Rizee
THE PERFECT GUIDE

JEE-MAINS - CHEMISTRY

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JEE-MAINS-2021 Anticipated Questions

1. When propionic acid is treated with aqueous $NaHCO_3$, CO_2 is liberated. The carbon of carbon dioxide comes from

(A) Methyl Group

(B) Carboxylic Group

(C) Methylene Group

(D) Bi Carbonate

Chapter Name : ALDEHYDES, KETONES AND CARBOXYLIC ACIDS

Topic Name : PHYSICAL AND CHEMICAL PROPERTIES OF MONOCARBOXYLIC ACIDS

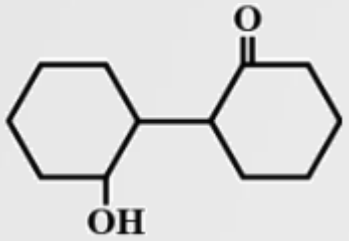
(APPLICATION)

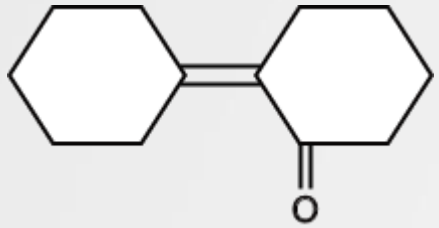
Explanation : (D)

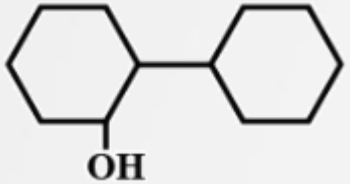
$$CH_3 - CH_2 - \dot{C}OOH + NaHCO_3 \rightarrow CH_3 - CH_2 - \dot{C}OOH + H_2O + CO_2$$

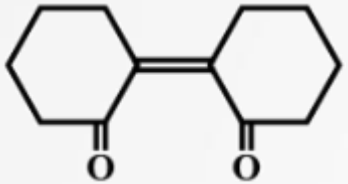
Thus carbon of carbon dioxide comes from sodium bicarbonate

2. What is the product formed when cyclohexanone undergoes aldol condensation followed by heating ?

(A) 

(B) 

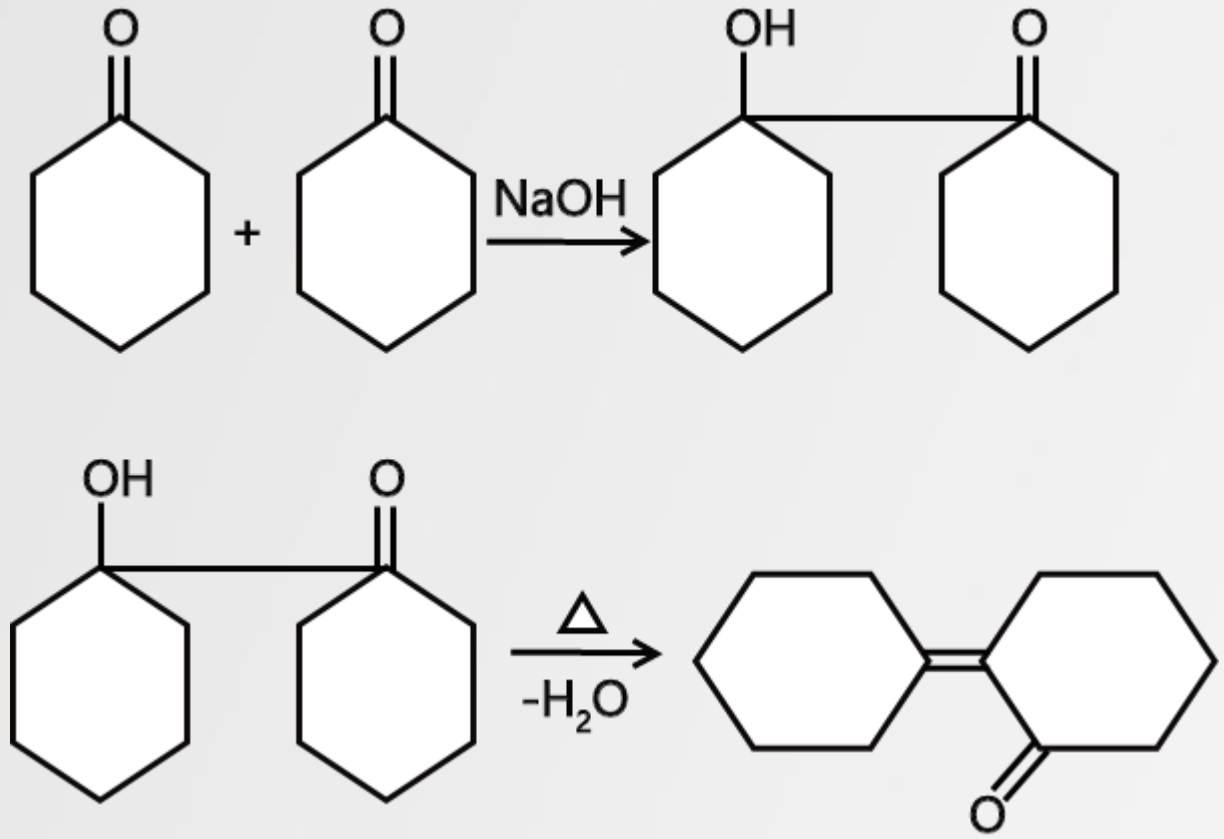
(C) 

(D) 

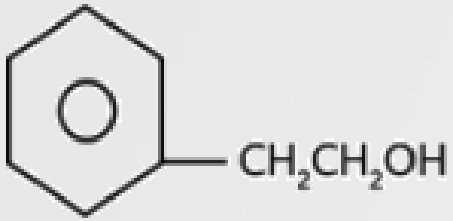
Chapter Name : ALDEHYDES, KETONES AND CARBOXYLIC ACIDS

