Model Question of SSC Examination 2021 for All Board

Chemistry

Subject Code | 1 | 3 | 7 |

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.]

1. ▶

a. What is rust? 1

b. Explain the change of burning of candle? 2

c. If the caps are opened of the stem cylinder then which gas spread out faster, explain? 3

d. How will you obtain (I) gas from (II) and (II) from (I), explain. 4

2. ✪ X, Y and Z are three elements of the periodic table which atomic number are 1, 6 and 8.

a. What is boiling point? 1

b. Explain what is lone pair and bond pair electron. 2

c. Explain the bond formation process between Y and Z element. 3

d. Compound of X, Z and Y, Z which boiling point is high and why, explain? 4

3. ✪

Element	Atomic number
A	14
B	17
E	19

a. What is modern periodic law? 1

b. Explain that oxidation number and valence are not same. 2

c. Why 3rd is vacant in electronic configuration of E element of the stem? 3

d. If compound of AB_4 and EB mixed water what will happen, explain? 4

4. ▶ In compound R, C = 85.71% and H = 14.29%

a. What is soap? 1

b. Explain the beaching action of bleaching powder. 2

c. Determine the molecular formula of R of the stem. 3

d. Is it possible to prepare fatty acid from R compound, explain? 4

5. ▶ i. $N_2 + H_2 \Leftrightarrow 2NH_3$; $\Delta H = -92.2$kj/mol

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

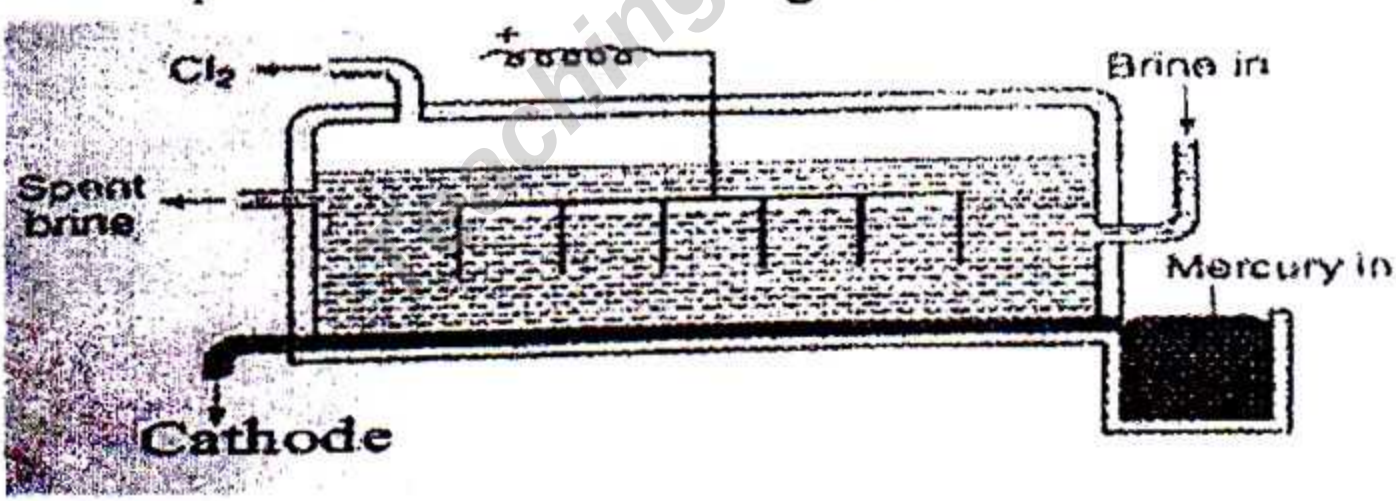
a. What is pH? 1

b. Explain between alkane and alkene which is more reactive? 2

c. Explain the effect of temperature in (i) reaction. 3

d. Explain with logic reactions (i) & (ii) represent how many types of reactions? 4

6. ▶ To produce NaOH following cell is used.



a. What is glass cleaner? 1

b. Explain that metal extraction is a reduction process. 2

c. Mention the reactions that happen in above cell. 3

d. Explain the role of the compound that obtains in above cell to identify metal ion. 4

7. ▶ We used different types of battery like— i) Dry cell ii) Mercury cell iii) Lead storage battery iv) Lithium battery etc.

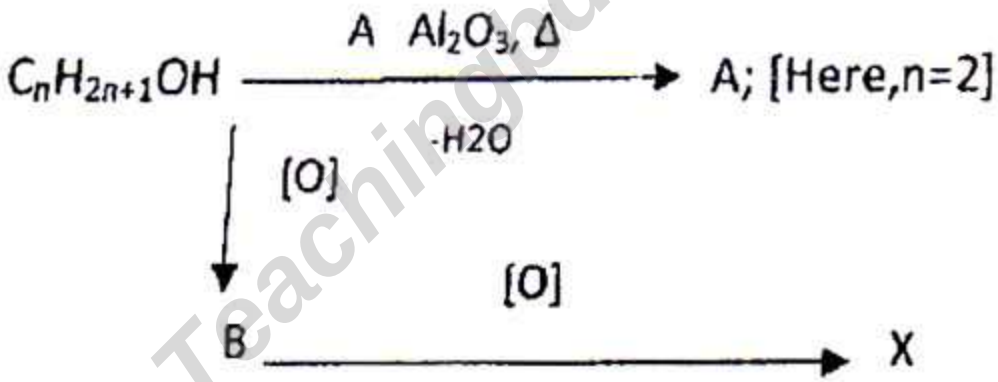
a. What is salt bridge? 1

b. Explain recycling metal. 2

c. Explain how electron is transferred in (i) cell? 3

d. Explain the effect of battery on health and environment.

