Model Question of HSC Examination 2017 (All Board)

Sub: Chemistry 1st paper (Creative)

Sub Code : 1 7 6

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

[Answer any four questions]

1. ▶ A chemist wnats to produce ammonia gas. He mixed Nitrogen & hydrogen gas in a closed vassal and mixed a substance B which does no take part in chemical reaction.

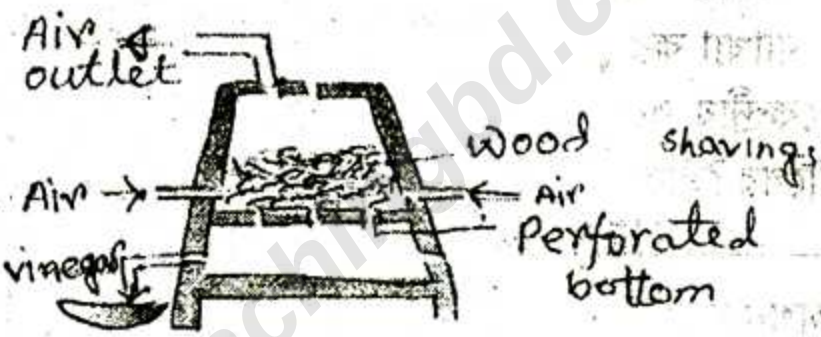
a. What is formula of olium 1

b. What is endothermic reaction? Give an example. 2

c. Describle the effect of temperature & pressure in production of mentioned gas. 3

d. Write down the classification of substance B. 4

2. ▶



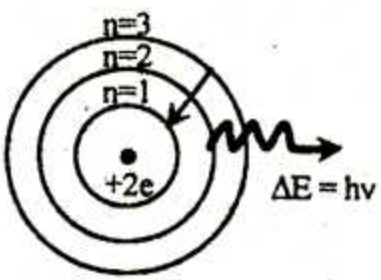
a. What is quagulation? 1

b. Why caustic soda is not used as glass cleaner 2

c. Write down the importance of mentioned chemicals in preserving foods 3

d. How you get this product from Sugar-Explain 4

3. ▶



Fig–A

a. What is common ion effect? 1

b. Who mominated electron? Find out the charge of it 2

c. Write down the postulates of Fig A 3

d. Explain hydorgen spectrum from the stem. 4

4. ▶

Element→	Na	Mg	Al	Si	P	S	Cl	Ar

a. What is the bond angle of ∠HOH in water molecule? 1

b. What is d block element? Write down the electronic configuration of ther outermost shell 2

c. Electro negativity is a periodic property-Explain according to stem. 3

d. Discouss Acid base properties of oxides of memtioned element 4

5. ▶ $PCl_5 \leftrightarrow PCl_3 + Cl_2$

a. What is chemical equilibrium? 1

b. Explain the dynamism of chemical equilibrium 2

c. " Different factors shift the position of equilibrium" – explain it in the light of stem. 3

d. Reactant is decomposed 25% at 70°C. Total pressure 1.75atm. Find out Kp & Kc. 4

6. ▶ In chemistry lab a student wants some green $FeSO_4$ but when she found she noliced that its color is not green. She tried to know the reaction.

a. What is electro negagivity of hydrogen. 1

b. Why all d-block elemetns are not transition elements? 2

c. "Metal of the compound form complex compound"- Explain with your logic. 3

d. Show another color compound & give the reason of its color. 4

Model Question of HSC Examination 2017 (All Board)

Sub – Chemistry (MCQ) Sub Code : 1 7 6

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. Which compound may cause explosion on mixing with air?
ⓐ Ozonide ⓑ Methanol
ⓒ Nitric acid ⓓ Copper sulphate

2. A quanta is
ⓐ Matter can absorb a certain amount of energy
ⓑ Matter can release large amount of energy
ⓒ Matter emits energy discontinuously
ⓓ Matter does not absorb or emit energy.

3. Bohr's atomic model is related to
ⓐ Wave of electron ⓑ Quanta mechanics
ⓒ H-Spectrum ⓓ mechanics

4. Principle quantum number determines–
ⓐ The shape of the orbital
ⓑ the number of possible orientation
ⓒ The size of the orbital
ⓓ the spin direction

5. When principle quantum number n = 4, then orbital number and electron number
ⓐ 9.18 ⓑ 10, 20
ⓒ 15, 30 ⓓ 16, 32

6. Entry of electrons in energy level is related to
ⓐ Hund's rule
ⓑ Aufbau rule
ⓒ Pauli's Exclusion rule
ⓓ wave function

7. A-Sub group of a element is determined by
ⓐ Electron enters f-orbital
ⓑ Electron enters into d-orbital
ⓒ Element has no d-orbital
ⓓ Element has partial fulfill d and f orbital

8. What is the wavelength of green color?
ⓐ 424-491nm ⓑ 575-585 nm
ⓒ 400-424 nm ⓓ 491-575 nm

9. Wave number 2750-2700 cm^{-1} which indicates?
ⓐ Keto group ⓑ Aldehyde group
ⓒ Alcohol group
ⓓ Carboxilic acid group

10. Solubility product is related to
ⓐ Concentration of ions
ⓑ partial pressure of ions
ⓒ solvent types ⓓ aqueous solvent