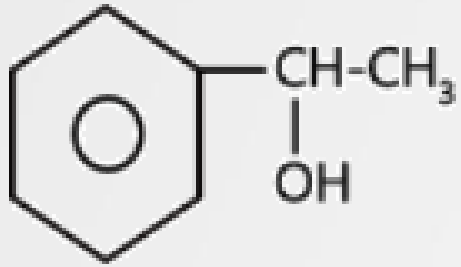
Topic Name : CHEMICAL PROPERTIES CARBONYL COMPOUNDS,NAMED REACTIONS (APPLICATION)

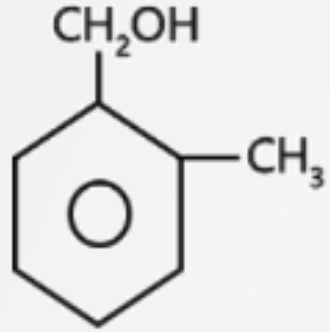
Explanation : (B)



3. Arrange the following alcohols in increasing order of tendency towards esterification.

(i) 

(ii) 

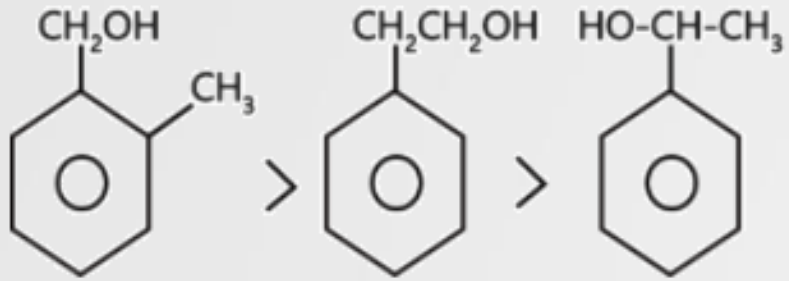
(iii) 

(A) i > ii > iii **(B)** iii > i > ii **(C)** iii > ii > I **(D)** ii > I > iii

Chapter Name : ALCOHOLS, PHENOLS AND ETHERS

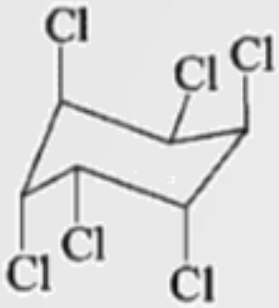
Topic Name : PROPERTIES ,ACIDIC STRENGTH OF ALCOHOLS (APPLICATION)

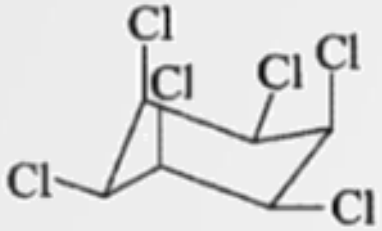
Explanation : (B)

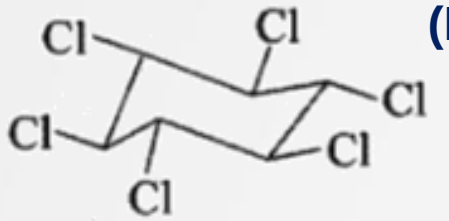


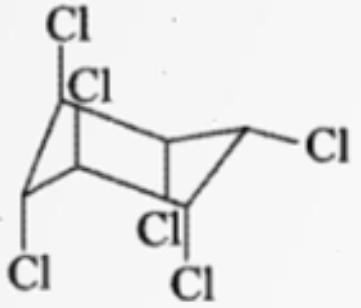
Lesser distance of +I group more is the reactivity
Since Phenyl group is electron with drawing group decreasing the reactivity in (iii)

4. Dehydro halogenation by strong base is slowest in

(A) 

(B) 

(C) 

(D) 

Chapter Name :

1. ORGANIC CHEMISTRY - SOME BASIC PRINCIPLES AND TECHNIQUES
2. HALOALKANES AND HALOARENES

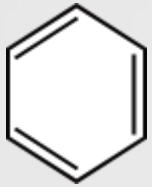
Topic Name : CYCLOAKANES AND THEIR NORMENCLATURE,REACTION INTERMEDIATES AND ATTACKING REAGENTS,PHYSICAL AND CHEMICAL PROPERTIES OF HALOARENES

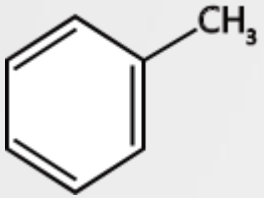
(APPLICATION, LINKAGE)

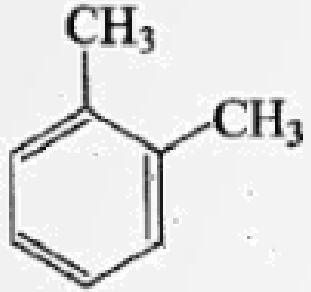
Explanation : (C)

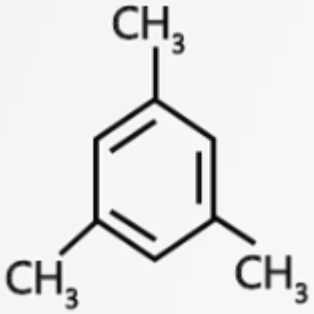
Compound (c) has all equatorial substituent, hence it is most stable and undergo elimination with slowest state.

5. Which of the following compounds give glyoxal only on ozonolysis

(A) 

(B) 

(C) 

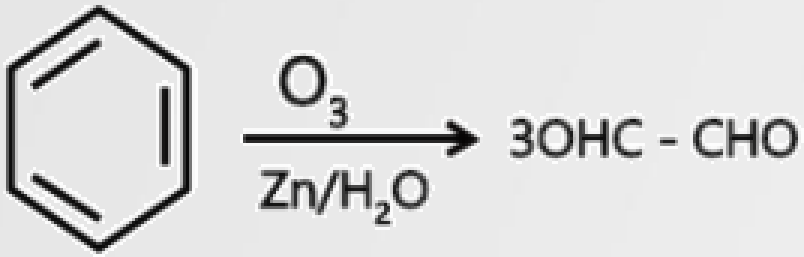
(D) 

