Model Question of HSC Examination 2017 (All Board)

Sub: Chemistry 2nd paper (Creative)

Sub Code : 1 7 7

Time: 2 Hrs 10 min **Full marks: 40**

[Answer any four questions]

1. ▶ i) $N_2 + 3H_2 \longrightarrow X$

ii) $X + CO_2 \longrightarrow Y$

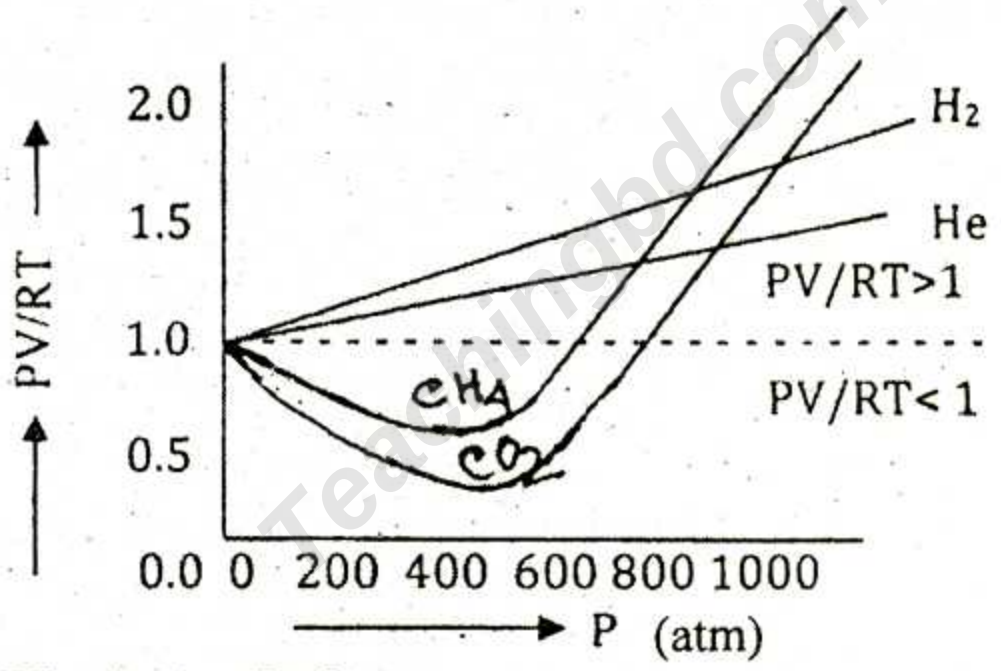
a. What is oxidation? 1

b. Write down the effect of acid rain? 2

c. Explain the character of X compound. 3

d. How to form Y compound? Explain with necessary reaction? 4

2. ▶ There are different CNG station in our country where gaseous laws are applied. Cylinder of different vehicle are filled by natural gas in the different pressure. By applying different pressure to each mole of CO_2, CH_4, H_2 & He gas, the following PV/RT vs P curve obtained.



a. What is recycling? 1

b. Why H_2SO_4 si called secondary standard substance? 2

c. Explain which gaseous laws are apply to fulfill the cylinder of the different vehicle. 3

d. According to stem, which gas is easily liquidify? Give your logic. 4

3. ▶ $6Fe^{2+} + 14H^+ + Cr_2O_7^{2-} \longrightarrow 6Fe^{3+} + 2Cr^{3+} + 7H_2O$

a. What is decarboxylation reaction? 1

b. What is reactivity series? Write down the reactivity series of metal. 2

c. Mention the oxidizing & redicing agent in the stem & write down the oxidation reduction half reaction with balance. 3

