CHEMISTRY

BOOKS - NTA MOCK TESTS

NTA NEET SET 86

Chemistry

1. The de-Brogile wavelength of a neutron at $927^\circ C$ is λ.

What will be its wavelength at $27^\circ C$?

A. $\dfrac{\lambda}{2}$

B. λ

C. 2λ

D. 4λ

Answer: C

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2. Sulphur reacts with chlorine in $1:2$ ratio and forms X hydrolysis of X gives a sulphure compound Y. What is the hybridisation state od central atom in the compound?
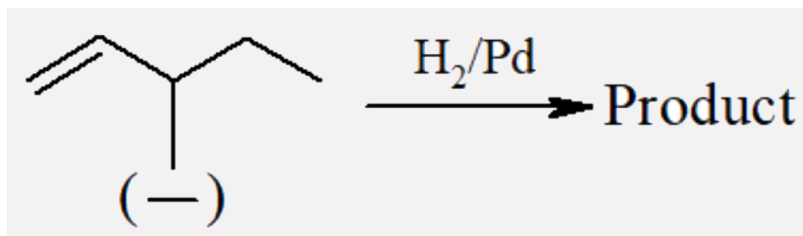
A. sp^3

B. sp

C. sp^2

D. sp^2d

Answer: A

3. In the give reaction

The product is

A. Optically active having (+) rotation

B. Optically active having (-) rotation

C. Optically inactive due to absence of stereocenter

D. Optically inactive because product is meso

Answer: C

4. From 200 mg of CO_2, 10^{21} molecules are removed. How many molecules are left ?

A. 2.73

B. 17.3×10^{21}
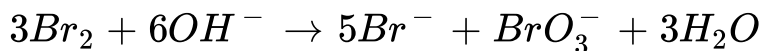
C. 1.73×10^{21}

D. None

Answer: C

5. In the reaction Bromine

$$3Br_2 + 6OH^- \rightarrow 5Br^- + BrO_3^- + 3H_2O$$

A. is reduced

B. is oxidized

C. disproportionates

D. disintegrates

Answer: C

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6. The highest boiling point is expected for:

A. iso - octane

B. n - octane

C. 2,2,3,3 - teramethylbutane
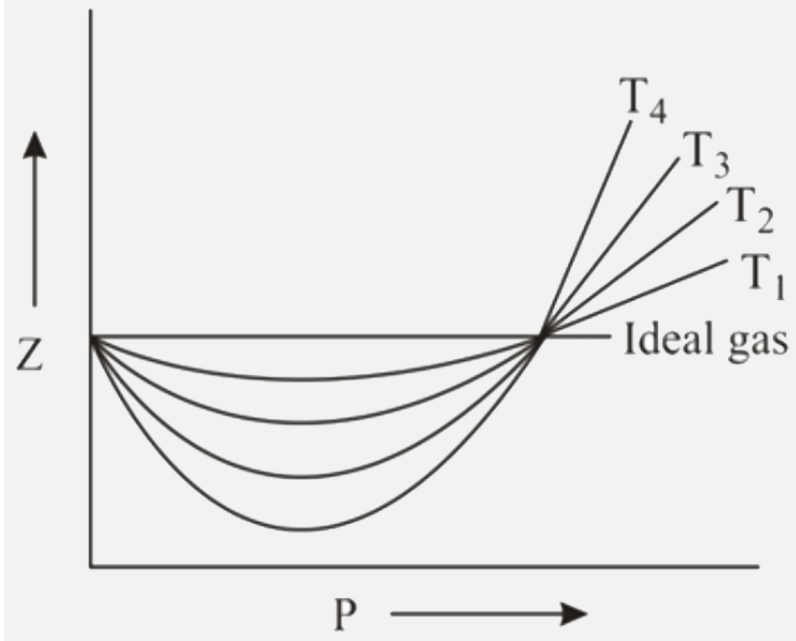
D. n - butane

Answer: B

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7. Compressibility factor (Z) is plotted against pressure at different temperature for same gas

Which of the following is the correct order of temperature shown in the above plot ?

A. $T_4 > T_3 > T_2 > T_1$

B. $T_1 > T_2 > T_3 > T_4$

C. $T_1 > T_2 > T_4 > T_3$

D. $T_3 > T_4 > T_2 > T_1$

Answer: B

8. Anti-Markownikoff's addition of HBr is not observed in

A. propane

B. but - 1- ene

C. but - 2- ene

D. pent - 2 - ene

Answer: C

9. When SO_2 is passed through an aqueous solution of I_2 , it becomes colourless . This is due to

    A. bleaching reaction of SO_2

    B. formation of HIO_2

    C. combination of SO_2 and I_2

    D. formation of NHO_3

Answer: C

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10. The number of manganeses ions in tetrahedral and octahedral sites respectively in Mn_3O_4 are

A. one Mn^{2+} and twoMn^{3+} ions

B. one Mn^{3+} and twoMn^{2+} ions

C. two Mn^{3+} and twoMn^{2+} ions

D. two Mn^{2+} and twoMn^{3+} ions

Answer: A

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11. Which among the following statements is false ?

