PRACTICE PAPER 15

Time allowed: 45 minutes **Maximum Marks: 200**

General Instructions: *Same as Practice Paper–1.*

Choose the correct option.

1. The inversion of cane sugar is represented by,

$C_{12}H_{22}O_{11} + H_2O \longrightarrow C_6H_{12}O_6 + C_6H_{12}O_6$

It is a reaction of

(*a*) second order (*b*) unimolecular (*c*) pseudo-unimolecular (*d*) none of these

2. Match the given compounds of Column I with geometry given in Column II.

Column I	Column II
A. XeF_6	(*i*) sp^3d^3 – distorted octahedral
B. XeO_3	(*ii*) sp^3d^2 – square planar
C. $XeOF_4$	(*iii*) sp^3 – pyramidal
D. XeF_4	(*iv*) sp^3d^2 – square pyramidal

(*a*) A–(*i*), B–(*iii*), C–(*iv*), D–(*ii*) (*b*) A–(*iii*), B–(*i*), C–(*ii*), D–(*iv*)

(*c*) A–(*i*), B–(*ii*), C–(*iv*), D–(*iii*) (*d*) A–(*iii*), B–(*iv*), C–(*i*), D–(*ii*)

3. The half lives of 2 samples are 0.1 and 0.4 seconds. Their initial concentration are 200 and 50 M respectively. The order of the reaction will be

(*a*) 4 (*b*) 2 (*c*) 0 (*d*) 1

4. The measured reduction potential for $Mg^{2+} + 2e^- \rightleftharpoons Mg(s)$ does not change upon

(*a*) raising the temperature. (*b*) purity of magnesium plate.

(*c*) increasing concentration of Mg^{2+} ions. (*d*) increasing the size of the magnesium plate.

5. A reactant (X) forms, two products,

$X \xrightarrow{k_1} Y$, activation energy (E_{a_1}); $Y \xrightarrow{k_2} Z$, activation energy (E_{a_2})

If $E_{a_2} = 2E_{a_1}$, then k_1 and k_2 are related as

(*a*) $k_1 = k_2 . e^{E_{a_1}/RT}$ (*b*) $k_2 = 2k_1 . e^{E_{a_2}/RT}$

(*c*) $k_1 = 2k_2 . e^{E_{a_2}/RT}$ (*d*) $k_2 = k_1 . e^{E_{a_1}/RT}$

6. The standard potential of $Cu \longrightarrow Cu^{2+}$ electrode is 0·34 V. It corresponds to the reactions

(*a*) $Cu \longrightarrow Cu^{2+} + 2e^-$ (*b*) $Cu^{2+} + 2e^- \longrightarrow Cu$

(*c*) $\frac{1}{2}Cu \longrightarrow \frac{1}{2}Cu^{2+} + e^-$ (*d*) $\frac{1}{2}Cu^{2+} + e^- \longrightarrow \frac{1}{2}Cu$

7. **The number of octahedral voids per atom present in a cubic close-packed structure is**

(*a*) 1 (*b*) 3 (*c*) 2 (*d*) 4

8. **If NaCl is doped with 10^{-4} mol% of $SrCl_2$, the concentration of cation vacancies will be**

(*a*) 6.02×10^{16} mol^{-1} (*b*) 6.02×10^{17} mol^{-1} (*c*) 6.02×10^{14} mol^{-1} (*d*) 6.02×10^{15} mol^{-1}

9. **The appearance of colour in solid alkali metal halides in generally due to**

(*a*) Interstitial positions (*b*) F-centres

(*c*) Schottky defect (*d*) Frenkel defect

10. **Which of the following statement is incorrect?**

(*a*) A salt bridge is used to eliminate liquid-liquid junction potential.

(*b*) Nernst equation for single electrode potential is $E = E^{o} - \frac{RT}{nF}\log a_{M^{n+}}$.

(*c*) ΔG and EMF are related as $\Delta G = -nFE$.

(*d*) The efficiency of $H_2 - O_2$ fuel cell is almost 70%.