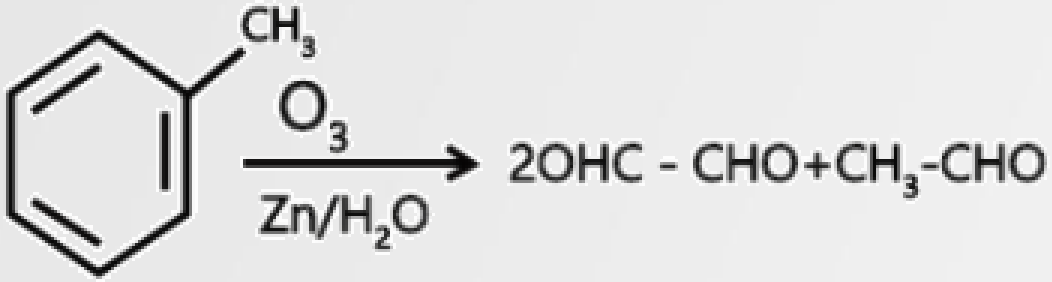
Chapter Name :

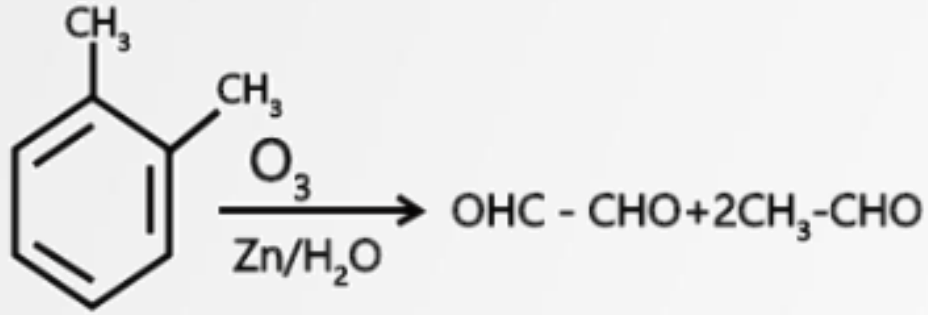
1. HYDROCARBONS
2. ALDEHYDES, KETONES AND CARBOXYLIC ACID

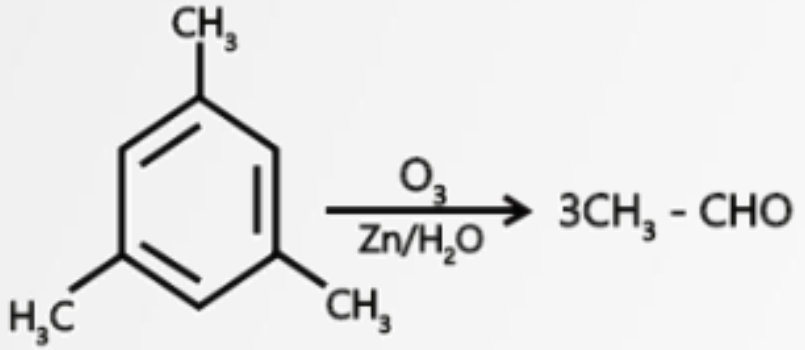
Topic Name : BENZENE - STRUCTURE, PREPARATION, PROPERTIES AND USES,INTRODUCTION AND PREPARATION OF CARBONYL COMPOUNDS,NAMED REACTIONS (APPLICATION, LINKAGE)

Explanation : (A)

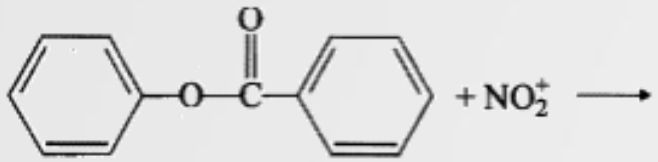


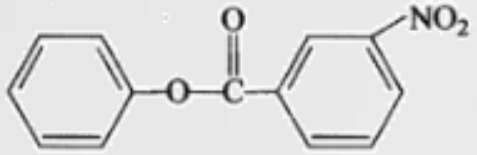


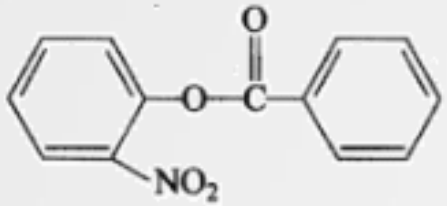


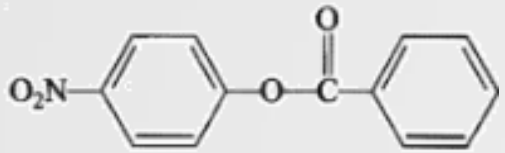


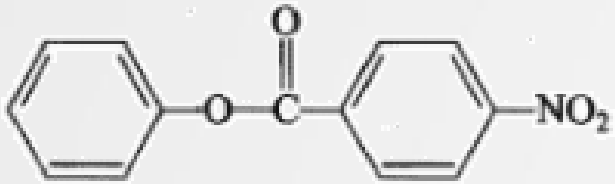
6. Product of this reaction by single (S_E) electrophilic substitution is



(A) 

(B) 

(C) 

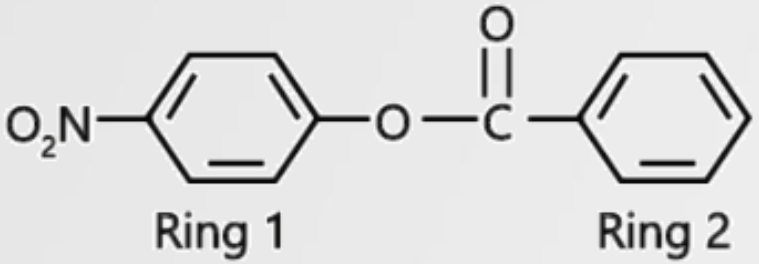
(D) 

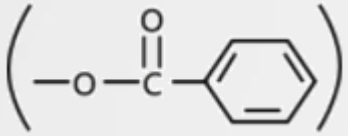
Chapter Name :

