

## Model Question of SSC Examination 2016

Sub: Chemistry (Creative)

Time: 2 Hours 10 minutes

Total Marks-40

(Answer any four of the following Questions )

1. ► W, X, Y and Z are four elements (here W, X, Y and Z are not their actual symbol)

Which atomic numbers are 4, 12, 17 and 20 respectively.

- a. What is diffusion? 1
- b.  ${}_{11}^{23}\text{X}$  What do you mean by the symbol? Explain 2
- c. Discuss the process of bond formation between X and Y. 3
- d. Z never forms covalent bond but Y forms both ionic and covalent bond. Analyze with logic. 4

2. ►  $\text{CuO} + \text{H}_2 = \text{Cu} + \text{H}_2\text{O}$

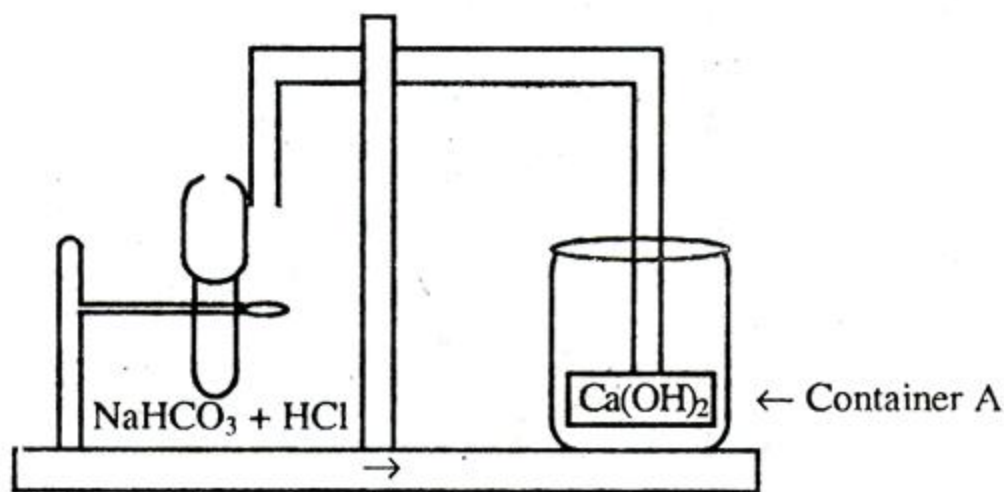
Give the answer of the following questions in the light of the above reaction.

- a. What is mineral? 1
- b. Which one act as a reducing agent in the reaction? Explain. 2
- c. Prove that oxidation and reduction reaction occurs simultaneously in the mention reaction. 3
- d. What type of reaction will be occurring if you use hydrochloric acid instead of hydrogen? Explain with reasons. 4

3. ► 17.6 gm carbon dioxide and X gm of unknown compound are mixed to produce 40gm  $\text{CaCO}_3$ .

- a. What is cation? 1
- b. 'The melting and boiling point of ionic compounds are high'– Explain. 2
- c. Determine how many moles of unknown compound were used in the reaction? 3
- d. If the unknown compound is mixed with  $\text{NH}_4\text{Cl}$  and heated in a gentle flame, what will be the product explain with equation. 4

4. ►



Observe the above figure and give the answer of the following question

- What is base? 1
- Copper does not react with hydrochloric acid but react with diluted and concentrated nitric acid-Explain. 2
- Discuss the reaction occurs in the Container 'A'. 3
- After some time if you add soap in the container 'A' what will happen? 4

5. ► 'A' is a compound contain H = 2.04%, S = 32.65% and O = 65.31%.

The empirical and molecular formula of the compound are same.

- What is hydrocarbon? 1
- In some cases the empirical formula and molecular formula are same-- Explain. 2
- Calculate the molecular formula of the compound 'A'. 3
- Describe the principle with equation of the production of compound 'A' in the industry. 4

6. ► In gaseous state hydrogen reacts with chlorine and form hydrogen chloride gas. The bond energies of H – H, Cl – Cl & H – Cl are 435 kJ, 244 kJ & 431 kJ respectively.