11. **The standard electrode potential E° for OCl^-/Cl^- and $Cl^-/\frac{1}{2}Cl_2$ respectively are 0·94 V and – 1·36 V. The E° value of $OCl^-/\frac{1}{2}Cl_2$ will be**

(*a*) –0·42 V (*b*) –2·20 V (*c*) 0·52 V (*d*) 1·04 V

12. **Colloidal solution of gelatin is known as**

(*a*) lyophobic sols (*b*) reversible sols

(*c*) irreversible sols (*d*) both (*a*) and (*c*)

13. **The bleeding is stopped by using ferric chloride as**

(*a*) blood flows in opposite direction. (*b*) ferric chloride seals blood vessels.

(*c*) blood reacts to yield a solid. (*d*) blood coagulates.

14. **An azeotropic solution of two liquids has boiling point lower than either of them when it**

(*a*) shows negative deviation from Raoult's law (*b*) shows no deviation from Raoult's law

(*c*) shows positive deviation from Raoult's law (*d*) is saturated

15. **Vapour pressure of benzene at 30°C is 121.8 mm of Hg. When 15 g of a non-volatile solute is dissolved in 250 g of benzene. Its vapour pressure is decreased to 120.2 mm of Hg. The molecular weight of the solute is**

(*a*) 35.67 g (*b*) 356.3 g (*c*) 432.8 g (*d*) 502.7 g

16. **An aqueous solution is 1.00 molal in KI. Which change will cause the vapour pressure of the solution to increase?**

(*a*) Addition of NaCl (*b*) Addition of Na_2SO_4

(*c*) Addition of 1.00 molal KI (*d*) Addition of water

17. **Titanium shows magnetic moment of 1.73 B.M. in its compound. The oxidation number of Ti in the compound is**

(*a*) +1 (*b*) +4 (*c*) +3 (*d*) +2

18. **Match the items of Column I and Column II.**

Column I	Column II
A. Zincite	(*i*) Al_2O_3
B. Sphalerite	(*ii*) NaCN
C. Depressant	(*iii*) ZnO
D. Corundum	(*iv*) ZnS

(*a*) A–(*i*), B–(*ii*), C–(*iii*), D–(*iv*) (*b*) A–(*iii*), B–(*iv*), C–(*ii*), D–(*i*)

(*c*) A–(*i*), B–(*iv*), C–(*iii*), D–(*ii*) (*d*) A–(*iv*), B–(*iii*), C–(*ii*), D–(*i*)

19. **The isomer which will give white precipitate with $BaCl_2$ solution is**

(*a*) $[Co(NH_3)_5SO_4]Br$ (*b*) $[Co(NH_3)_5Br]SO_4$

(*c*) $[Co(NH_3)_4(SO_4)_2]Br$ (*d*) $[Co(NH_3)_4(SO_4)]$

20. Given below are two statements labelled as Statement P and Statement Q:

Statement P : Although NaH_2PO_2 contains two H-atom, it is not an acid salt.

Statement Q : It contains two ionisable hydrogens.

(*a*) P is true, but Q is false
(*b*) P is false, but Q is true
(*c*) Both P and Q are true
(*d*) Both P and Q are false

21. Which of the following statements is incorrect regarding anomalous behaviour of fluorine?

(*a*) Fluorine shows an oxidation state of –1 only.
(*b*) The negative electron gain enthalpy of fluorine is less than that of chlorine.
(*c*) Fluorine is the most electronegative element in the periodic table.
(*d*) All the given statements are correct.

22. Given below are two statements labelled as Assertion and Reason:

Assertion (A) : *tert*-Butyl bromide undergoes Wurtz reaction to give 2, 2, 3, 3-tetramethylbutane.

Reason (R) : In Wurtz reaction, alkyl halides react with sodium in dry ether to give hydrocarbon containing double the number of carbon atoms present in the halide.

(*a*) Assertion and reason both are correct statements and reason is correct explanation for assertion.
(*b*) Assertion and reason both are correct statements but reason is not correct explanation for assertion.
(*c*) Assertion is correct statement but reason is wrong statement.
(*d*) Assertion is wrong statement but reason is correct statement.

23. Given below are two statements labelled as Assertion and Reason:

Assertion (A) : The complex $[Fe(H_2O)_6]^{2+}$ is paramagnetic in nature.

