

Model Question of SSC Examination 2021 for All Board

Chemistry

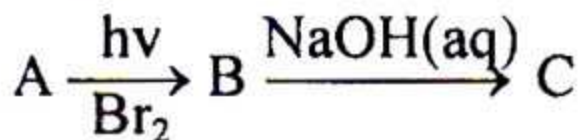
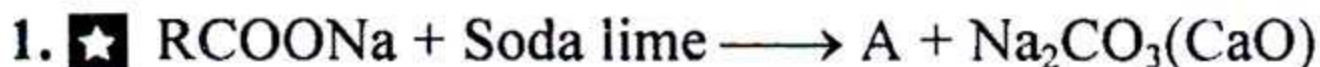
Subject Code 137

Time—2 hours 35 minutes

Creative Essay Type Questions

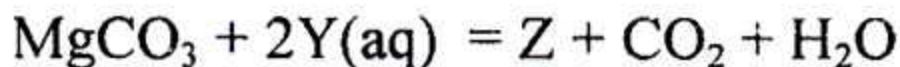
Full marks—50

[N.B. -The figures in the right margin indicate full marks. Read the stems attentively and answer any five of the following questions.]



- What is vinegar? 1
 - Darlin is the polymer of aldehyde— Explain. 2
 - How can you prepare Ethanol using above idea? 3
 - C type compound is very significant in our daily purposes— Analyze. 4
2. ► Rehana and Nazma prepared delicious mango pickles separately and preserved in two bottles. After two months, pickles of Rehana putrefied but that of Nazma remained fresh and pure. Nazma added an addition chemical 'X' to her pickles but Rehana did not.
- What is nuclear fusion reaction? 1
 - Electrolysis is a Redox process— Explain. 2
 - How can you prepare the chemical 'X' in Industry? Describe with reactions. 3

d. How did the 'X' chemical function on the pickles of Nazma? Explain with logic. 4



Where X, Y and Z are unknown compounds/elements.

a. What is salt? 1

b. What happens when Bromine-water solution is mixed with an alkene? Write with equation. 2

c. How the chemical bond is formed in 'Z' molecule? Explain with electronic diagram. 3

d. Explain the polarity and conductivity properties of 'Y' with logic. 4

4. ★ Kamal took 5 gm of pure magnesium carbonate ($MgCO_3$) in a open crucible and strongly heated it. After complete burning he got some amount of MgO as ash. He also heated same amount and same thing in a closed container.

a. What is electrolysis? 1

b. What do you mean by limiting reactant? Explain with example. 2

c. What amount of $MgCO_3$ does Jawad need to produce 25 gm of CO_2 gas? 3

d. Which type of reactions may be occurred in Jawad activity? Explain with logic. 4

5. ► i) $A_2 + 3B_2 \rightleftharpoons 2AB_3$

ii) $H_2S + Cl_2 = 2HCl + S$

a. What is ore? 1

b. What do you mean by roasting? Explain with example. 2

c. Explain with effect of pressure in reaction (i). 3

d. Explain with logic that reaction (ii) is a Redox reaction. 4

6. ► XZ_2 , YZ_2 , Z_2 are the molecules produced from three elements : ${}_6X$, ${}_7Y$ ${}_8Z$

a. Draw the risk sign for radioactive ray? 1

b. Explain that Bhor's atom model overcomes the limitation of Rutherford's atom model in some extent. 2