d. How many gram oxidizing agent needed to oxidize of 10 gram reducing agent? 4

$$P \xrightarrow{[O]} Q \xrightarrow{[O]} R$$

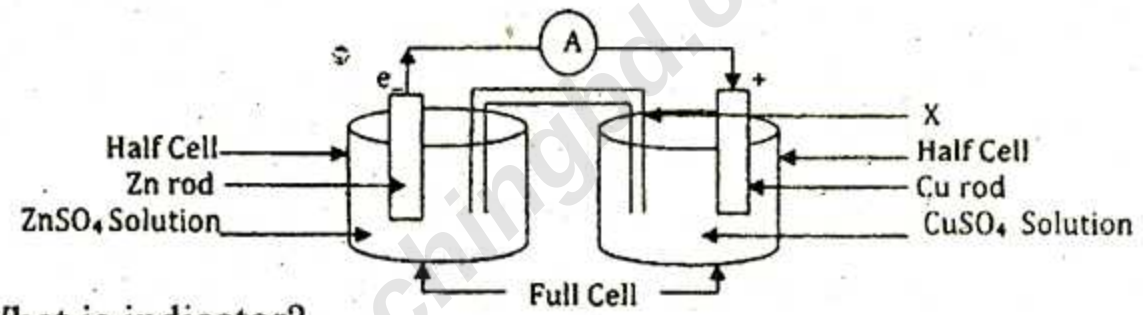
4. ▶ 'P' compound consist of two carbons. 'B' compound form yellow ppt. with 2, 4- dinitro phenyl hydrazine & reduce the Fehlling's reagent.

a. What is glycoside bond? 1
b. Why benzene is called aromatic compound? 2
c. How to identify the functional group which is present in the `Q' compoind? 3
d. "By the oxidation of `P' compound form `R' Compound" Explain with equation. 4

5. ▶ C_6H_6O is the molecular formula of a cyclic aromatic compound. By the addition of Br_2 water with the compound form white ppt. The compound used for driven of snack from house.

a. What is critical temperature? 1
b. Calculate the charhe of an electron from the first law of Faraday. 2
c. C_6H_6O compound is acidic- Explain. 3
d. "By the nitration of C_6H_6O compound form an explosive"– explain it with equation. 4

6. ▶



a. What is indicator? 1
b. Why annealing is needed to producing of glass? 2
c. explain the role of `X' in the cell according to stem. 3
d. Is it possible to produce electricity in the cell? explain with cell reaction. 4

Model Question of HSC Examination 2017 (All Board)

Sub – Chemistry (MCQ)

Sub Code : 1 7 7

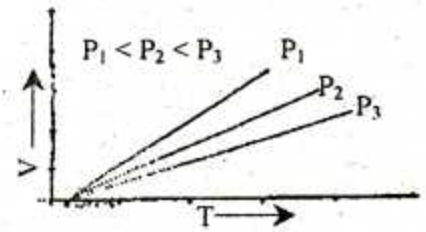
Time : 35 Minutes

Full Marks : 35

[N.B. Fill the circle of the correct answer with a black ball point pen. Each question bears 1 mark.]

1. Following gases (O^+, NO^+, He^+ & H^+) are present in whcih sphere of atmosphere?
ⓐ Troposphere ⓑ Stroatosphere
ⓒ Homosphere ⓓ Heterosphere

Look at the curve and answer questions 2-3



2. By applying which law. the above curves are drawn.
ⓐ Boyle's laws ⓑ Charles's law
ⓒ Avogadro's law ⓓ Grahanm's law

3. i. At 0 K volume of gas is zero
ii. -273°C volume of gas is zero
iii. Temperature has no effect on volume of gas
Which one of the following is correct?
ⓐ i, ii ⓑ ii & iii
ⓒ i & iii ⓓ i, ii & iii

4. How many felspars are use for the Ceramic production?
ⓐ 2 ⓑ 3
ⓒ 4 ⓓ 5

5. Which one of the following is the range of Nano particle?
ⓐ 0.25-0.50 nm ⓑ 0.50-0.75 nm
ⓒ l-100nm ⓓ 100nm-100nm

6. i. Ideal gas equation; $PV = nRT$
ii. For ideal gas, internal energy; $(\delta U/\delta V)T = 0$
iii. Real gas equation; $(P + an^2/V^2)(V-nb) = 0$
Which one of the following is correct?
ⓐ i, ii ⓑ ii & iii
ⓒ i & iii ⓓ i, ii & iii

80% Nitrogen and 20% Oxygen are present in the atmosphere of Earth. The density of gases is determined by considering the Hydrogen gas as a standard.