Reason (R) : It consists of two unpaired electrons.

(*a*) Assertion and reason both are correct statements and reason is correct explanation for assertion.
(*b*) Assertion and reason both are correct statements but reason is not correct explanation for assertion.
(*c*) Assertion is correct statement but reason is wrong statement.
(*d*) Assertion is wrong statement but reason is correct statement.

24. The co-ordination number of the central metal ion may be obtained from:

(*a*) The number of ionic bonds formed with the surrounding ions.
(*b*) The number of co-ordinate bonds formed with the surrounding atoms.
(*c*) The number of ions of opposite charge immediately surrounding the specific ion.
(*d*) None of the above

25. In Ellingham diagram, the plot represents the change of

(*a*) ΔG with temperature.
(*b*) ΔH with temperature.
(*c*) ΔG with pressure.
(*d*) $(\Delta G - T\Delta S)$ with temperature.

26. $4K_2Cr_2O_7 \xrightarrow{\text{Heat}} 4K_2CrO_4 + 3O_2 + X$

In the above reaction X is

(*a*) CrO_3 (*b*) Cr_2O_7 (*c*) Cr_2O_3 (*d*) CrO_5

27. Helium gas is used for filling balloons for meteorological observations. This is because

(*a*) It is an inflammable gas.
(*b*) It is a non-inflammable gas.
(*c*) It is a light gas.
(*d*) Both (*b*) and (*c*).

28. Given below are two statements labelled as Assertion and Reason:

Assertion (A) : HI cannot be prepared by the action of conc. H_2SO_4 on KI.

Reason (R) : HI is more volatile than H_2SO_4.

(*a*) Assertion and reason both are correct statements and reason is correct explanation for assertion.
(*b*) Assertion and reason both are correct statements but reason is not correct explanation for assertion.
(*c*) Assertion is correct statement but reason is wrong statement.
(*d*) Assertion is wrong statement but reason is correct statement.

29. **Which of the following statements is incorrect about interstitial compounds?**

(*a*) They have high melting points. (*b*) They are very hard.

(*c*) They retain metallic conductivity. (*d*) They are very reactive.

30. $C_6H_6 + MgBr \longrightarrow C_6H_5MgBr \xrightarrow{D_2O}$ 'B'

The product 'B' is

(*a*) C_6H_5OH (*b*) C_6H_5OD (*c*) C_6H_6 (*d*) C_6H_5D

31. **In order to convert chlorobenzene to phenol, the reagents needed are**

(*a*) $NaNO_2$/HCl and dil. HCl (*b*) NaOH and dil. HCl

(*c*) NaOH and H_2O (*d*) conc. H_2SO_4 and H_2O

32. **Which of the following compound is a vitamin?**

(*a*) Sucrose (*b*) Ascorbic acid

(*c*) Savlon (*d*) Glucose

33. **The reason for "drug induced poisoning" is:**

(*a*) binding at the allosteric sites of the enzymes.

(*b*) binding irreversibly to the active site of the enzyme.

(*c*) binding reversibly at the active site of the enzyme.

(*d*) bringing conformational change in the binding site of the enzyme.

34. **Which of the following is not an example of natural polymer?**

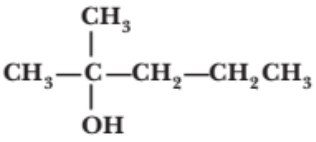
(*a*) Wool (*b*) Silk

(*c*) Leather (*d*) Nylon

35. **Phenol on reaction with CCl_4 in presence of alkali at 340 K produces**

(*a*) salicylic acid (*b*) salicylaldehyde (*c*) *o*–chlorophenol (*d*) *p*–chlorophenol

36. **The correct IUPAC name of**



(*a*) *tert*-butyl alcohol (*b*) 2, 2-Dimethylpropanol

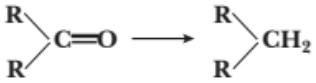
(*c*) 2-Methylpentan-2-ol (*d*) 3-Methylbutan-3-ol

37. **Butanenitrile may be prepared by heating**

(*a*) *n*-propyl alcohol with KCN. (*b*) *n*-butyl alcohol with KCN.

