CHEMISTRY

BOOKS - NTA MOCK TESTS

NTA NEET SET 92

Chemistry

1. Which of the following substance acts as collector in froth floatation method ?

    A. Sodium xenate

    B. Sodium pyrophosphate

    C. Sodium nitroprusside

    D. Sodium ethyl xanthate

Answer: D

2. Number of waves produced by an electron in one complete revolution in n^{th} orbit is :
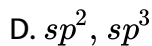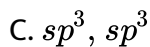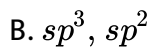
A. n

B. n^2

C. $(n + 1)$

D. (2n + 1)

Answer: A

3. The state of hybridisation of central atom in dimer of BH_3 and BeH_2 IS :

A. sp^2, sp^2

B. sp^3, sp^2

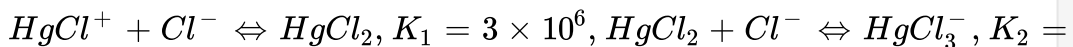C. sp^3, sp^3

D. sp^2, sp^3

Answer: B

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4. The equilibrium constant for the disproportionation of $HgCl_2$ into
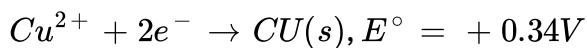
$HgCl^+$ and $HgCl_3^-$ is

Given

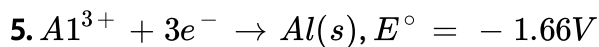$HgCl^+ + Cl^- \Leftrightarrow HgCl_2, K_1 = 3 \times 10^6, HgCl_2 + Cl^- \Leftrightarrow HgCl_3^-, K_2 =$

A. 27×10^6

B. 3.3×10^{-7}

C. 3.3×10^{-6}

D. 3×10^{-6}

Answer: D

5. $Al^{3+} + 3e^- \rightarrow Al(s), E^\circ = -1.66V$

$Cu^{2+} + 2e^- \rightarrow CU(s), E^\circ = +0.34V$

What voltage is produced under standard conditions by combining the half reactions with these standard electrode potentials?
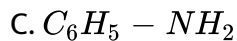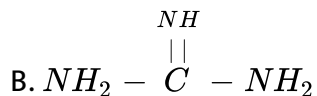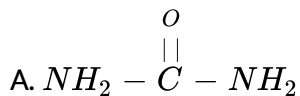
A. 1.32 V

B. 2.00 V

C. 2.30 V

D. 4.34 V

Answer: B

6. Among the following compounds ,the strongest base is

A. $NH_2 - \overset{\overset{O}{||}}{C} - NH_2$

B. $NH_2 - \overset{\overset{NH}{||}}{C} - NH_2$

C. $C_6H_5 - NH_2$

D. $CH_3 - NH - CH_3$

Answer: B

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7. If 1 L of gas A at 600 torr and 500 mL of gas B at 1000 torr are placed in 2 L flask , the final pressure will be
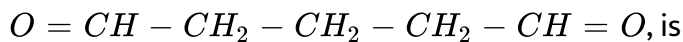
A. 500 torr

B. 550 torr

C. 1000 torr

D. 1100 torr

Answer: B

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8. The compound , which on reductive ozonolysis gives one mole of

$O = CH - CH_2 - CH_2 - CH_2 - CH = O$, is

A. 1-methylbut -1-ene

B. 3-methylbut -1-ene

C. cyclopentane

D. 1,2- dimethylpropene

Answer: C

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9. Which of the following is a pseudohalide?

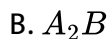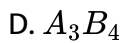A. I_3^-

B. IF_7

C. CN^-

D. ICI

Answer: C

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10. In a solid AB having the $NaCl$ structure, A atom occupies the corners of the cubic unit cell. If all the face-centred atoms along one of the axes are removed, then the resultant stoichiometry of the solid is
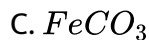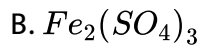
A. AB_2

B. A_2B

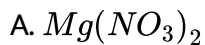C. A_4B_3

D. A_3B_4

Answer: D

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11. Compound which on heating produces paramagnetic acidic gas?

