl \rightarrow FeCl_2 + H_2$
(iii) $CH_4 \rightarrow C + H_2$
4. Define Double Displacement Reactions and give one example.
5. Calculate the number of neutrons in the following isotopes: (i) $^{37}_{17}Cl$ (ii) $^{207}_{32}pb$ (iii) $^{235}_{92}U$
6. Calculate the number of moles in 7.4g $Ca(OH)_2$
(Atomic Masses: Ca = 40, O = 16, H = 1)
7. Write three differences between Covalent Bond and Co-ordinate Bond.
8. Define the following:
(i) Diffusion (ii) Sublimation (iii) Brownain movement
9. A solution has been prepared by dissolving 2 moles of ethyl alcohol in 8 moles of water. Calculate the mole fractions of ethyl alcohol and water in this solution.
10. Write the chemical formulae of the following compounds:
(i) Bauxite (ii) Haematite (iii) Copper Pyrite
11. Which elements have zero valency? In which group of the Periodic Table have they been placed? Also give their two examples.
12. How many Periods and Groups are there in the Modern Periodic Table? Also state what are Lanthanides and Actinides?
13. State the Law of Reciprocal Proportions and explain it with the help an example.
14. What is Slica Gel? Write its two uses.
15. Define Acid, Base & Salt. Also give one example of each.
16. Write three uses of Chlorine.
17. Write three differences between Oxidation and Reduction reactions.
18. What is Soap How does it remove dirt & dust from cloth
19. A hydrocarbon contains six carbon atoms. Write its molecular formula if it is:
(i) An Alkane (b) An alkene (c) An Alkyne (6)
20. Calculate the pH and pOH of a 0.1 M Nitric solution.
21. Write three properties of Cathode Rays.
22. Define the following:
(i) Thermochemistry (ii) Heat of Neutralization (iii) Enthalpy

SECTION 'C' (DETAILED-ANSWER QUESTIONS)

NOTE: Attempt Two questions from this section. (26)

23.(a) How is Caustic Soda manufactured by Castner-Kellner's Cell?
Explain the process giving balanced chemical equations (Diagram is not required)
(b) With the help of a labeled diagram, explain the construction and working of a Lead Storage Battery.
(c) With the help of a labeled diagram and balanced chemical equations, explain how Nitric Acid is manufactured by Ostwald's Process.
24.(a) Explain giving balanced chemical equations, the Contact Process for the manufacture of Sulphuric Acid. (Diagram is not required.)
(b) What is the difference between Soft Water and Hard Water? How is hard water softened by Clark's Method? Explain
(c) Write two causes of food-spoilage and two methods of its prevention.
25.(a) Define the following:
(i) Homologous Series (ii) Functional Group
(iii) Aliphatic Hydrocarbons (iv) Alicyclic Hydrocarbons
(v) Aromatic Hydrocarbons
(b) Describe the process of Electrolytic Refining of Blister Copper. Also draw a labeled diagram.
(c) What is Ionic Bond? How is an Ionic bond formed between Sodium and Chlorine atoms resulting in the production of NaCl. Explain.