11. Which is the correct order of orbital energy?
ⓐ 3s < 3d<4p ⓑ 3d<3s<4p
ⓒ 4p<3s< 3d ⓓ 3s<4p<3d

12. Sc and Zn are
ⓐ d-block and transition elements
ⓑ transition elements
ⓒ Inner transition elements
ⓓ d-bolck elements

13. Melting point and boiling point increases when
ⓐ Nuclear charge decreases
ⓑ Nuclear charge is absent
ⓒ Nuclear charge increases
ⓓ Nuclear charge is present

14. Polarization is related to
ⓐ Covalent character
ⓑ Ionic character
ⓒ Coordinate covalent character
ⓓ non-polar molecule

15. How many bonds are present in tetramin cupric sulphate?
ⓐ 2 ⓑ 3
ⓒ 4 ⓓ 5.

16. Which one is correct?
ⓐ $MgCl_2$ shows more covalent character than $AlCl_3$
ⓑ $AlCl_3$ shows more covalent character than $MgCl_2$
ⓒ $AClCl_3$ has high melting point $MgCl_2$
ⓓ $AlCl_3$ show more ionic character.

17. Bond becomes strong when
ⓐ electron occupy the volume of outside of two atoms.
ⓑ electron occupy the place between two nucleus of atoms
ⓒ partial overlap of atomic orbital
ⓓ concentration of electron is low.

18. Oxygen molecule is formed by

ⓐ head to head overlap of orbital
ⓑ donating of electrons
ⓒ partial overlap of atomic orbital
ⓓ partial overlap of hybrid orbital.

19. What will be the hybridization of centre atom of $(Fe(CN)_6]^{3-}$?

ⓐ sp^3d ⓑ sp^2d^2
ⓒ sp^3d^4 ⓓ sp^3d^2

20. Why bond angle of water is 104° instead of 109°

ⓐ Lone pair-lone pair attraction force is less than long pair-bond pair
ⓑ Bond pair-bond pair attraction force is high
ⓒ Lone pair-lone pair attraction force is high than lone pair-bond pair
ⓓ None of them

21. Structure of SF_6 is

ⓐ Trigonal pyramidal
ⓑ Bipyramidal
ⓒ Octahedral
ⓓ Square palanar

22. Arrhenius equation relates

ⓐ activation energy with temperature
ⓑ rate constant with temperature
ⓒ activations energy and rate constant with temperature
ⓓ Arrhenius parameter with temperature

23. When the surface area increases reaction rate

ⓐ not changes ⓑ decreases
ⓒ increases ⓓ changes

24. Reaction happens when

ⓐ Collision between two molecules with less energy
ⓑ Collision between two melecules with activation energy
ⓒ Collision with definite direction and sufficient energy
ⓓ come in contact with each other.

25. Starch is converted to maltose in action of

ⓐ Urease ⓑ Zymase
ⓒ diastase ⓓ maltase

26. Hess's law deals with

ⓐ Changes in heats of reaction
ⓑ rate of reaction
ⓒ equilibrium constant
ⓓ Influence of pressure

27. Which is true?

ⓐ HNO_3 is less stronger acid than H_3PO_4
ⓑ H_3PO_4 is strenger acid that HNO_3
ⓒ HNO_3 is more stronger acid than H_3PO_4
ⓓ Both are equal stronger.

28. At 30° and 1.5 atm. Pressure 15.6%PCl_5 dissociates, Claculate the value of Kp at this temperature.

ⓐ 3.74×10^{-2} atm ⓑ 3.0×10^{-4} atm
ⓒ 2.0×10^{-4} atm ⓓ 2.5×10^{-3} atm

29. Increase the concentration of reactants

ⓐ Equilibrium shifts to backward
ⓑ Equilibrium shifts to right
ⓒ Rate is decreased
ⓓ production is less

30. The dissociation constant of 1 molar solution of HCN is 4×10^{-10} Calculate the percentate of molecules dissociated.

ⓐ 2.10×10^{-2}% ⓑ 2.0×10^{-2}%
ⓒ 2.0×10^{-3}% ⓓ 3.0×10^{-3}%

31. Heat of formation is always

ⓐ Endothermic ⓑ Exothermic
ⓒ Reversible ⓓ Irriversible

32. Vinegar is produced from

ⓐ Alcohol ⓑ Acetic acid
ⓒ propanoic acid
ⓓ Sodium benzoate

33. What is the monomer of protein?

ⓐ Glucose ⓑ Amino acid
ⓒ Aldehyde ⓓ Ketone

34. Which is additive?

ⓐ Sulphuric acid ⓑ Sulphur
ⓒ Suphonic acid ⓓ Phosphorus.

35. Which substance is used glass eleaner?

ⓐ Dye ⓑ Sulphur
ⓒ Carboxilic acid ⓓ Phosphoric acid

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