A. $Mg(NO_3)_2$

B. $Fe_2(SO_4)_3$

C. $FeCO_3$

D. HgC_2O_4

Answer: A

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12. In the given reaction

NO_2— (ring) —CHO $\xrightarrow{[X]}$ NO_2— (ring) —CH_2OH
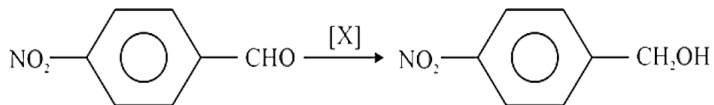
[X] will be

[X] will be

A. Zn/HCl

B. Sn/HCl
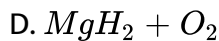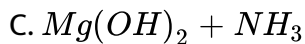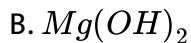
C. $LiAlH_4$

D. $HCHO/\overset{\ominus}{OH}$

Answer: D

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13. Magnesium is burnt in the atmosphere of dinitrogen. The ash so produced is treated with water. The final products are
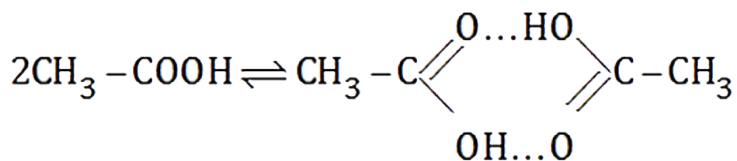
A. $MgO + H_2$

B. $Mg(OH)_2$

C. $Mg(OH)_2 + NH_3$

D. $MgH_2 + O_2$

Answer: C

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14. Acetic acid undergoes dimerisation , when dissolved in benzene

$$2CH_3-COOH \rightleftharpoons CH_3-C{\overset{O...HO}{\underset{OH...O}{\diagup}}}C-CH_3$$

Molecular mass of acetic acid is found 120. Which among the following

relation is correct ?

D = theoretical vapour density

d = observed vapour density

A. $\alpha = 2\left(\dfrac{D-d}{d}\right)$
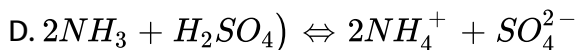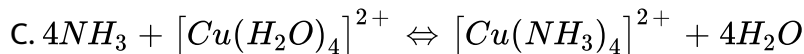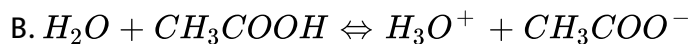
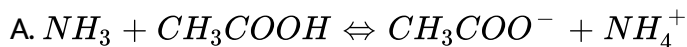B. $\alpha = 2\left(\dfrac{D-d}{D}\right)$

C. $\alpha = 2\left(\dfrac{d - D}{d}\right)$

D. $\alpha = \dfrac{2d}{D - d}$

Answer: C

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15. Which equilibrium can be described as an acid- base reaction using the Lewis acid-base definition but not using the Bronsted-Lowry definition

A. $NH_3 + CH_3COOH \Leftrightarrow CH_3COO^- + NH_4^+$

B. $H_2O + CH_3COOH \Leftrightarrow H_3O^+ + CH_3COO^-$

C. $4NH_3 + \left[Cu(H_2O)_4\right]^{2+} \Leftrightarrow \left[Cu(NH_3)_4\right]^{2+} + 4H_2O$

D. $2NH_3 + H_2SO_4) \Leftrightarrow 2NH_4^+ + SO_4^{2-}$

Answer: C

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16. which of the following graph is correct representation between atomic number (Z) and magnetic moment of d-block elements? [outer electronic configuration: $(n - 1)d^x ns^{1 \text{ or } 2}$]

A.

B.

C.

D.
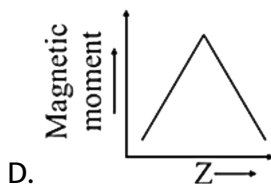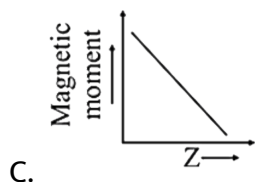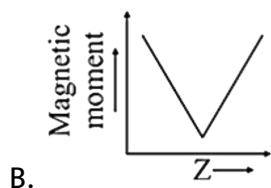
Answer: D

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17. The solution of which of the following will be non - conducting ?

A.

B.

C.

D.
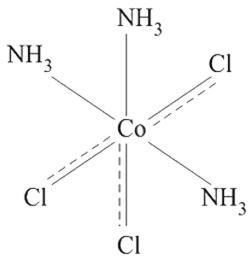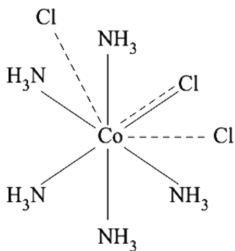
Answer: C

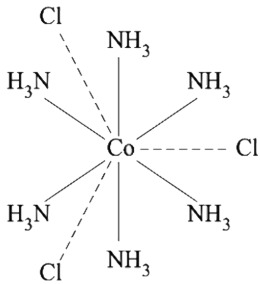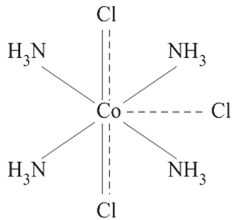**18.** Product of the given reaction $CH_3CH_2 - CH = CH_3 \xrightarrow{SiO_2}$ will be