- What is electrolysis? 1
- 'On the opening of a bottle of a soft drink, gas and liquid come out with foam' –Explain. 2
- How many gm of hydrogen need to produce 200kJ heat energy in the reaction of the stem? calculate it. 3
- 'The reaction of the stem is exothermic'– Justify the statement. 4




**Model Question of SSC Examination 2016**  
**Sub: Chemistry (MCQ)**


Time: 35 minutes

Total Marks- 35


[Darken the circle (O) of the correct option from the following alternatives]

1. What is the real basis of periodic table?  
(a) Atomic number (b) Atomic mass  
(c) Relative atomic mass  
(d) electronic arrangement
  2. In periodic table, alkaline earth metals are kept in group—  
(a) 1 (b) 2  
(c) 3 (d) 11
  3. Neutron number of the symbol  $^{23}_{11}\text{Na}^+$  is  
(a) 11 (b) 12  
(c) 23 (d) 34
  4. Which orbital of the following has the lowest energy?  
(a) 4s (b) 3d  
(c) 4p (d) 4f
  5. The maximum number of electrons in L shell is—  
(a) 2 (b) 8  
(c) 16 (d) 32
  6. How many electrons remain in the outermost shell of calcium?  
(a) 2 (b) 3  
(c) 4 (d) 5
  7. Which electronic configuration is correct for metal?  
(a) 2, 8, 2 (b) 2, 8, 4  
(c) 2, 8, 6 (d) 2, 8, 8
  8. What is the real mass of a proton?  
(a)  $1.567 \times 10^{-24}$  g  
(b)  $1.67 \times 10^{-24}$  g  
(c)  $1.675 \times 10^{-24}$  g  
(d)  $1.76 \times 10^{-24}$  g
- Answer the questions of 9 & 10 on the basis of the stem below :
- 1.2 gm magnesium is added with one molar of 200 ml HCl solution
9. How many atoms of magnesium were added in the reaction of the stem?  
(a)  $3.01 \times 10^{21}$  (b)  $3.01 \times 10^{22}$   
(c)  $3.01 \times 10^{23}$  (d)  $3.01 \times 10^{24}$
  10. How many ml of hydrogen gas will be produced in the stem?  
(a) 550 (b) 560  
(c) 570 (d) 580
  11. The electronic configuration of an element is  $1s^2 2s^2 2p^6 3s^2$ . The position of the element in the periodic table is  
(a) Group 2 (b) Group 6  
(c) Group 8 (d) Group 10
  12. On formation of which molecule every atom attains the electronic configuration of neon?  
(a) KF (b) CaS  
(c) MgO (d) NaCl
- On the basis of the electronic configurations of the following elements, answer questions 13 and 14.
- 

A



B



D
- [Here A, B and D are used as symbol, they are not the symbol of any regular elements.]
13. Which valency is impossible for the element marked by D?  
(a) 2 (b) 3  
(c) 4 (d) 6
  14. The element B  
i. forms two types of bonds  
ii. donates electron to A  
iii. dissolves in water combining with D  
Which one of the following is correct?  
(a) i and ii (b) ii and iii  
(c) i and iii (d) i, ii and iii
  15. Turn into vapour directly if heated  
i.  $\text{NH}_4\text{Cl}$   
ii. Camphor  
iii. Iodine  
Which one of the following is correct?  
(a) i & ii (b) i & iii  
(c) ii & iii (d) i, ii & iii