1. ORGANIC CHEMISTRY - SOME BASIC PRINCIPLES AND TECHNIQUES
2. AMINES

Topic Name : STERIC EFFECT AND ELECTRONIC DISPLACEMENT IN COVALENT BONDS,NITRO COMPOUNDS,NAMED REACTIONS (APPLICATION, LINKAGE)

Explanation : (C)



Ring 1 is activated by group  thus nitration takes place at para position of ring 1

7. The complex / complex ion which shows optical activity is :

(A) $[Cr(H_2O)_4Cl_2]^+$

(B) $[CO(H_2O)_2\ (NH_3)_2\ Cl_2]^+$

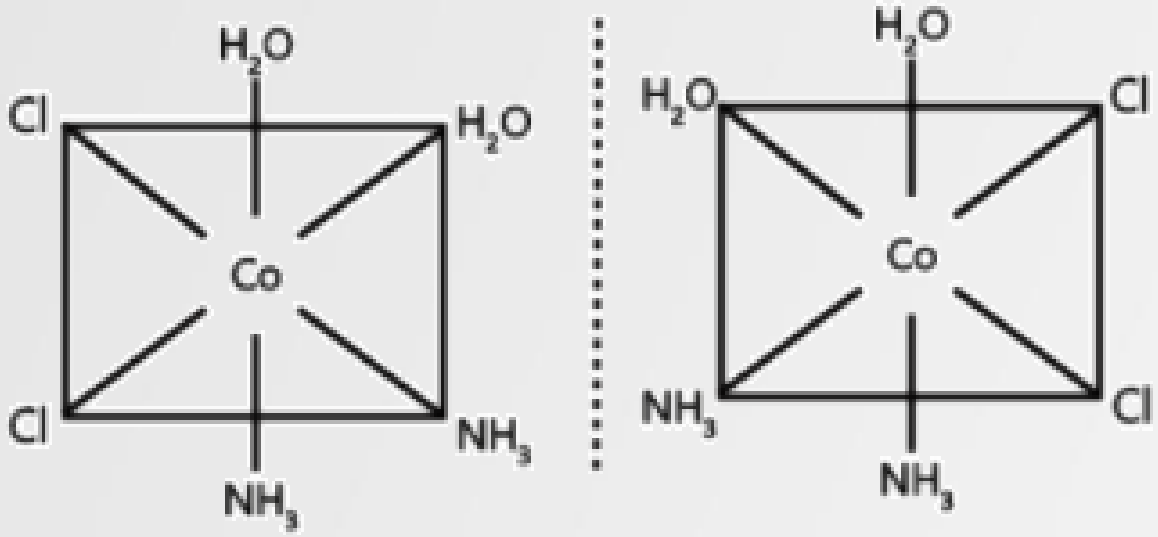
(C) $[CO(NH_3)_6]^{3+}$

(D) $[CO(CN)_5NC]$

Chapter Name : COORDINATION COMPOUNDS

Topic Name : IUPAC NOMENCLATURE AND ISOMERISM (APPLICATION)

Explanation : (B)



8. Which of the following is a cyclic oxo acid ?

(A) $H_4P_2O_7$

(B) $H_4P_2O_6$

(C) $H_5P_5O_{15}$

(D) $H_3P_3O_9$

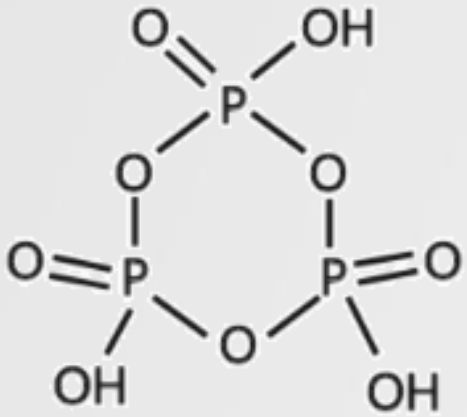
Chapter Name : THE P-BLOCK ELEMENTS

Topic Name : COMPOUNDS OF PHOSPHORUS (15TH GROUP OR V A GROUP)

(APPLICATION)

Explanation : (D)

$H_3P_3O_9$ is a cyclic trimetaphosphoric acid



9. When an impurity in metal has greater affinity for oxygen and is more easily oxidized than the metal itself, then the metal is refined by

(A) Cupellation

(B) Zone refining

(C) Poling

(D) Electrolytic process

Chapter Name : GENERAL PRINCIPLES AND PROCESSES OF ISOLATION OF ELEMENTS

Topic Name : REDUCTION AND PURIFICATIONS PRINCIPLES OF METALLURGY

(CONCEPT)

Explanation : (A)

Cupellation is a refining process in metallurgy, where ores are treated under very high temperature to separate pure ore from impurities. The method is suitable if impurities have more affinity to oxygen than desired metal. This method is applied for refining of lead, copper, zinc, arsenic etc

10. When a substance A reacts with water, it produces a combustible gas B and a solution of substance C in water. D reacts with this solution of C and produces the same gas B on warming. D can produce gas B on warming. D can also produces gas B on reaction with dil H_2SO_4. A imparts a deep golden yellow color to smokeless flame. A, B, C and D are

(A) $Na, H_2, NaOH, Zn$

(B) K, H_2, KOH, Al

(C) $Ca, H_2, Ca(OH)_2, Sn$

(D) $CaI_2, C_2H_2, Ca(OH)_2, Fe$

Chapter Name :

1. HYDROGEN
2. THE S-BLOCK ELEMENTS

Topic Name : GENERAL PROPERTIES AND BIOLOGICAL IMPORTANCE OF NA & K,OXIDES & HYDROXIDES,PROPERTIES AND USES OF HYDROGEN (LINKAGE, APPLICATION)

Explanation : (A)

$$\underset{(A)}{2\,Na} + 2H_2O \rightarrow \underset{(C)}{2\,NaOH} + \underset{(B)}{H_2}$$

Gives golden yellow Colour to flame

Zn (D) warm

$$\underset{(D)}{Zn} + \underset{\text{Dilute}}{H_2SO_4} \rightarrow ZnSO_4 + \underset{(B)}{H_2}$$