A. $CH_3 - \overset{\overset{\displaystyle OH}{|}}{CH} - CH = CH_2$

B. $\overset{\overset{\displaystyle OH}{|}}{CH_2} - CH_2 - CH = CH_2$

C. $CH_3 - CH_2 - \overset{\displaystyle C}{\underset{\displaystyle O}{||}} - CH_3$

D. $CH_3 - CH_2 - \overset{\displaystyle C}{\underset{\displaystyle O}{||}} - CHO$

Answer: A

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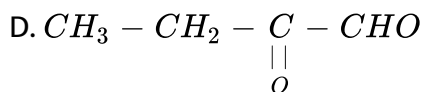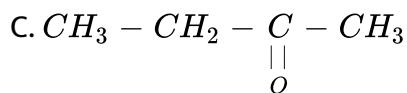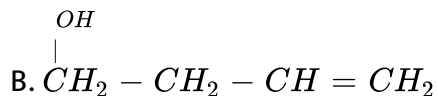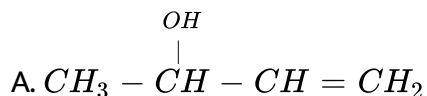
19. An endotthermic reaction is non-spontaneous at freezing point of water and becomes feasible at its boiling point, then:

A. ΔH is $-ve$, ΔS is +ve

B. ΔH and ΔS both are + ve

C. ΔH and ΔS both are - ve

D. ΔH is $+ve$, ΔS is -ve

Answer: B

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20. $2Ag^+(aq) + Cu(s) \rightarrow Cu^{2+}(aq) + 2Ag(s)$
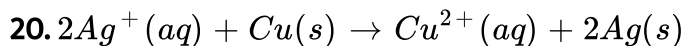
The standard potential for this reaction is 0.46 V. Which change will increase the potential the most?

A. Doubling the $[Ag^+]$

B. Halving the $[Cu^{2+}]$

C. Doubling the size of the Cu(s) electrode

D. Decreasing the size of the Ag electrode by one - half

Answer: A

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21. A salt which on hearing with conc. H_2SO_4 gives violet vapours is

A. Iodide salt

B. Nitrate salt

C. Sulphate salt

D. Bromide salt

Answer: A

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22. Which of the following electronic configurations have spin multiplicity

equal to zero ?

A.
↑	↑	↑

B.
↑	↑	↓

C.
↑	↓	↓

D.
↓	↓	↓

Answer: C

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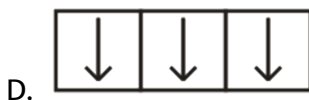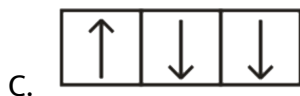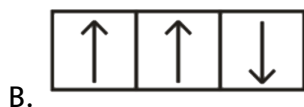
23. $\underset{(\text{Coloured solution})}{P} + BaCl_2 \rightarrow \underset{(\text{White})}{Q \downarrow} + \underset{(\text{Coloured solution})}{R}$ ltBrgt Then
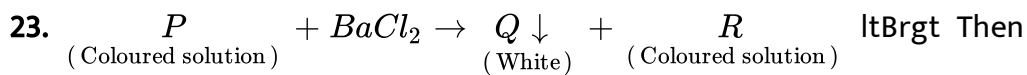
salt 'P' in above reaction is:

A. Na_2CrOO_4

B. $ZnSO_4$

C. $CuSO_4$

D. $AgNO_3$
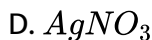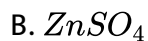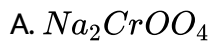
Answer: C

24. Which of the following plots represents the behavior of an ideal binary liquid solution ?

A. Plot of $1/P_{total,}$ against y_A is linear

B. Plot of $1/P_{total,}$ against y_B is non - linear

C. Plot of $P_{total,}$ against y_A is linear

D. Plot of $P_{total,}$ against y_B is linear (Here, y_A and y_B are the mole fraction of components A and B in vapour)

Answer: A

25. Arrange these compounds in decreasing order of reactivity for the nucleophilic addition reaction:

(I) Acid chloride

(II) Aldehyde

(III) Ketone

(IV) Ester

Select the correct answer from the codes given below:

