



CHEMISTRY

BOOKS - CBSE COMPLEMENTARY MATERIAL

CHEMISTRY (HINGLISH)

PRACTICE PAPER 3

Section A

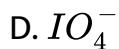
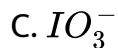
1. Helical structure of protein is stabilised by

- A. peptide bonds
- B. vanderwall force
- C. hydrogen bonds
- D. dipole-dipole attraction

Answer:

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2. When alkaline $KMnO_4$ is treated with KI, the iodide ion is oxidised to



Answer:

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3. Which of the following is correct

- A. aq Cu (II) is more stable
- B. aq.Cu(II) is less stable
- C. aq Cu(I) and aq Cu(II) are equally stable
- D. Stability of Cu(I) and aq Cu (II) depends on nature of salt

Answer:



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4. The method by which freshly prepared precipitate sometimes gets converted to colloidal solution

- A. Co-agulation
- B. electrolysis

C. diffusion

D. peptisation

Answer:

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5. In comparison to a 0.01 M solution of glucose, the depression in freezing point of a 0.01 M $MgCl_2$ solution is.....

A. the same

B. about twice

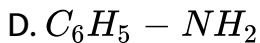
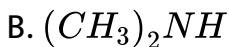
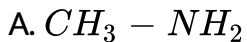
C. about three times

D. about six times

Answer:

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6. The most reactive amine towards dilute hydrochloric acid is...

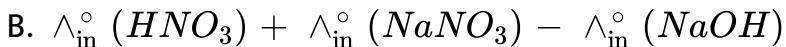
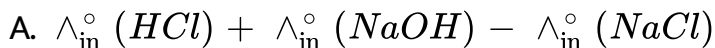


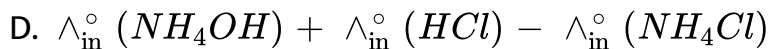
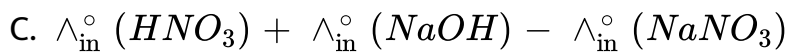
Answer:



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7. $\Delta_{in}^2 H_2O$ is equal to





Answer:

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8. Match the items given in Column I with items given in column II.

- A. (i) Ranitidine (ii) Tranquilizer
- B. (ii) Furnace (ii) Antibiotic
- C. (iii) Phenelzine (iii) Antihistamine
- D. (iv) Chloramphenicol (iv) Antiseptic

Answer:

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9. Assertion : Order of the reaction can be zero or fractional.

Reason : We cannot determine order from balanced chemical equation.

- A. Assertion and reason both are correct statement but reason does not explain assertion.
- B. Assertion and reason both are correct and reason explains the assertion.
- C. Assertion is correct but reason is incorrect.
- D. Both assertion and reason are incorrect.

Answer:

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1. On mixing equal volume of water and ethanol, what type of deviation would you expect from Raoult's law?

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2. What happens when blood cells are placed in pure water?

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3. Arrange the following in order of reactivity forwards SN2 displacement: 1-Bromobutane, 1-Bromo-2-methylbutane, 1-Bromo-3-methylbutane

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4. Write IUPAC name of $[Pt(en)_2Cl_2]$.

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5. Using IUPAC norms write formula of the following: Potassium trioxalatochromate(III).

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6. Explain what is observed when an electrolyte, NaCl is added to Sol?

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7. Sulphur has greater tendency for catenation than oxygen.

Explain.

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8. Give reason to explain why ClF_3 exists but FCl_3 does not exist.

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9. Define an ideal solution.

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10. Define Raoult's law for a solution containing volatile liquids.

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11. The IUPAC name of $CH_3 - CH = CH - COOH$ is:

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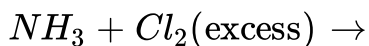
12. Which one of the two component of starch is water soluble?

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13. Prepare aspirin from phenol.

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14. Complete the following reactions :



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15. Complete the reaction $MnO_2 + HCl \xrightarrow{\Delta}$

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16. What is tincture of Iodine? Write its one use

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17. Among the following which one acts as a food preservative ?

Aspartame, Aspirin, Sodium benzoate , Paracetamol .

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18. Write the principle of method used for refining of germanium.



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19. Out of PbS and $PbCO_3$, which one is concentrated by froth floatation process preferably?



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20. Account for the following:

The lowest oxide of transition metal is basic whereas the highest oxide is amphoteric or acidic.



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21. Orange colour of $Cr_2O_7^{2-}$ ion changes to yellow when treated with an alkali. Why ?



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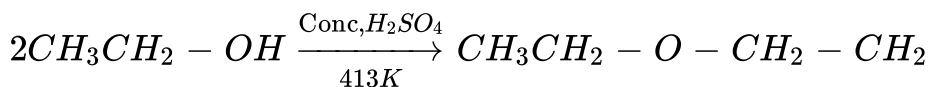
22. Chemistry of actinoids is complicated as compared to lanthanoids. Give reason

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23. How is the variability in oxidation state of transition metals different from these of p-block elements ?

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24. Write the mechanism of following reaction :



How do you convert the following

Phenol to anisol





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25. How do you convert the following

Propan-2-ol to 2-methyl propan-2-ol



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26. Write short notes on biodegradable polymer? Give one example.



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27. Write one structural difference between low density polythene and high density polythene.



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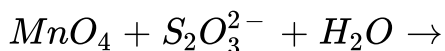
28. Write IUPAC names of the monomers of Terylene.

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29. When MnO_2 is fused with KOH in the presence of KNO_3 as an oxidising agent, it gives a dark green compound (A). Compound (A) disproportionates in acidic solution to give purple compound (B). An alkaline solution of compound (B) oxidises KI to compound (C) whereas acidified solution of compound (B) oxidises KI to (D). Identify A, B, C and D.