c. Which of the above molecules will show maximum diffusion rate and why? 3

d. Describe the harmful effect of first two compounds on environment. 4

7. ★

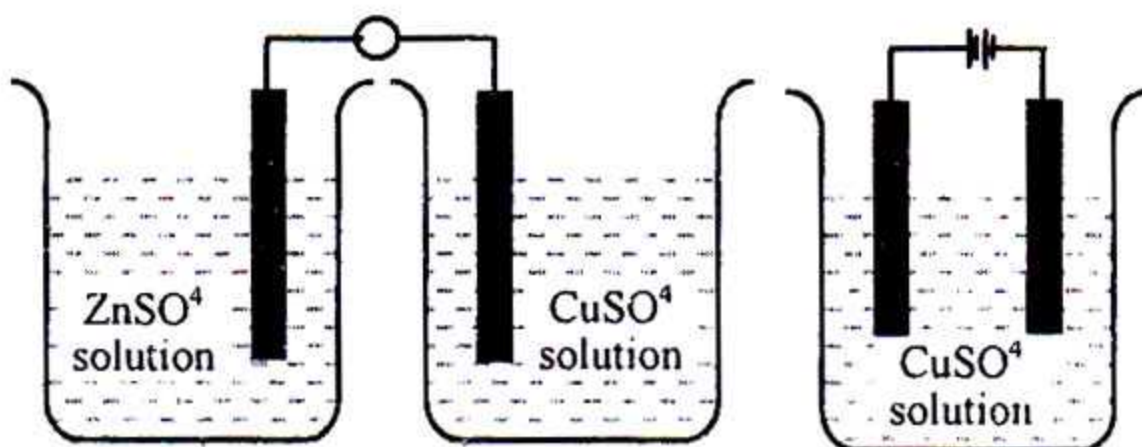


Fig-A

Fig-B

- a. What is relative atomic mass? 1
- b. Ionic bond is formed only between metal and nonmetal— Explain. 2
- c. Mention some uses of the idea shown in Fig. B in the practical life. 3
- d. How can you differentiate between above two instrumental arrangements? Describe mentioning their construction process. 4



- a. What is Galvanic cell? 1
- b. What do you mean by spectator ion? Explain with example. 2
- c. Describe the extraction process of the first substance from mineral. 3
- d. How can you relate the above substances to manufacture H_2SO_4 in industry? Describe the process with reaction. 4

Time — 25 minutes

Creative Multiple Choice Questions

[NB. Answer all the questions. Each question carries one mark. Block fully, with a ball point pen, the circle of the letter that stands for the correct/best answer in the "Answer Sheet" for the Multiple Choice Questions Examination.]

1. Which one of the following isotope is used in treatment of blood leukemia?

- (a) ^{31}P (b) ^{32}P
 (c) ^{131}I (d) ^{89}Sr

2. Which one is correct [according of orbital energy]?

- (a) $3p < 4s < 3d$ (b) $4p < 3d < 5s$
 (c) $3s < 2p < 3d$ (d) $3d < 4s < 4d$

3. For metal—

- i. Ag is a coinage metal
 ii. Sc is a transition element
 iii. Transition elements form colored & complex compound

Which one is correct?

- (a) i (b) ii
 (c) i & iii (d) i, ii & iii

4. If $A = 1s^2 2s^2 2p^6 3s^3 3p^6 3d^5 4s^1$, the A belongs to which group?

- (a) group 6 (b) group 16
 (c) group 5 (d) None

5. Valency of phosphate radical is—

- (a) 1 (b) 2
 (c) 3 (d) 4

6. Which one is weak acid?

- (a) HCl (b) H_3PO_4
 (c) H_2SO_4 (d) H_2CO_3

7. In case of $\text{Cr}_2\text{O}_7^{2-}$ oxidation no. of Cr is

- (a) +6 (b) 6
 (c) +7 (d) 7

8. Unit of reaction rate is —

- i. $\text{mol liter}^{-1} \text{time}^{-1}$
 ii. mol liter time

iii. $\text{mol liter}^{-1} \text{time}^{-2}$

Which one is correct?

- (a) i (b) ii
 (c) iii (d) i & iii

9. $A_{(g)} + B_{(g)} \rightleftharpoons C_{(s)} + D_{(l)}$. $\Delta H = -x$ KJ.

For above reaction if temperature will increase, then —

- i. Equilibrium shift from left to right
 ii. Equilibrium shift from right to left
 iii. Backward reaction increases.

Which one is correct?