A. $1 > 2 > 3 > 4$

B. $4 > 3 > 2 > 1$

C. $3 > 2 > 1 > 4$

D. $1 > 4 > 2 > 3$

Answer: D

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26. In the given reaction $CH_3 - CH_2 - COOH \xrightarrow[(ii)\,Br_2\,/\,\Delta]{(i)\,AgNO_3} (X)$ will be

A. Ethyl bromide

B. Propyl bromide

C. Propyl propanote

D. All of these

Answer: A

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27. For vaporization of water at 1 atmospheric pressure, the values of ΔH and ΔS are 40.63kJ mol^{-1} and $108.8 \text{JK}^{-1} mol^{-1}$ respectively. The temperature when Gibbs energy change (ΔG) for this transformation will be zero , is :

A. 293.4 K

B. 273.4 K

C. 393.4 K

D. 373.4 K

Answer: D

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28. Which among the given compounds will give thermal elimination ?

A. $CH_3 - CH_2 - Br$

B. $CH_3 - CH_2 - OH$

C.
$$CH_3 - CH_2 - \overset{\overset{\textstyle OCOCH_3}{\textstyle |}}{CH} - CH_3$$

D. All of these

Answer: C

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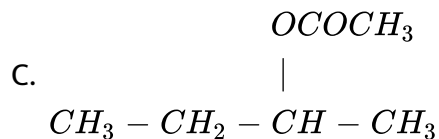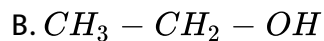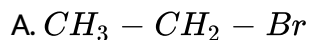
29. In the electrolysis of silver nitrate, the mass of silver deposited is plotted against the charge

Mass of silver deposited

Slope of line (m) = tanθ

θ

Q (charge) ⟶
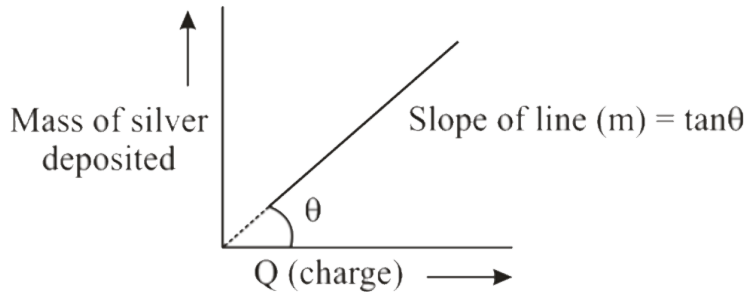
Slope of the line gives

Slope of the line gives

A. the equivalent mass of silver

B. electrochemical equivalent of silver

C. the value of faraday

D. the current passed through the cell

Answer: B

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30. When NaCl is added to the reaction mixture of an oil and caustic soda, the soap is thrown out because

A. NaCl is an ionic compound

B. soap is insoluble in the presence of chloride ions

C. the solubility product of NaCl decreases in the presence of soap

D. the solubility product of the soap is exceeded due to the increased concentration of Na^+ ions
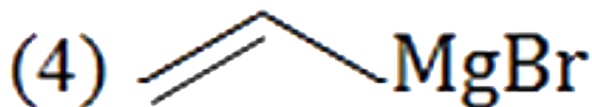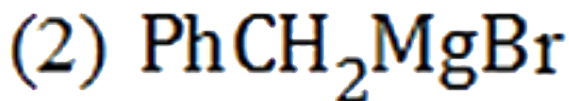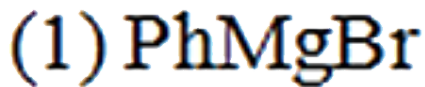
Answer: D

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31. Reactivity of HCHO with the following Grignard reagent in the decreasing order is

(1) PhMgBr

(2) $PhCH_2MgBr$

(1) PhMgBr

(2) $PhCH_2MgBr$

(3) MgBr

(4) MgBr

A. $(4) > (3) > (2) > (1)$

B. $(1) > (2) > (3) > (4)$

C. $(2) > (3) > (1) > (4)$

D. $(2) > (3) > (1) > (4)$

Answer: D

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32. In Purine nucleosides C - 1 of sugar forms glycosidic linkage with which position of purine ?

A. 1

B. 3

C. 9

D. 8

Answer: C

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33. Below critical micelle concentration (CMC):

A. salt behaves as normal electrolyte

B. substance like grease , fat dissolve by emulsification

C. the viscosity of solution is very high

D. surfactant molecules undergo association to form cluster

Answer: A

34. The reaction , $N_2O_4(g) \rightarrow 2NO_2(g)$, is first order reaction , which of the following best describes the variation of concentration of N_2O_4 with time ?