8. ✪



a. What is oleum? 1

b. Why soap is corrode in hard water? 2

c. How will you proof A is saturated or unsaturated, explain? 3

d. How aqueous solution of X preserve food, explain. 4

Subject Code 1 3 7

Time — 25 minutes **Creative Multiple Choice Questions** Full marks — 25

[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 is inorganic compound?
ⓐ Water ⓑ Starch
ⓒ Protein ⓓ fat

2. Diffusion rate depends on—
i. temperature
ii. molecular mass
iii. state of the substance
Which one is correct?
ⓐ i ⓑ ii
ⓒ i, i & iii ⓓ i & ii

3. ★ Which isotope is used in pacemaker?
ⓐ ^{89}Sr ⓑ ^{238}Pu
ⓒ ^{99}Tc ⓓ ^{125}Pd

4. What is the number of electron in the just before of last shell of Cr atom?
ⓐ 13 ⓑ 12
ⓒ 11 ⓓ 14

5. What is the first element of actinide series?
ⓐ Cerium ⓑ Actinium
ⓒ Thorium ⓓ Lanthanum

See the reaction and Answer next two questoins—

$$CH_3CH_2OH \xrightarrow[-H_2O]{H_2SO_4} B$$

6. B compound reacted with dilute solution of potassium permanganate to—
i. produce glycol compound
ii. indicate double bond in that compound
iii. disappear the colour of aqueous solution of Bromine
Which one is correct?
ⓐ i & ii ⓑ ii & iii
ⓒ i ⓓ i, ii & iii

7. ★ B compound may be used to prepare
i. ethane ii. polythene
iii. ethene
Which one is correct?
ⓐ i & ii ⓑ ii & iii
ⓒ i, ii & iii ⓓ ii

8. Which one is called thermoplastic polymer?
ⓐ PVC ⓑ Bakelite
ⓒ Fibre glass ⓓ Epoxy glue

9. Which type of reaction is occurred in anode of electrochemical cell?
ⓐ Reduction
ⓑ Precipitation
ⓒ Oxidation
ⓓ Addition

10. What is the formula of Magnetite?
ⓐ Fe_3O_4 ⓑ FeO
ⓒ Fe_2O_3 ⓓ $Fe_2O_3.3H_2O$

11. ★ In duralumin, percent composition of Cu is—
ⓐ 1% ⓑ 4%
ⓒ 35% ⓓ 65%

Read the stem and answer next two questions.

$$H_2C = CH_{2(g)} + H_{2(g)} \xrightarrow[Ni,\ 180\text{-}200^\circ C]{} 'X'_{(g)}$$

$$'X' + [O] \longrightarrow 'Y' + H_2O$$

12. What is 'Y'?
ⓐ $CH_3CH_2CH_3$ ⓑ CH_3COOH
ⓒ CH_3CH_2OH ⓓ HCHO

13. What is the percent of Carbon in 'Y'?
ⓐ 12% ⓑ 20%
ⓒ 28% ⓓ 40%

14. How many atoms are present in 1g of water?
ⓐ 3.346×10^{22} ⓑ 6.023×10^{23}
ⓒ 1.004×10^{23} ⓓ 5.02×10^{22}

15. What is the order of reactivity of halogen?
ⓐ $F_2 > Cl_2 > I_2 > Br_2$ ⓑ $F_2 > Cl_2 > Br_2 > I_2$
ⓒ $Cl_2 > F_2 > Br_2 > I_2$ ⓓ $I_2 > Br_2 > Cl_2 > F_2$

16. ★ $A_{2(g)} + B_{2(g)} \longrightarrow 2AB_{(g)}$; bond energies of A–A, B–B and A–B are X, Y and Z respectively.
What is the ΔH of the reaction?
ⓐ $2Z - X - Y$ ⓑ $2Z + X + Y$
ⓒ $2Z - X + Y$ ⓓ $X + Y - 2Z$

17. What is the colour of $CuSO_4$ crystal?
ⓐ Blue ⓑ White
ⓒ Green ⓓ Violet

18. $Fe^{3+} + Sn^{2+} \longrightarrow Fe^{2+} + Sn^{4+}$; which group act as a reducing agent?
ⓐ Fe^{3+}, Sn^{4+} ⓑ Sn^{2+}, Fe^{2+}
ⓒ Fe^{2+}, Sn^{4+} ⓓ Sn^{4+}, Sn^{2+}

19. Urea in soil is dissociated in presence of which enzyme?
ⓐ Uric acid ⓑ Ureage
ⓒ Urotropine ⓓ Uramide

20. If calcium carbide is heated with water which gas would be produced?
ⓐ Ethene ⓑ Acetylene
ⓒ Methane ⓓ Propelene

21. Does which part of a soap clean grease dirt?
ⓐ Na^+ ⓑ $RCOO^-$
ⓒ R ⓓ OH^-

22. ★ The role of Carbonic acid in cold drink is —
i. to accelerate the digestion process
ii. to produce the bubbles of gas at low pressure
iii. to give the sweet test of drinks
Which one is correct?
ⓐ i ⓑ ii
ⓒ i & ii ⓓ i, ii & iii

23. Which is the monomer of nylon?
ⓐ Di carboxylic acid
ⓑ Vinyl chloride
ⓒ Propene
ⓓ Vinyl chloride

24. What is the melting point of Butane?
ⓐ – 129°C ⓑ – 189°C
ⓒ – 138°C ⓓ – 183°C

25. Which range of pH of water is tolerable for our body?
ⓐ 4.5 – 9.5 ⓑ 6.5 – 10.5
ⓒ 3.5 – 7.5 ⓓ 7.5 – 11.5

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