- (a) i (b) ii
 (c) i & iii (d) ii & iii

10. In above reaction, if pressure increased, then

- (a) Equilibrium shift from left to right
 (b) Equilibrium shift from right to left
 (c) Forward reaction rate increase
 (d) No effect of pressure

11. Which one follow sublimation reaction—

- (a) NH_4Cl (b) FeCl_3
 (c) $[\text{Ag}(\text{NH}_3)_4]^+$ (d) CaCl_2

12. Chemical formula of rust is —

- (a) $\text{Fe}_2\text{O}_3 \cdot \text{H}_2\text{O}$ (b) $\text{Fe}_2(\text{OH})_3 \cdot \text{H}_2\text{O}$
 (c) $\text{Fe}_2\text{O}_3 \cdot n\text{H}_2\text{O}$ (d) $\text{Fe}_2(\text{OH})_3 \cdot n\text{H}_2\text{O}$

13. On which half electrode oxidation occur?

- (a) Zn^{2+}/Zn
 (b) Zn/Zn^{2+}
 (c) $\text{Fe}^{3+}/\text{Fe}^{2+}, \text{Pt}$
 (d) $\text{Na}^+/\text{Na}-\text{Hg}$

14. When uranium-235 is heated by a high energetic neutron—

- i. Produce Sr-90
- ii. Produce Xe-143
- iii. Produce one neutron

Which one is correct?

- (a) i
- (b) ii
- (c) i & iii
- (d) i & ii

15. Which one of the following act as oxidant in dry cell?

- (a) Zn rod
- (b) MnO_2
- (c) Carbon rod
- (d) NH_4^+

16. In case of pH paper—

- i. For strong acid color is Red
- ii. For neutral color is Blue
- iii. For strong base yellow

Which one is correct?

- (a) i
- (b) ii
- (c) i & iii
- (d) ii & iii

17. ★ What is the formula of dolomite?

- (a) $CaCO_3$
- (b) $CaCO_3 \cdot MgCO_3$
- (c) $CaSO_4 \cdot 2H_2O$
- (d) $CaCO_3 \cdot CaSO_4$

18. Which one is correct for chemical reactivity of metal & metal extraction?

- (a) $Li^+ > Ca^{2+} > Mg^{2+}$
- (b) $Ca^{2+} > K^+ > Na^+$
- (c) $Zn^{2+} > Mn^{2+} > Fe^{2+}$
- (d) $Ca^{2+} > Pb^{2+} > Ag^{2+}$

19. For duralumin metal alloy, composition of different element is—

- i. Al-80%
- ii. Cu-4%
- iii. Mg, Mn & Fe-1%

Which one is correct?

- (a) i
- (b) ii
- (c) i & iii
- (d) ii & iii

20. Polypropene used as—

- (a) Water pipe
- (b) Non sticky pot
- (c) Plastic bottle
- (d) tooth brush

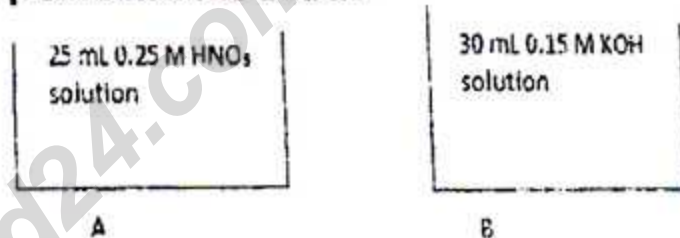
21. ★ What is the percentage of pentane in natural gas?

- (a) 3%
- (b) 4%
- (c) 6%
- (d) 7%

22. What is the real mass of proton?

- (a) 1.67×10^{-23} g
- (b) 1.67×10^{-24} g
- (c) 1.675×10^{-24} g
- (d) 9.11×10^{-28} g

Observed the stem reaction and answer the questions No. 23 and 24



23. How many gram HNO_3 is dissolved in A vessel?

- (a) 0.394 g
- (b) 0.439 g
- (c) 0.934 g
- (d) 0.339 g

24. If A & B solution is mixed—

- i. Produced salt will be spectator ion in the solution
- ii. Mixed solution will be basic in nature
- iii. Mixed solution will be Acidic in nature

Which one is correct?

- (a) i, ii
- (b) ii, iii
- (c) i, iii
- (d) iii

25. Which ray emitted from ^{60}Co kit bacteria?

- (a) α -ray
- (b) β -ray
- (c) γ -ray
- (d) X-ray

Ans.	1	(b)	2	(a)	3	(c)	4	(a)	5	(c)	6	(d)	7	(a)	8	(a)	9	(d)	10	(d)	11	(a)	12	(c)	13	(b)
	14	(c)	15	(b)	16	(a)	17	(b)	18	(a)	19	(c)	20	(c)	21	(a)	22	(b)	23	(a)	24	(c)	25	(c)		