11. Identity the correct sequence of increasing number of π bonds in the structures of the following molecules :

I. $H_2S_2O_6$ II. H_2SO_3 III. $H_2S_2O_5$

(A) I, II, III

(B) II, III, I

(C) II, I, III

(D) I, III, II

Chapter Name :

1. CHEMICAL BONDING AND MOLECULAR STRUCTURE
2. THE P-BLOCK ELEMENT

Topic Name : VBT & HYBRIDISATION,COMPOUNDS OF SULPHUR(16TH GROUP OR VI A GROUP)

(LINKAGE, CONCEPT)

Explanation : (B)

I. $H_2S_2O_6$: $HO-\overset{\overset{O}{\|}}{\underset{\underset{O}{\|}}{S}}-\overset{\overset{O}{\|}}{\underset{\underset{O}{\|}}{S}}-OH$ → 4π Bonds

II. H_2SO_4 : $HO-\overset{\overset{O}{\|}}{\underset{|}{S}}-OH$ → 1π Bonds

III. $H_2S_2O_5$: $HO-\overset{\overset{O}{\|}}{\underset{\underset{O}{\|}}{S}}-\overset{\overset{O}{\|}}{S}-OH$ → 3π Bonds

12. The half cell reaction for the corrosion, $Fe^{+2} + 2e^- \rightarrow Fe\,(s);\ E^0 = -0.44\ V$, $2H^+ + 2e^- + \frac{1}{2}O_2 \rightarrow H_2O; E^0 = 1.23\ V$. Find the ΔG^0 (in kJ) for the overall reaction

(A) $-76\ kJ$

(B) $-322\ kJ$

(C) $-161\ kJ$

(D) $-152\ kJ$

Chapter Name :

1. REDOX REACTIONS
2. ELECTROCHEMISTRY

Topic Name : BALANCING EQUATIONS,THERMODYNAMICS OF ELECTRO CHEMISTRY)

(LINKAGE, APPLICATION)

Explanation : (B)

$$Fe\,(s) \rightarrow Fe^{+2} + 2e^{-};\ \ \Delta G_1^0$$

$$2H^{+} + 2e^{-} + \frac{1}{2}O_2 \rightarrow H_2O\,(l);\ \Delta G_2^0$$

$$Fe\,(s) + 2H^{+} + \frac{1}{2}O_2 \rightarrow Fe^{+2} + 2H_2O;\ \Delta G_3^0$$

$$\Delta G_1^0 + \Delta G_2^0 = \Delta G_3^0$$

$$\Delta G_3^0 = (-2F \times 0.44) + (-2F \times 1.23)$$

$$= (-2 \times 96500 \times 0.44) + (-2 \times 96500 \times 1.23)$$

$$= -322310\ J = -322\ kJ$$

13. 2.5 ml of 2/5 M weak monoacidic base ($k_b = 1 \times 10^{-12}$ at 25^0 C) is titrated with 2/15 M HCl in water at 25^0 C. The concentration of H^+ ion at equivalent point is ($k_w = 1 \times 10^{-14}$ at 25^0 C)

(A) 3.7×10^{-13} M

(B) 3.2×10^{-7} M

(C) 3.2×10^{-2} M

(D) 2.7×10^{-2} M

Chapter Name : IONIC EQUILIBRIUM

Topic Name : HYDROLYSIS OF SALTS & BUFFER SOLUTIONS (APPLICATION)

Explanation : (C)

$BOH + HCl \rightarrow BCl + H_2O$

$\frac{M_1V_1}{1}$ (base) $= \frac{M_2V_2}{1}$ (Acid)

$\frac{2}{5} \times 2.5 = \frac{2}{15} \times V_2 \Rightarrow V_2 = 7.5$ ml

Total Volume $7.5 + 2.5 = 10$ mole

Concentration of salt in the mixture

M_1V_1 (Base) $= M_2V_2$ (Salt)

$\frac{2}{5} \times 2.5 = M_2 \times 100 \Rightarrow M_2 = 0.1$

$pH = \frac{1}{2}[pK_w - pk_b - \log C]$

$= \frac{1}{2}[14 - 12 - (-1)] = 1.5$

$[H^+] = \text{Antilog}\,(1.5) = 0.032$ M

14. Sedimentation potential is reverse of

(A) ElectroOsmosis

(B) Electro phoresis

(C) Electro kinetic potential

(D) Streaming potential

Chapter Name : SURFACE CHEMISTRY

Topic Name : ADSORPTION

(CONCEPT)

Explanation : (B)

Sedimentation potential involves the movement of dispersed particles under the influence of either gravity or centrifugation in a medium whereas the electrophoresis is the movement of dispersed phase particles under the influence of electric potential

15. p^H of a 0.1 M monobasic acid is 2. It's osmotic pressure at a given temperature TK is

(A) 0.10 RT

(B) 0.11 RT

(C) 1.1 RT

(D) 0.01 RT

Chapter Name :

1. SOLUTIONS
2. IONIC EQUILIBRIUM

Topic Name : COLLIGATIVE PROPERTIES,ABNORMAL MOLECULAR MASSES,PH SCALE AND IONIC PRODUCT OF WATER (LINKAGE, APPLICATION)

Explanation : (B)

	HA	$\rightleftharpoons$	H^+	$+ A^-$
At $t = 0$	C		0	0
At equilibrium	$C - C\alpha$		$C\alpha$	$C\alpha$

So, $[H^+] = C\alpha$

$p^H = -\log[H^+]$

$[H^+] = 10^{-pH}$

So, $C\alpha = 10^{-pH}$

$C\alpha = 10^{-2}$

$0.1\ \alpha = 10^{-2}$

$\alpha = 0.1$

And $\alpha = \frac{i-1}{n-1} \Rightarrow 0.1 = \frac{i-1}{2-1} \Rightarrow i = 1.1$

$\pi = iCRT = 1.1 \times 0.1 \times RT = 0.11\ RT$

16. KCl crystallizes in the same type of lattice as does NaCl. Given that $\frac{r_{Na^+}}{r_{Cl^-}} = 0.55$ & $\frac{r_{K^+}}{r_{Cl^-}} = 0.74$. Calculate the ratio of the side of the unit cell for KCl to that of NaCl