A.

B.

C.

D.
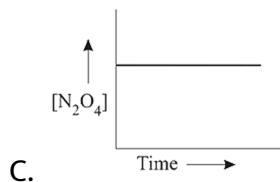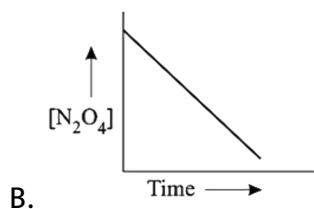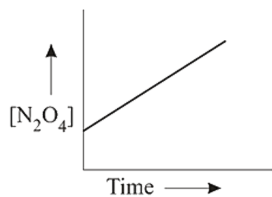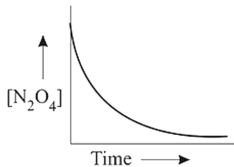
Answer: D

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35. In the given reaction $CH_3CHO \xrightarrow[(ii)\,H_3O^+]{(i)\,HCN\,/\,Ca(CN)_2} [X]$ [X] will be

A. Malonic acid

B. Lactic acid

C. Tartaric acid

D. Mandelic acid

Answer: B

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36. In an experiment during the analysis of carbon compound $145cm^3$ of H_2 was collected at 760 mm Hg pressure and $27°C$ temperature. The weight of H_2 is nearly

A. 10 mg

B. 12 mg

C. 24 mg

D. 6 mg

Answer: B

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37. In sodium nitroprusside the oxidation number, coordination number and EAN of iron are respectively.

[If your answer is 1, 2, 24 then write the answer as 1224]

A. $+3, 6, 36$

B. $+3, 6, 35$

C. $+3, 3, 36$

D. $6, +3, 35$

Answer: B

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38. Allyl chloride on dehydrochlorination gives:

A. Propadiene

B. Propylene

C. Allyl alcohol

D. Propene

Answer: B

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39. A solution which is 10^{-3} M each in $Mn^{2+}, Fe^{2+}, Zn^{2+}$ and Hg^{2+} is treated with 10^{-16} M sulphide ion. If K_{sp} of MnS, FeS, ZnS and HgS are $10^{-13}, 10^{-18}, 10^{-24}$ and 10^{-53} respectively. Which one will precipitate first ?

    A. FeS

    B. MgS

    C. HgS

    D. ZnS

Answer: C

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40. In which of the properties listed below hydrogen does not show resemblance with halogens ?

I Electropositive character

II Electronegative character

III Neutral nature of H_2O

IV. Atomicity

A. I and III

B. I only

C. II and III

D. III and IV

Answer: A

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41. The presence of which of the following in dirking water is responsible for mottling of teeth ?

A. Mercury

B. Iodine

C. Chlorine

D. Fluorine

Answer: D

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42. What is the valency of an element of which the eqivalent weight is 12 and the specific heat is 0.25?

A. 2

B. 3
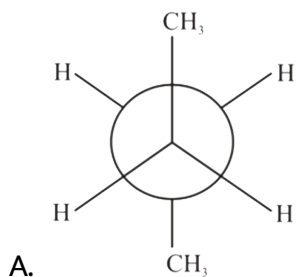
C. 4

D. None of these

Answer: A

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43. Consider the following reaction Glucose $\xrightarrow{\text{Reagent}}$ Mannose The above
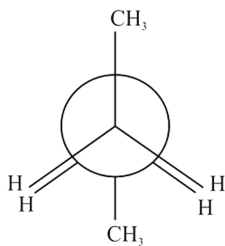
reaction is known as

    A. Anomerisation

    B. Recemisation

    C. Epimerisation

    D. Conversion

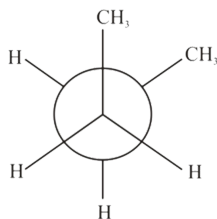**Answer: C**

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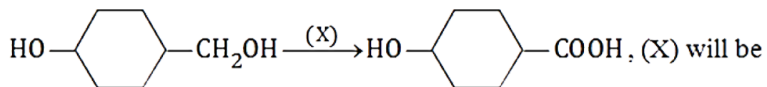**44.** Which of the following conformation of n - butane is chiral ?

A.

B.

C.

D. All of these

Answer: C

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45. In the given reaction

$$HO-\langle\rangle-CH_2OH \xrightarrow{(X)} HO-\langle\rangle-COOH \text{ ; (X) will be}$$

[X] will be

A. Pt/O_2

B. Pd/O_2

C. $X_2 / NaOH$

D. Jones reagent

Answer: B