16. Which isotope of carbon is used to calculate the age of the universe?  
 (a) C - 12 (b) C - 13  
 (c) C - 14 (d) C - 16
17. The practice of chemistry during middle age is known as—  
 (a) al-chemist (b) al-chemy  
 (c) al-chamis (d) al-chimia
- Answer the questions of 18 & 19 on the basis of the stem below :  
 7 gm hydrogen gas is passed on to 80 gm chlorine gas.
18. How many of chlorine atoms are used in the reaction in the stem?  
 (a)  $6.02 \times 10^{23}$  (b)  $6.36 \times 10^{23}$   
 (c)  $1.27 \times 10^{24}$  (d)  $1.36 \times 10^{24}$
19. Which of the following collect as remains in the reaction in the stem?  
 (a) 1.44 mole H<sub>2</sub> (b) 1.44 mole Cl<sub>2</sub>  
 (c) 2.38 mole H<sub>2</sub> (d) 2.38 mole Cl<sub>2</sub>
20. Which of the following acid is present in vinegar?  
 (a) Citric acid (b) Acetic acid  
 (c) Tartaric acid (d) Ascorbic acid
21. What type of reaction does occur when taking medicines like antacid?  
 (a) Neutralisation  
 (b) Combustion  
 (c) Addition  
 (d) Replacement
22. What is the formula of baking powder?  
 (a) Na<sub>2</sub>CO<sub>3</sub> (b) NaHCO<sub>3</sub>  
 (c) CaCO<sub>3</sub> (d) Ca(HCO<sub>3</sub>)<sub>2</sub>
23. Jamal prepare 250 ml 0.1 M Na<sub>2</sub>CO<sub>3</sub> solution in the conical flask below. How much amount of Na<sub>2</sub>CO<sub>3</sub> is required?  
 (a) 1.325 g (b) 2.65 g  
 (c) 5.3 g (d) 10.6 g
24. What is the oxidation number of Cr in K<sub>2</sub>Cr<sub>2</sub>O<sub>7</sub>?  
 (a) +2 (b) +4  
 (c) +6 (d) +7
25.  $\text{FeSO}_4 + 2 \text{NaOH} = \text{X} + \text{Na}_2\text{SO}_4$ ;  
 What is the colour of 'X'?  
 (a) green (b) white  
 (c) Blue (d) Brown
26. What is the colour of pH paper in neutral solution?  
 (a) red (b) yellow  
 (c) green (d) blue
27.  $\text{Zn} + \text{CuSO}_4 = \text{ZnSO}_4 + \text{Cu}$ , Which one act as a reducing agent in the above reaction?  
 (a) Zn (b) CuSO<sub>4</sub>  
 (c) ZnSO<sub>4</sub> (d) Cu
28. The electrode which is connected to the positive pole of the outside source of the battery is called  
 (a) anode (b) cathode  
 (c) anion (d) cation
29. Which is called china clay?  
 (a) kaoline (b) bauxite  
 (c) hematite (d) magnetite
30. Which one of the metals is at the top of the reactivity series?  
 (a) Na (b) Mg  
 (c) Zn (d) Ca
31. Which one is the ore of zinc?  
 (a) calamine (b) bauxite  
 (c) hematite (d) galena
32. What is the percentage of pentane in natural gas?  
 (a) 3 (b) 4  
 (c) 6 (d) 7
33. Which one of the following is an aromatic compound?  
 (a) C<sub>2</sub>H<sub>6</sub> (b) C<sub>3</sub>H<sub>6</sub>  
 (c) C<sub>2</sub>H<sub>8</sub> (d) C<sub>6</sub>H<sub>6</sub>
34. What is the boiling point of methane?  
 (a) -164°C (b) -89°C  
 (c) -42°C (d) -1°C
35. What is the main ingredient of toilet cleaner?  
 (a) NaOH (b) Mg(OH)<sub>2</sub>  
 (c) Ca(OH)<sub>2</sub> (d) Zn(OH)<sub>2</sub>

1	(d)	2	(b)	3	(b)	4	(a)	5	(b)	6	(a)	7	(a)	8	(b)	9	(b)	10	(b)	11	(a)	12	(c)	13	(b)	14	(d)	15	(d)	16	(c)	17	(b)	18	(d)	19	(c)	20	(b)
21	(a)	22	(b)	23	(b)	24	(c)	25	(a)	26	(c)	27	(a)	28	(b)	29	(a)	30	(a)	31	(a)	32	(a)	33	(d)	34	(a)	35	(a)										