(*c*) *n*-butyl chloride with KCN. (*d*) *n*-propyl chloride with KCN.

38. **Which of the following reactions cannot be used for the reduction of**



(*a*) Clemmensen reaction (*b*) Wolf-Kishner reaction

(*c*) Wurtz reaction (*d*) HI and red phosphorus

39. **An ester (A) with molecular formula $C_9H_{10}O_2$ was treated with excess of CH_3MgBr and the complex so formed was treated with H_2SO_4 to give a olefin (B). Ozonolysis of (B) gave a ketone with molecular formula C_8H_8O which shows positive iodoform test. The structure of (A) is**

(*a*) $C_6H_5COOC_2H_5$ (*b*) $CH_3COCH_2COC_6H_5$

(*c*) *p*-CH_3O—C_6H_4—$COCH_3$ (*d*) $C_6H_5COOC_6H_5$

40. **Which of the following is a ring activating group?**

(*a*) —NO_2 (*b*) —COOH (*c*) —CHO (*d*) —OH

41. **Which of the following reactions of glucose can be explained only by its cyclic structure?**

(*a*) Glucose forms pentaacetate.

(*b*) Glucose reacts with hydroxylamine to form an oxime.

(*c*) Pentaacetate of glucose does not react with hydroxylamine.

(*d*) Glucose is oxidised by nitric acid to gluconic acid.

42. **The strongest base among the following is:**

(*a*) $C_6H_5NH_2$ (*b*) p-$NO_2C_6H_4NH_2$

(*c*) m-$NO_2C_6H_4NH_2$ (*d*) $C_6H_5CH_2NH_2$

43. **The compound formed as a result of potassium permanganate oxidation of ethylbenzene is**

(*a*) Benzoic acid (*b*) Benzyl alcohol

(*c*) Benzophenone (*d*) Acetophenone

44. **Proteins can be classified into two types on the basis of their molecular shape i.e., fibrous proteins and globular proteins. Examples of globular proteins are:**

(*a*) Insulin (*b*) Keratin

(*c*) Collagen (*d*) Myosin

45. **Which of the following compounds will react with $NaHCO_3$ solution to give sodium salt and CO_2?**

(*a*) Acetic acid (*b*) n-Hexanol

(*c*) Phenol (*d*) Both (*b*) and (*c*)

46. **Acrilane is a hard, horny and a high melting material. Which of the following represents its structure**

(*a*) $\left(-CH_2-\underset{\displaystyle CN}{\underset{|}{CH}}-\right)_n$ (*b*) $\left(-CH_2-\underset{\displaystyle COOCH_3}{\overset{\displaystyle CH_3}{\overset{|}{\underset{|}{C}}}}-\right)_n$ (*c*) $\left(-CH_2-\underset{\displaystyle COOC_2H_5}{\underset{|}{CH}}-\right)_n$ (*d*) $\left(-CH_2-\underset{\displaystyle Cl}{\underset{|}{CH}}-\right)_n$

47. $CH_3-C\equiv CH \xrightarrow[1\%\,HgSO_4]{40\%\,H_2SO_4} A \xrightarrow{\text{Isomerisation}} CH_3-\underset{\displaystyle O}{\overset{\displaystyle \|}{C}}-CH_3$

Structure of 'A' and type of isomerism in the above reaction are respectively.

(*a*) Prop–1–en–2–ol, metamerism (*b*) Prop–1–en–1–ol, tautomerism

(*c*) Prop–2–en–2–ol, geometrical isomerism (*d*) Prop–1–en–2–ol, tautomerism

48. **Which of the following compounds is/are primary alcohol?**

(*a*) $>CHOH$ (*b*) $-\overset{|}{\underset{|}{C}}-OH$ (*c*) $-CH_2OH$ (*d*) $>C<^{OH}_{OH}$