(A) 1.123

(B) 0.891

(C) 1.414

(D) 1.732

Chapter Name : THE SOLID STATE

Topic Name : UNIT CELL AND LATTICES INCLUDING PACKING EFFICIENCY

(APPLICATION)

Explanation : (A)

$$\frac{r_{Na^+}}{r_{Cl^-}} = 0.55, \ \frac{r_{K^+}}{r_{Cl^-}} = 0.74$$

$$\frac{r_{Na^+}}{r_{Cl^-}} + 1 = 1.55 \ \& \ \frac{r_{K^+}}{r_{Cl^-}} + 1 = 1.74$$

$$\frac{r_{Na^+} + r_{Cl^-}}{r_{Cl^-}} = 1.55 \ \& \ \frac{r_{K^+} + r_{Cl^-}}{r_{Cl^-}} = 1.74$$

$$\frac{r_{K^+} + r_{Cl^-}}{r_{Cl^-}} \times \frac{r_{Cl^-}}{r_{Na^+} + r_{Cl^-}} = 1.74 \times \frac{1}{1.55}$$

$$\frac{r_{K^+} + r_{Cl^-}}{r_{Na^+} + r_{Cl^-}} = 1.122$$

17. A vessel is filled with a mixture of oxygen and nitrogen. At what ratio of partial pressures will the mass of gases be identical ?

(A) $P_{O_2} = 0.785\ P_{N_2}$

(B) $P_{O_2} = 11.4\ P_{N_2}$

(C) $P_{O_2} = 0.875\ P_{N_2}$

(D) $P_{O_2} = 8.75\ P_{N_2}$

Chapter Name : STATES OF MATTER

Topic Name : DALTONS LAW - GRAHAMS LAW (APPLICATION)

Explanation : (C)

$$PV = nRT$$

$$pV = \frac{w}{M}RT$$

$$P_{O_2}V = \frac{w}{32}RT$$

$$P_{N_2}V = \frac{w}{28}RT$$

$$\frac{P_{O_2}}{P_{N_2}} = \frac{28}{32}$$

$$P_{O_2} = 0.874P_{N_2}$$

18. Photo electric emission is observed from a surface for frequencies ϑ_1 and ϑ_2 of the incident radiation ($\vartheta_1 > \vartheta_2$). If the maximum kinetic energies of the photo electrons in the two cases are in the ratio 1 : k then the threshold frequency ϑ_0 is given by

(A) $\frac{\vartheta_2 - \vartheta_1}{k-1}$

(B) $\frac{k\vartheta_1 - \vartheta_2}{k-1}$

(C) $\frac{k\vartheta_2 - \vartheta_1}{k-1}$

(D) $\frac{\vartheta_2 - \vartheta_1}{k}$

Chapter Name : ATOMIC STRUCTURE

Topic Name : EMR, PHOTOELECTRIC EFFECT AND QUANTUM THEORY

(APPLICATION)

Explanation : (B)

$h\vartheta_1 = h\vartheta_0 + \frac{1}{2}mv_1^2 \quad \ldots(1)$

$h\vartheta_2 = h\vartheta_0 + \frac{1}{2}mv_2^2 \quad \ldots(2)$

Given, $\frac{1}{2}mv_1^2 = \frac{1}{k} \times \frac{1}{2}mv_2^2$

From eq (1) $h\vartheta_1 = h\vartheta_0 + \frac{1}{2k}mv_2^2$

$\frac{1}{2}mv_2^2 = kh\vartheta_1 - kh\vartheta_0 \quad \ldots(3)$

From eq (2) & (3)

$h\vartheta_2 = h\vartheta_0 - kh\vartheta_0 + kh\vartheta_1$ Or $\vartheta_0 = \frac{k\vartheta_1 - \vartheta_2}{k-1}$

19. A compound AB completely decomposed into A and B on heating. 50 g of AB, on strong heating, gave 40 g of A. How much quantity of AB should be decomposed by heating to obtain 2.5 g of B ? How much quantity of A will be produced in the process

(A) 25 g, 15 g

(B) 12.5 g, 10 g

(C) 12.5 g, 15 g

(D) 25 g, 10 g

Chapter Name : SOME BASIC CONCEPTS OF CHEMISTRY

Topic Name : DETERMINATION OF ATOMIC,MOLAR AND EQUIVALENT MASSES (APPLICATION)

Explanation : (B)

$$\underset{50}{AB} \rightarrow \underset{40}{A} + \underset{10}{B}$$

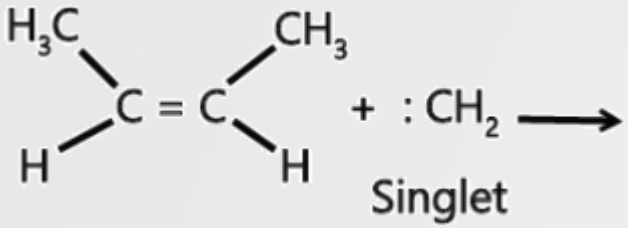
50 g of AB gives 10 g of B

So, 2.5 g of B will be produced by $\frac{50}{10} \times 2.5 = 12.5$ g of AB

50 g of AB gives 40 g of A

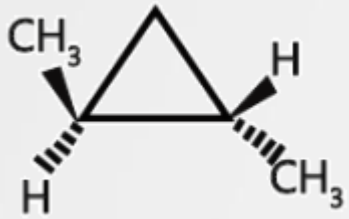
So, 12.5 g of AB will give $\frac{40}{50} \times 12.5 = 10$ g of A

20. The major Product in the following reaction is



(A)

(B)



(C)

