

Model Test of HSC Examination 2016

Sub: Chemistry 1st Paper (Creative)

Sub Code : 176

Time: 2 Hrs 10 min

Full marks: 40

[Answer any four question.]

1.



- What is 'Golden rule of laboratory'? 1
- What do you mean by rider constant? 2
- Name 'A' and 'B'. How readings are taken in 'A'. 3
- How 'A' and 'B' are cleaned in the laboratory? 4

2.

Group → / Period ↓	14	15	16
2 nd	W	X	Y
3 rd			Z

- What is azimuthal quantum number? 1
- What are the differences between orbit and orbital? 2
- Hydride of Y is liquid but hydride of Z is gaseous—why? 3
- Why the hybridization state of W, X, Y are same but shaper are different? 4

3. 'P' is an element of Gr 11. It is known as coinage metal. In flame test it shows bright green flame with a blue center with naked eye. But it doesn't shows any color through blue glass.

- What is solvent extraction? 1

- b) Write down uses of Fractional distillation? 2
 c) What is the name of 'P'? Give at least two wet test to identify 'P' in solution. 3
 d) Describe the process of hybridization when P^{2+} reacts with ammonia. Explain with figure. 4

4. Element Electronic Configuration

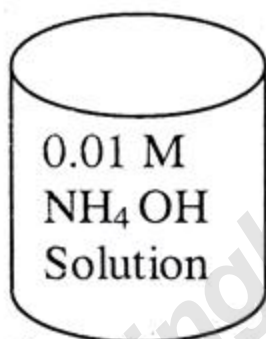
A $ns^2 np^3$

B $(n+1)s^2 (n+1)p^3$

Here, $n=2$

- a) What is solubility product? 1
 b) Why LiCl is more covalent than NaCl? 2
 c) Why $AlCl_3$ is formed but $AlCl_5$ doesn't? 3
 d) Between $AlCl_3$ and BCl_3 which is hydrolyzed quickly and why? 4

5.



- a) What is enthalpy of solution? 1
 b) Explain Hess's law. 2
 c) Determine P^H of above solution. 3
 d) Will there be any change in P^H if small amount of dilute HCl is added to the solution? Explain with necessary reaction. 4


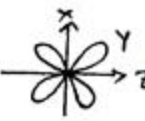
6.

Cleaner	Reagent (Hydroxides)
Class	A
Toilet	B

- a) What is canning? 1
 b) What do you mean by coagulation? 2
 c) Write down cleaning mechanism of glass cleaner using 'A'. 3
 d) Can you use 'B' to clean glass? Justify your answer with proper reaction. 4

Time : 35 Minutes

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

- Which one is used to clean burette?
 (a) H_2SO_4 (b) HCl
 (c) $K_2Cr_2O_7$ (d) $H_2SO_4 + K_2Cr_2O_7$
 -  This sign indicates—
 (a) Toxic (b) Corrosive
 (c) Radioactive (d) Biohazard
 - Which one is used in titration?
 (a) Beaker (b) Burette
 (c) Pipette (d) Volumetric flask
 - What type of fiber is used in disposable gloves?
 (a) Cellulose (b) Natural butyl rubber
 (c) Nitrile (d) Polystyrene
 - What is the volume of smallest part of a burette?
 (a) 1.00 cm^3 (b) 0.50 cm^3
 (c) 0.10 cm^3 (d) 0.01 cm^3
 - Which one is primary standard substance?
 (a) Na_2CO_3 (b) HCl
 (c) $NaOH$ (d) $KMnO_4$
 - How much volume can be measured by 'Mohr' pipette?
 (a) 1-50 ml (b) 1-100 ml
 (c) 1-150 ml (d) 1-200 ml
 - In which case Bohr's theory is applicable?
 (a) He^+ (b) H^+
 (c) Li (d) Li^+
 - Which one is correct?
 (a) $E = m\lambda$
 (b) $E = hv$
 (c) $E = mv$
 (d) $E = mc$
 - How many orbitals are there for $n=4$?
 (a) 10
 (b) 14
 (c) 16
 (d) 18
 - 
 This figure is possible when $m = ?$
 (a) 1 (b) -1
 (c) 0 (d) 2
 - Which one follows Aufbau rule?
 (a) $5s > 4p > 4f$ (b) $3s > 3d > 3p$
 (c) $5s > 4p > 4d$ (d) $3s > 3p > 4s$
 - Which colour is shown by 'K' in flame test?
 (a) Violet (b) Yellow
 (c) Golden Yellow (d) Red
 - The solubility of $AgCl$ is 0.0015 g/L . $K_{sp} = ?$
 (a) 1.05×10^{-5} (b) 1.05×10^{-10}
 (c) 2×10^{-10} (d) 2×10^{-5}
- Read the stem and answer 15-16.**
 $X + K_4 [Fe(CN)_6] \rightarrow$ Light blue precipitate.
- Here, $X = ?$
 (a) Ca^{2+} (b) Al^{3+}
 (c) Fe^{2+} (d) Fe^{3+}
 - In above reaction—
 i) X^{2+} is reducing agent
 ii) $K_2Fe[Fe(CN)_6]$ is the product
 iii) The ion is Ca^{2+}
Which one is correct ?
 (a) i & ii (b) ii & iii
 (c) i & iii (d) i, ii & iii
 - Which compound forms white precipitate in CO_3^{2-} identification?
 (a) $BaCO_3$ (b) $BaCl_2$
 (c) $NaNO_3$ (d) $Ba(NO_3)_2$
 - In purification of solid organic compound the process used is—
 i) Sublimation
 ii) Crystallization
 iii) Fractional distillation