Answer questions 7-8

7. Which one of the dollowing is the active molecular mass of the atmosphere gas?
ⓐ 14.4 ⓑ 20.5
ⓒ 26.7 ⓓ 28.8

8. i. Density of Oxygen atom is 3.2 g/cm^3
ii. Active mass of Nitrogen gas is 22.4g
iii. Density of air 14.4 g/cm^3
Which one of the following is correct?
ⓐ i, & ii ⓑ ii & ii
ⓒ i & iii ⓓ i & iii

9. Which one of the following compounds is used for removing bubbles from melted glass?
ⓐ $NaNO_3$, Al_2O_3 & NH_4Cl
ⓑ Cu_2O, Cr_2O_3 & NH_4NO_3
ⓒ MnO_2, $CaCO_3$ & NH_3
ⓓ H_3BO_3, $ZnCO_3$ & NH_4OH

10. Which one of the following are the main components of Portland cement?
ⓐ CaO, SO_3 & BeO
ⓑ SiO_2, Al_2O_3 & Na_2S
ⓒ CaO, SiO_2 & Al_2O_3
ⓓ SO_3, MgO & Cus

11. Which one of the follwing batteries is for heart pacemaker?
ⓐ Lithium ion battery.
ⓑ PEM-ion battery
ⓒ Lithium SVO battery.
ⓓ Galvanic Cell

12. i. FGD plant is for SO_2 reduction
ii. ETP is for Industrial discharge reduction
iii. Biodegradable discharges are plastic substances
Which one of the following is correct?
ⓐ i & ii ⓑ ii & iii
ⓒ i & iii ⓓ i, ii & iii

13. Which one of the following is non-electrolyte?
ⓐ $HClO_4$ ⓑ HF
ⓒ KOH ⓓ CH_3OH

14. About reactivity series:
i. K, Ba & Ca can replace H_2 from H_2O
ii. Mn, Zn & Cr can replace H_2 from H_2O
iii. Cu, Ag & Au can replace H_2 from H_2O
নিচের কোনটি সঠিক?
ⓚ i ও ii ⓚ ii ও iii
ⓖ i ও iii ⓖ i, ii ও iii

15. Which one of the following batteries is rechargeable one?
ⓐ Lithium ion battery
ⓑ Lithium battery
ⓒ Dry cell ⓓ Alkali cell

16. Oxidation potential of Zn & Ag electrodes are + 0, 76V &-0.80V respectively. Zn/Zn^{2+} I Ag^+ /Ag?
ⓐ -0.04V ⓑ + 0.04V
ⓒ -1.56V ⓓ + 1.1.56V

17. Which one of the following is the notation of standard H-electrode?
ⓐ Pt, $H_{2\,(g)}$ (1atm) I $H^+_{(aq)}$ 1M HCl
ⓑ Pt, $H^+_{(aq)}$ (1atm) I H_2 (g) 1M HCl
ⓒ Pt, H_2 (g) (1atm) I HCl 1M$H^+_{(aq)}$
ⓓ Pt, 1M HCl I H^+ (aq) H_2 (aq) H_2 (g) (1atm)

18. Stem is passes on 840g heated Iron powder. How much volume of H_2 gas is produced at SATP?
ⓐ 497.11L ⓑ 527.16L
ⓒ 597.11L. ⓓ 697.11L

19. Which one of the following is the primary standard substance?
ⓐ $KMnO_4$ ⓑ H_2SO_4
ⓒ NaOH ⓓ Na_2CO_3

Murad kept two solution of Sodium Oxalate and Sodium permaganate in a beaker, He also added strong base (NaOH) in the beak for an experiment.