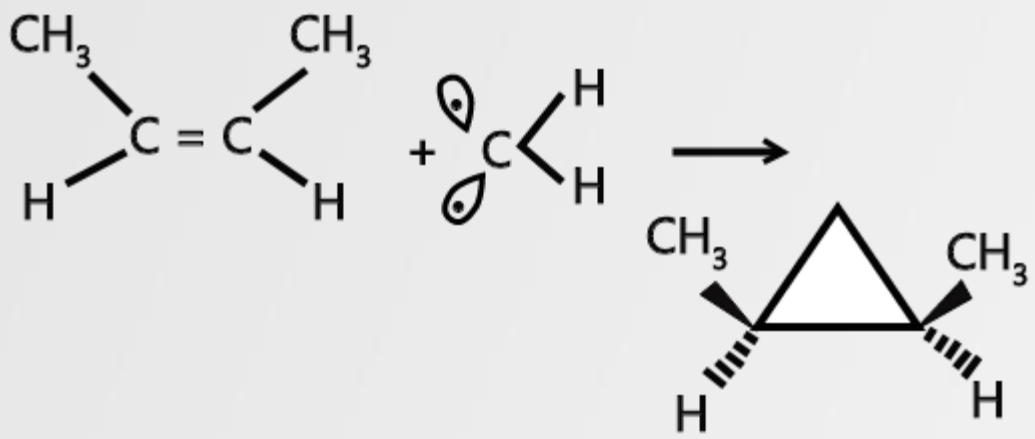
(D)

Chapter Name :

1. ORGANIC CHEMISTRY
2. SOME BASIC PRINCIPLES AND TECHNIQUES
3. HYDROCARBONS

Topic Name : ACIDIC AND BASIC STRENGTH OF ORGANIC COMPOUNDS,PHYSICAL AND CHEMICAL PROPERTIES OF ALKENES (APPLICATION, LINKAGE)

Explanation : (A)



21. One mole of a non - ideal gas undergoes a change state (2 atm, 3L, 95 K) to (4 atm, 5L, 245 K) with a change of internal energy $\Delta U = 30\ \mathrm{L\,atm}$. The change in enthalpy (ΔH) of the process in L atm is

Answer : 44

Chapter Name : THERMODYNAMICS
Topic Name : PRESSURE VOLUME WORK (1ST LAW OF THERMO DYNAMICS)
(APPLICATION)

Explanation :

$$\Delta H = \Delta U + \Delta(PV)$$

$$\Delta H = 30 + (P_2V_2 - P_1V_1)$$

$$= 30 + (20 - 6)$$

$$= 30 + 14 = 44 \text{ L atm}$$

22. The Rate constant of a 1st order reaction at 27^0 C is 10^{-3} $\min^{-1}$. The temperature co-efficient of this reaction is 2. The rate constant ($\min^{-1}$) at 17^0 C for this reaction is $x \times 10^{-4}$. What is the value of x ?

Answer : 5

Chapter Name : CHEMICAL KINETICS

Topic Name : RATE OF A CHEMICAL REACTION (APPLICATION)

Explanation :

$$\frac{K_{T_1}}{K_{T_2}} = (\mu)^{\Delta T/10}$$

$$\frac{10^{-3}}{K_{T_1}} = (\mu)^{10/10} = 2$$

$$K_{T_1} = \frac{10^{-3}}{2} = 0.5 \times 10^{-3}$$

$$= 5 \times 10^{-4}\ \text{min}^{-1}$$

23. The number of σ bonds and π bonds in C_3O_2 are x and y respectively. Then what is the value of $(x + y)$

Answer : 8

Chapter Name :

1. CHEMICAL BONDING AND MOLECULAR STRUCTURE
2. THE P-BLOCK ELEMENTS

Topic Name : GENERAL PROPETIES AND ALLOTROPES OF CARBON FAMILY(14TH GROUP OR IV A GROUP), VBT & HYBRIDISATION
(APPLICATION, LINKAGE)

Explanation :

$O = C = C = C = O$

$4\sigma + 4\pi = 8$

24. On heating a mixture containing 1 mole each of Li_2CO_3 and K_2CO_3 then _____ moles of CO_2 is formed

Answer : 1

Chapter Name : THE S-BLOCK ELEMENTS

Topic Name CARBONATES & BICARBONATES (CONCEPT)

Explanation :

$$\underset{1\text{ mole}}{Li_2CO_3} \rightarrow Li_2O + \underset{1\text{ mole}}{CO_2}$$

25. The value of Δ for $[RhCl_6]^{3-}$ is $243\ kJ\ mol^{-1}$. What wavelength of light will promote an electron from the t_{2g} set to the e_g set in nm ?

Answer : 492

Chapter Name :

1. ATOMIC STRUCTURE
2. COORDINATION COMPOUNDS

Topic Name : METALCARBONYLS, ORGANO METALIC COMPOUNDS & CFT,EMR, PHOTOELECTRIC EFFECT AND QUANTUM THEORY (APPLICATION, LINKAGE)

Explanation :

$\Delta = h\vartheta = \frac{nhC}{\lambda}$ for one electron

$$\lambda = \frac{hC}{\Delta} = \frac{6.63\times10^{-34}\times3\times10^{8}\times6.02\times10^{23}}{243\times10^{3}\ J}$$

$$= 492 \times 10^{-9}\ m = 492\ nm$$

26. The formula mass of an acid is 82 amu. In a titration, $100\ cm^3$ of a solution of this acid containing 39 g of the acid per liter was completely neutralized by $95\ cm^3$ of aqueous solution of NaOH containing 40 g NaOH per liter of solution. What is the basicity of the acid ?

Answer : 2

Chapter Name : PRINCIPLES OF QUALITATIVE ANALYSIS

Topic Name : TEST FOR ANIONS AND DRY TEST (APPLICATION)

Explanation :

$N_{NaOH} = 1 \quad \left(\because \quad 40\frac{g}{\text{litre}} = 1\ N\ NaOH\right)$

$N_1V_1 = N_2V_2$

$N_1 \times 100 = 1 \times 95$

$N_1 = 0.95$

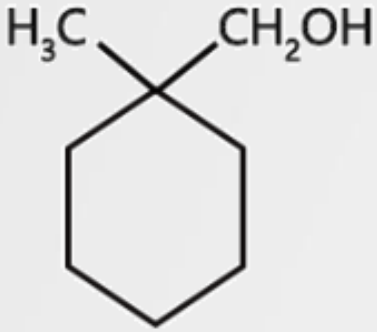
$N = \frac{W_B \times 1000}{E_B \times V}$