49. **Among the following, which one acts as a food preservative?**

(*a*) Aspartame (*b*) Aspirin

(*c*) Sodium benzoate (*d*) Paracetamol

50. ***p*-chloroaniline and anilinium hydrochloride can be distinguished by:**

(*a*) Sandmeyer reaction (*b*) $AgNO_3$ solution

(*c*) Carbylamine test (*d*) None of these

Answers

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1. (*c*)	**2.** (*a*)	**3.** (*b*)	**4.** (*d*)	**5.** (*a*)	**6.** (*b*)	**7.** (*a*)
8. (*b*)	**9.** (*b*)	**10.** (*b*)	**11.** (*c*)	**12.** (*b*)	**13.** (*d*)	**14.** (*c*)
15. (*b*)	**16.** (*d*)	**17.** (*c*)	**18.** (*b*)	**19.** (*b*)	**20.** (*a*)	**21.** (*d*)
22. (*a*)	**23.** (*c*)	**24.** (*b*)	**25.** (*a*)	**26.** (*c*)	**27.** (*d*)	**28.** (*b*)
29. (*d*)	**30.** (*d*)	**31.** (*b*)	**32.** (*b*)	**33.** (*a*)	**34.** (*d*)	**35.** (*a*)
36. (*c*)	**37.** (*d*)	**38.** (*c*)	**39.** (*a*)	**40.** (*d*)	**41.** (*c*)	**42.** (*d*)
43. (*a*)	**44.** (*a*)	**45.** (*a*)	**46.** (*a*)	**47.** (*d*)	**48.** (*c*)	**49.** (*c*)
50. (*b*)						

Solutions

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1. (*c*) The inversion of cane sugar is a bimolecular reaction but it is a first order reaction as concentration of H_2O is quite large and does not change appreciably. Therefore, it is a pseudo-unimolecular reaction.

3. (*b*) ∵ For second order reaction,

$$t_{1/2} = \frac{1}{[A]_0 . k}$$

Therefore, as given in the question, on decreasing the initial concentration to $\frac{1}{4}$ times, the half life is increases 4 times.

4. (*d*) The reduction potential of magnesium is measured as:

$$E_{cell} = E^{o}_{cell} - \frac{2.303RT}{nF} \log \frac{[1]}{[Mg^{2+}]}$$

Thus, the reduction potential of magnesium does not change upon increasing the size of the magnesium plate.

5. (*a*) Given, $k_1 = A_1 e^{-E_{a_1}/RT}$

$k_2 = A_2 e^{-E_{a_2}/RT}$

$$\therefore \quad \frac{k_1}{k_2} = \frac{A_1}{A_2} e^{(E_{a_2} - E_{a_1})/RT}$$

$$\text{or,} \quad \frac{k_1}{k_2} = Ae^{E_{a_1}/RT} \qquad (\because E_{a_2} = 2E_{a_1})$$

6. (*b*) The value of electrode potential is positive so copper electrode act as cathode and reduction process takes place.

7. (*a*) Number of octahedral voids is same as number of atoms present in a unit cell.

The number of atoms in each unit cell of *ccp* = 4. Therefore, the total number of octahedral voids per atom present in *ccp* $= \frac{4}{4} = 1$

8. (*b*) As each Sr^{2+} ion introduces one cation vacancy, therefore, concentration of cation vacancies

= mol% of $SrCl_2$ added.

Thus, concentration of cation vacancies

$$= 10^{-4} \text{ mol\%}$$

$$= \frac{10^{-4}}{100} \times 6.022 \times 10^{23}$$

$$= 6.022 \times 10^{17} \text{ mol}^{-1}$$

10. (*b*) Nernst equation for single electrode potential is given as

$$\boxed{E = E^o - \frac{RT}{nF} \log \frac{1}{aM^{n+}}}$$

11. (*c*) $\Delta G^o = -nFE^o_{cell}$

$$-nFE^o_{OCl^-/\frac{1}{2}Cl_2} = -nFE^o_{OCl^-/Cl^-} - nFE^o_{Cl^-/\frac{1}{2}Cl_2}$$

$$-1 \times F \times E^\circ = -2 \times F \times 0.94 - 1 \times (-1.36) \times F$$

$$\therefore \quad E^\circ = 0.52 \text{ V}$$

12. (*b*) Colloidal solution of gelatin is known as reversible sol or lyophilic sol. In these type of colloids, if the dispersion medium is separated from the dispersed phase, the sol can be reconstituted by simple remixing with the dispersion medium.