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30. Complete the reaction.



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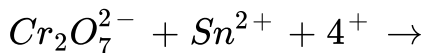
31. When chromite ore $FeCr_2O_4$ is fused with NaOH in presence of air, a yellow coloured compound (A) is obtained which on acidification with dilute sulphuric acid gives a compound (B). Compound (B) on reaction with KCl forms an orange coloured crystalline compound (C).

(i) Write the formulae of the compounds (A),(B) and (C).

(ii) Write one use of compounds (C).

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32. Complete the reaction.



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1. What is the difference between nucleoside and nucleotide?

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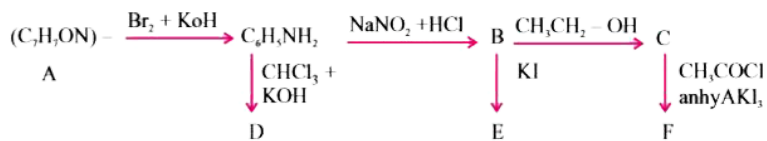
2. Why vitamin C can not be stored in our body?

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3. Which one of the following is a non reducing sugar : Glucose, maltose, sucrose

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4. Write structures of A, B, C, D, E, F in the following reactions :



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5. Give one example each of associated colloid and multimolecular colloid.

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6. Out of $BaCl_2$ and KCl , which is more effective in causing coagulation of a negatively charged colloidal sol? Give reason.

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7. What is the role of activated charcoal in gas mask?

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8. The following data were obtained during the first order thermal decomposition of SO_2Cl_2 at a constant volume :



Experiment	Times / s^{-1}	Total pressure/atm
1	0	0.4
2	100	0.7

Calculate the rate constant. Given : $\log 4 = 0.6021$, $\log 2 = 0.3010$

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9. Following compounds are given to you. 2-Bromopentane, 2-Bromo-2-methylbutanes, 1-Bromopentane

(a) Write the compound which is most reactive towards SN_1

reaction.

(b) Write the compound which is optically active.

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10. Give reason for the following

S_N1 reaction is accompanied by racemisation in optically active alkyl halides.

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11. Give reason

The dipole moment of chlorobenzene is lower than that of cyclohexyl chloride.

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12. Give reason for the following

When NO_2 group is present at ortho position of chlorobenzene it increases the reactivity of chlorobenzene towards nucleophilic substitution reaction.

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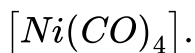
13. Draw geometrical isomer of $[Pt(NH_3)_2Cl_2]$.

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14. On the basis of crystal field theory, write the electronic configuration of d^4 ion if $\Delta_0 < P$.

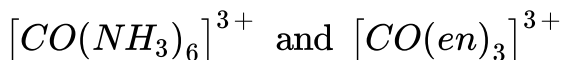
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15. Write hybridisation and magnetic behaviour of the complex



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16. Which of the following is more stable complex and why?



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17. A Co-ordination compound $CrCl_{3.6}H_2O$ is mixed with $AgNO_3$, 2 moles of $AgCl$ are precipitated per mole of compound.

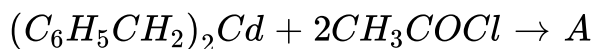
Write the structural formula of complex.

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18. Why a solution of $[Ni(CN)_4]^{2-}$ is colourless?

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19. Identify A in the following reactions :



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20. (A), (B) and (C) are three non-cyclic functional isomers of a carbonyl compound with molecular formula C_4H_8O . Isomers (A) and (C) give positive Tollen's test whereas isomer (B) does not give Tollen's test but gives positive iodoform test. Isomers (A) and (B) on reduction with $Zn(Mg) | \text{conc. HCl}$ give the same product (D).

(a) Write the structures of (A), (B), (C) and (D).

(b) Out of (A), (B) and (C) isomers, which one is least reactive towards addition of HCN ?

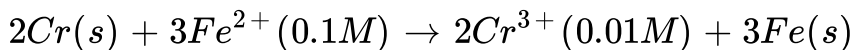
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21. (a) Prepare benzoic acid from Ethylbenzene.

(c) Why pK_a of $F - CH_2 - COOH$ is lower than $Cl - CH_2 - COOH$

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22. Calculate the e.m.f. of the following cell at 298K:



Given: $E^\circ_{(Cr^{3+}/Cr)} = -0.74V$, $E^\circ_{(Fe^{2+}/Fe)} = -0.44V$.

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23. Why conductivity of electrolyte decreases with decreases in concentration?

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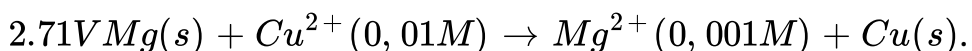
24. State Faraday's first law of electrolysis.

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25. Define limiting molar conductivity.

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26. Ecell for the given redox reaction is



Write the direction of flow of current when external potential applied is greater than 2.71 V.

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27. Draw structure of (i) $XeOF_4$ (ii) $HClO_3$

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28. Account for the following

(i) Fluorine forms only one oxoacid HOF

(ii) Sulphur is paramagnetic in vapour state.

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29. Arrange in increasing order of boiling point

H_2O , H_2S , H_2Se , H_2Te

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30. What are the conditions to maximise yield of H_2SO_4 in contact process

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31. F_2 has lower bond dissociation enthalpy than Cl_2 . Why?

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32. Complete the equation $XeF_2 + PF_5 \rightarrow$



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33. There is large difference in boiling point of oxygen and sulphur. Give reason.

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34. Ozone is thermo dynamically unstable. Explain

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