$0.95 = \frac{39 \times 1000}{E_B \times 1000} \Rightarrow E = 41$

$\text{Equivalent mass} = \frac{\text{Molecular mass}}{\text{Basicity}}$

$41 = \frac{82}{\text{Basicity}} \Rightarrow \quad \text{Basicity} = 2$

27. How many products are formed on dehydration of following compounds



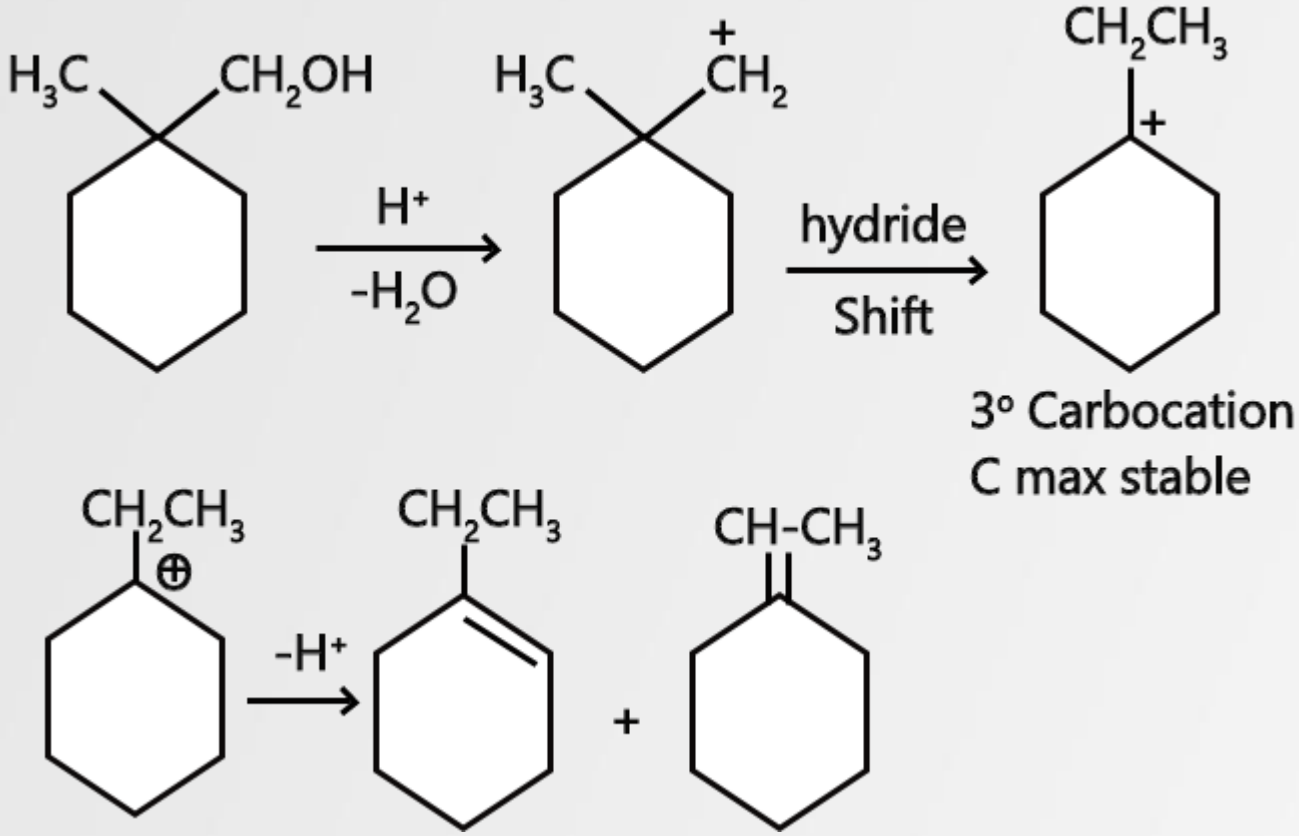
Answer : 2

Chapter Name :

1. HYDROCARBONS
2. ALCOHOLS, PHENOLS AND ETHERS

Topic Name : ALKENES - STRUCTURE, NOMENCLATURE, ISOMERISM AND PREPARATION,PROPERTIES ,ACIDIC STRENGTH OF ALCOHOLS
(APPLICATION, LINKAGE)

Explanation :



28. How many steps are involved to convert 2 - propanol to 1 – propanol

Answer : 3

Chapter Name : ALCOHOLS, PHENOLS AND ETHERS

Topic Name PROPERTIES ,ACIDIC STRENGTH OF ALCOHOLS (APPLICATION)

Explanation :

$$\begin{array}{l} \quad OH \\ \quad | \\ CH_3CH - CH_3 \end{array} \xrightarrow{H_2SO_4, 170^0\ C} CH_3CH = CH_2$$

$$CH_3CH - CH_2 \xrightarrow{HBr, Peroxide} CH_3CH_2CH_2Br$$

$$CH_3CH_2CH_2Br \xrightarrow{KOH\ (aq)} CH_3CH_2CH_2OH$$

29. How many products will be obtained when propane is subjected to vapour phase nitration ?

Answer : 4

Chapter Name : AMINES

Topic Name NITRO COMPOUNDS,NAMED REACTIONS (APPLICATION)

Explanation :

$$CH_3CH_2CH_3 \xrightarrow[700 - 900^oC]{\text{Fuming } HNO_3} CH_3CH_2CH_2NO_2 +$$

$$\begin{array}{l} \quad NO_2 \\ \quad | \\ CH_3CH_2CH_3CH_2NO_2 + CH_3NO_2 \end{array}$$

30. The pKa_1 and pKa_2 values of Alanine are 2.3 and 9.7 respectively. The Isoelectric point of alanine is

Answer : 6

Chapter Name : BIOMOLECULES

Topic Name AMINO ACIDS AND PROTEINS (APPLICATION)

Explanation :

Isoelectric point $= \frac{1}{2}\left[\mathrm{pKa}_1 + \mathrm{pKa}_2\right]$

$= \frac{1}{2}\left[2.3 + 9.7\right] = 6$