Answer questions 20-21

20. Which one takes part in oxidation reaction of Murad experiment?
ⓐ $Na_2C_2O_4$ ⓑ $KMnO_4$
ⓒ NaOH ⓓ a & b

21. For the balance equation—
i. 3 moles Na_2 C_2O are required
ii. 1 mole $KMnO_4$ is required
iii. 4 moles NaOH are required

Which one of the following is correct?
ⓐ i & ii ⓑ ii & iii
ⓒ i & iii ⓓ i, ii & iii

22. Which one of the following is the Beer-Lamberts law?
ⓐ Ia = Ir + It ⓑ –dI/dc ∞ I
ⓒ – dI/dl ∞ I ⓓ A ∞ C

23. Which one of the following will be chromophore?
ⓐ – N = N – containing compound
ⓑ – OH containing alkane
ⓒ – Cl cotantaining alkane
ⓓ – COOH containing saturated compound

24. Recommendation by WHO, Which one of the following tolerable standard limit of arsenic for human body?
ⓐ 0.05 mg/L ⓑ 0.07 mg/L
ⓒ 0.09 mg/L ⓓ 0.25 mg/L

25. Which one of following sugar is deposited in lever from food?
ⓐ α-Glucose ⓑ β-Glucose
ⓒ Fructose ⓓ Glycogen

26. CH_3-CH (OH)-CH (CHO)-CH_3
Which one of the following is the name of the above compound?
ⓐ 3-hydroxy-2 methylbutanal
ⓑ 2-hydroxy-3-methylbutanal
ⓒ 2-hydroxy-3-methylpentanal
ⓓ 2-hydroxy-3-methylpentanol

27. Which one one of the following compounds shows optical isomerism?
ⓐ Maleic acid ⓑ Trans butane
ⓒ Lactic acid ⓓ Cyclohexanone

28. $CH_2(OH)$-CH (OH)-$CH_2(OH)$ $\xrightleftharpoons{KHSO_4\Delta}$ X + $2H_2O$ What is X?
ⓐ Ethylene try sulphate
ⓑ Ethanoic acid
ⓒ Acroline
ⓓ Kumene

29. Which one of the following is the name of the compound, $[(CH_2)_5$ CONH]?
ⓐ Capro lactum
ⓑ Nylone 5 : 6
ⓒ Cyclohexarmide
ⓓ Captro tactose

Ethene reacts with Benzene in presence of dry $AlCl_3$ to produce L, In presence of Fe_2O_3 at 650°C L form M by replacing hydrogen gas. Agin M produces N at high pressure.

30. Which one of the follwing is M in the stem?
ⓐ Chloro-Benzene ⓑ Styrene
ⓒ Toluene ⓓ PVC

31. i. Hybridization of M sp2
ii. N is used as packaging & television cabinet
iii. L is disolved in water.

Which one of the following is correct?
ⓐ i & ii ⓑ ii & iii
ⓒ i & iii ⓓ i, ii & iii

32. Which one of the following compounds is more basic?
ⓐ NH_3 ⓑ 1°-amine
ⓒ 2°-amine ⓓ 3°-amine

33. Which one of the following is the activity order of sharping agent for unhairing system?
ⓐ S^{2-} > CN > OH >$(CH_3)_2NH$ > SO_3
ⓑ CN > CN > S^2 > $(CH_3)_2$ NH > SO_32
ⓒ SO_3^{2-} > OH> S^{2-} CN > $(CH_3)_2NH$
ⓓ S^{2-} > CN^- > $(CH_3)_2$ NH > OH^- > SO_3^{2-}

34. Which one of the gase show maximum ideal gas behavior?
ⓐ O_2 ⓑ CO_2
ⓒ H_2 ⓓ N_2

35. For GLPC Chromatography-
i. He & N_2 is use as a mobile phase
ii. Stationary column is kept in oven
iii. Gases are come out from column according to retention time.

Which one of the following is correct?
ⓐ i & ii ⓑ ii & iii
ⓒ i & iii ⓓ i, ii & iii

উত্তর	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	ⓓ	26	ⓐ	27	ⓒ	28	ⓒ	29	ⓐ	30	ⓑ	31	ⓐ	32	ⓒ	33	ⓓ	34	ⓒ	35	ⓒ										