13. (*d*) The stoppage of bleeding on applying ferric chloride solution is due to coagulation of blood forming a clot.

14. (*c*) The azeotropic mixture showing positive deviation from Raoult's law has higher vapour pressure or lower boiling point $\left(\because \text{V.P.} \propto \frac{1}{\text{B.P.}}\right)$ than either of the two liquids.

15. (*b*) According to Raoult's law,

$$\frac{p^o - p}{p^o} = \frac{w_B \times m_A}{m_B \times w_A}$$

p° = vapour pressure of solvent

p = vapour pressure of the solution

$$= \frac{121.8 - 120.2}{121.8} = \frac{15 \times 78}{m_B \times 250}$$

$$m_B = \frac{121.8 \times 15 \times 78}{250 \times (121.8 - 120.2)}$$

$$= \frac{142506}{250 \times 1.6} = \frac{142506}{400} = 356.26 \text{ g mol}^{-1}$$

16. (*d*) Addition of water to an aqueous solution of KI decreases the concentration of the solution thereby increasing the vapour pressure. In the other three options, the electrolytes will undergo ionisation that leads to lowering of vapour pressure.

17. (*c*) Magnetic moment = $\sqrt{n(n+2)}$ B.M.

Magnetic moment of Ti ion = 1.73 BM

$\sqrt{n(n+2)} = 1.73$

or, $n(n + 2) = 3$

$\Rightarrow n = 1$

$\therefore$ Ti ion has 1 unpaired electron, *i.e.*, $3d^1$ configuration.

Thus, the electronic configuration of Ti^{3+} ion will be Ti^{3+} (Z = 22) : [Ar] $3d^1$

19. (*b*) $[Co(NH_3)_5Br]SO_4$ will give precipitate for $BaCl_2$ solution as SO_4^{2-} ions are present outside the coordination sphere which will give white precipitate of $BaSO_4$.

20. (*a*) Statement P is true, but statement Q is false. The correct form is "NaH_2PO_2 does not have any ionizable hydrogens."

23. (*c*) The correct reason is "$[Fe(H_2O)_6]^{2+}$ complex consist of four unpaired electrons."

25. (*a*) The plot of variation of $\Delta_f G^o$ vs T for the formation of metal oxide from metals is called Ellingham diagram.

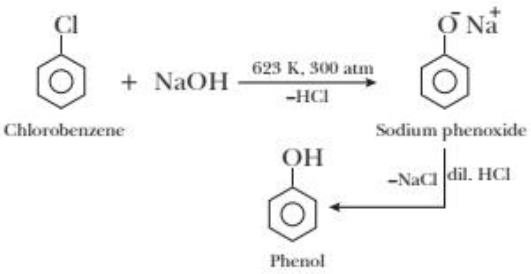
26. (*c*) $4K_2Cr_2O_7 \xrightarrow{\text{Heat}} 4K_2CrO_4 + 3O_2 + \underset{\text{Chromium(III) oxide}}{2Cr_2O_3}$

28. (*b*) The correct explanation is" HI is converted into I_2 on reaction with H_2SO_4.

29. (*d*) In interstitial compounds, small atoms like H, C or N are trapped inside the interstitial sites of the crystal lattice and therefore, they are chemically inert.

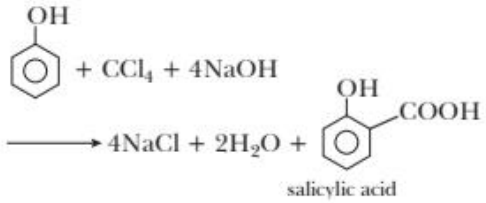
30. (*d*) $C_6H_6 + MgBr \longrightarrow C_6H_5MgBr \xrightarrow{D_2O} \underset{\text{'B'}}{C_6H_5D} + Mg(OD)Br$

31. (*b*)



33. (*a*) The reason for "drug induced poisoning" is binding of drug at the allosteric site of enzymes. This changes the shape of the active site in such a way that substrate cannot recognise it. If the bond which is formed between an enzyme and inhibitor is a strong covalent bond and cannot be broken easily, then the enzyme is blocked permanently. The body then degrades the enzyme-inhibitor complex and releases a new enzyme.