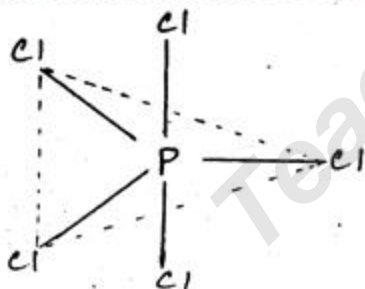
Which is correct ?

19. What is the name of reagent used in NH_4^+ identification?
a) Grignard reagent b) Nestler reagent
c) Bayer's reagent d) Fenton's reagent
20. How many elements are there in d-block?
a) 20 b) 30
c) 40 d) 50
21. Which property is not periodic?
a) Boiling point b) Melting point
c) Ionic property d) Radius
22. To form ionic bond we need—
i) lower ionizational potential of metals
ii) Higher lattice enthalpy
iii) Higher electronegative of non metals

Which one is correct ?

23. $\text{Al}_2\text{O}_3 + \text{NaOH} \longrightarrow \text{X} + \text{H}_2\text{O}$; Here X=?
a) Na_3Al b) NaAlO_2
c) Na_2O d) $\text{Al}(\text{OH})_3$

Read the stem and answer 24-25.

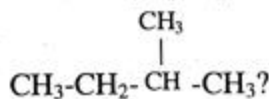


24. What is the hybridization state of 'P' in above figure?
a) sp^3 b) sp^3d^2
c) sp^3d d) None
25. In above figure—
i) Shape is trigonal byphramidal
ii) 2 lone pairs present
iii) 5 bonding electron pair exist

Which one is correct ?

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

26. How many sp^3-sp^3 bonds are there in



- a) 1 b) 2
c) 3 d) 4
27. Which one is highly polarized?
a) NaCl b) MgCl_2
c) AlCl_3 d) KCl
28. Which compound has highest melting point?
a) ClCl_2 b) CaBr_2
c) CaF_2 d) CaI_2
29. H-bond exist in—
a) H_2 b) NH_3
c) HCl d) CH_4
30. Which one is negative catalyst?
a) MnO_2 b) Mn^{2+}
c) $\text{C}_3\text{H}_8\text{O}_3$ d) Na_2SO_3
31. For $\text{PCl}_5 \rightleftharpoons \text{PCl}_3(\text{g}) + \text{Cl}_2(\text{g})$
a) $K_p=K_c$ b) $K_p=K_c(\text{RT})^2$
c) $K_p=K_c(\text{RT})$ d) $K_p=\frac{K_c}{2}$
32. What is the P^{H} of deci normal NaOH ?
a) -1
b) 13
c) 1
d) -7
33. A titration is done between strong acid and weak base. Suitable indicator is—
a) Methyl orange
b) Phenol phthalein
c) Thymol Blue
d) Litmus
24. BHT=?
a) Butahydrated hydorxy thiamine
b) Butyl hidrid tohune
c) Butylated hydroxy toluene
d) Butane hidride thiamine
35. What is the concentration of salt in canning?
a) 6-7%
b) 7-10%
c) 7-12%
d) 7-15%