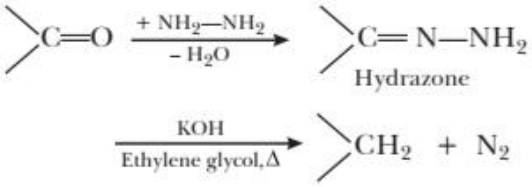
35. (*a*)



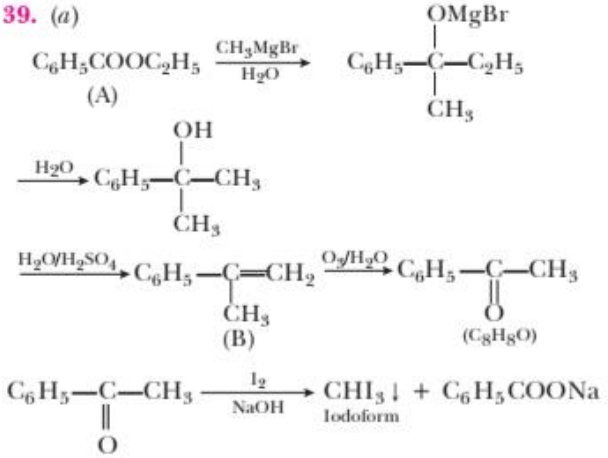
37. (*d*) $CH_3CH_2CH_2Cl + KCN \xrightarrow{-KCl}$ $CH_3CH_2CH_2CN$

1-chloropropane — Butanenitrile

38. (*c*) **Wolff–Kishner reduction:** The carbonyl group of aldehydes and ketones is reduced to $—CH_2$ group on treatment with hydrazine followed by heating with potassium or sodium hydroxide in a high boiling solvent such as ethylene glycol.



39. (*a*)

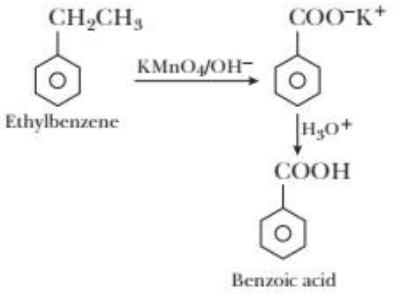


40. (*d*) Most ring activators have atoms with unshared electron pairs directly attached to a carbon atom of the benzene ring. For example, the —OH group has two pairs of unshared electrons on the oxygen atom, which will form a bond to a carbon atom of the benzene ring. Thus, the —OH group will be an activating group.

41. (*c*) The pentaacetate of glucose does not react with hydroxylamine indicating the absence of free —CHO group. This property of glucose can be explained only by its cyclic structure.

42. (*d*) Aliphatic amine is stronger base than aromatic amine. Moreover, electron withdrawing NO_2 group at ortho, meta and para decreases the basic character. In $C_6H_5CH_2NH_2$, lone pair of N is not involved in resonance, thus most basic.

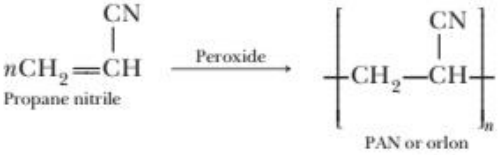
43. (*a*)



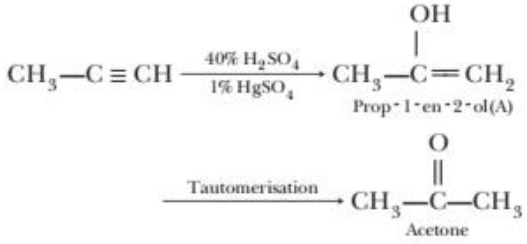
45. (*a*) $CH_3COOH + NaHCO_3 \rightarrow CH_3COO^-Na^+ + H_2O + CO_2\uparrow$

Acetic acid — Sodium ethanoate

46. (*a*) Acrilan is also known as orlon or PAN(Polyacrylonitrile)



47. (*d*)



50. (*b*) Anilinium hydrochloride gives a white precipitate of AgCl with $AgNO_3$ solution while *p*-chloroaniline does not.