A. $Ge(OH)_2$ is amphoteric

B. $GeCl_2$ is more stable than $GeCl_4$

C. GeO_2 is weakly acidic

D. $GeCl_4$ in HCl forms $[GeCl_6]^{2-}$ ions

Answer: B

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12. Treatment of propionadehyde with dilute NaOH gives :

A. $CH_3CH_2COOCH_2CH_2CH_3$

B. $CH_3CH_2CHOHCH(CH_3)CHO$

C. $CH_3CH_2CHOCH_2CH_2CHO$

D. $CH_3CH_2COCH_2CH_2CHO$

Answer: B

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13. A monobasic acid of phosphorus , which reduces $HgCl_2$

to balck Hg is

    A. hypophosphorus acid

    B. phosphoric acid

    C. metaphosphoric acid

    D. pyrophosphoric acid

Answer: A

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14.   For   the   reaction,

$N_2(g) + 3H_2(g) \Leftrightarrow 2NH_3(g), \Delta H° = -ve$ the number

of moles of H_2 at equilibrium will increases when

A. volume of vessel is increased

B. volume of vessel is decreased

C. Ne gas is added at constant volume

D. NH_3 is removed

Answer: A

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15. The solubility product of different sparingly soluble salts

are

1. $XY = 4 \times 10^{-20}$

2. $X_2Y = 3.2 \times 10^{-11}$

3. $XY_3 = 2.7 \times 10^{-31}$

The increasing order of solubility is

A. 1,3,2

B. 2,1,3

C. 1,2,3

D. 3,1,2

Answer: A

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16. Which among the given alkenes is most stable ?

A. 1 - butene

B. 2,3 - dimethyl -2- butene

C. cis -2- butene

D. trans - 2- butene

Answer: B

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17. Which of the following complex compound is "Pentaaqucyanidoiron (III) trichloridotricyanido cobaltate (III)" ?

A. $\left[Fe(CN)(H_2O)_5\right]\left[CoCl_3(CN)_3\right]$

B. $\left[Fe(CN)(H_2O)_5\right]\left[CoCl_3(CN)_3\right]_3$

C. $\left[Fe(CN)_2(H_2O)_4\right]_3\left[FeCl_3(cN)_3\right]_2$

D. $\left[Fe(CN)(H_2O)_5\right]_3\left[CoCl_3(CN)_3\right]_2$
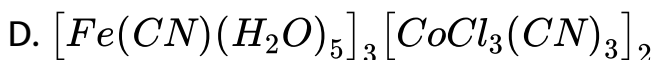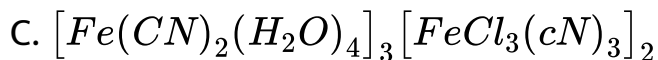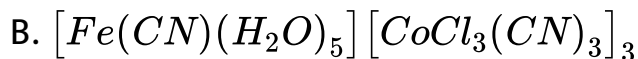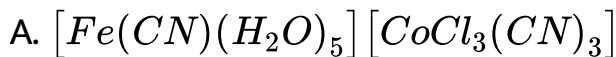
Answer: D

18. Alcohol can be prepared from alken by which of the following reaction

A. Elimination

B. Substitution

C. Reduction

D. Oxidation

Answer: D

19. Given the following data

$$H_2(g) \rightarrow 2H(g), \Delta H = 104.2 kcal$$

$$Cl_2(g) \rightarrow 2Cl(g), \Delta H = 58 kcal$$

$$HCl = H(g) + Cl(g), \Delta H = 103.2 kcal$$
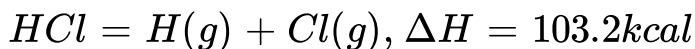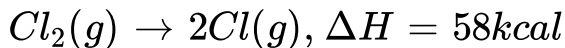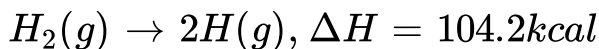
The standard enthalpy of formation of HCl(g) is

A. $-143.2 kcal$

B. $-22.4 kcal$

C. $-22.1 kacl$

D. $58 kcal$

Answer: C

20. The nature of curve of E° cell against log K_C is:

A. a straight line

B. an elliptical curve

C. a hyperbola

D. parabola

Answer: A

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21. Which of the following amine will not respond to carbylamine reaction ?

A. $(CH_3CH_2)_2NH$

B. $(CH_3)_3NH$

C. $C_6H_5NH_2$

D. $(CH_3)_3N$
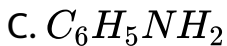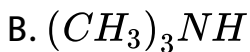
Answer: C

22. According to Einstein's photoelectric equation , the graph between the kinetic energy of photoelectrons ejected and the frequency of incident radiation is

A.

B.

C.

D.

Answer: C

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23. German silver is an alloy of copper and:

A. Zn and Ni

B. Ag

C. Zn

D. Sn

Answer: A

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24. What is the correct order of osmotic pressure of 0.01 M aqueous solution os

(1) $Al_2(SO_4)_3$

(2) K_3PO_4

(3) $BaCl_2$

(4) Urea
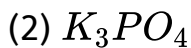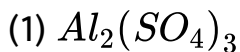
    A. $\pi_4 > \pi_3 > \pi_2 > \pi_1$

    B. $\pi_1 > \pi_2 > \pi_3 > \pi_4$

    C. $\pi_1 = \pi_2 = \pi_3 = \pi_4$

    D. $\pi_2 > \pi_4 > \pi_1 > \pi_3$

Answer: B

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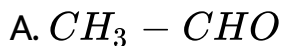
25. Which of the following reaction will aldehyde?

A. $CH_3 - \underset{\underset{CH_3}{|}}{C} = \underset{\underset{CH_3}{|}}{C} - C_2H_5 \xrightarrow[(ii)\ H_2O\ /\ Zn]{(i)\ O_3}$

B. $CH_3 - CH = CH_2 \xrightarrow[\Delta]{CO\ /\ H_2\ /\ Co_2\ (CO)_8}$

C. $CH_3 - CH_2OH \xrightarrow{(NaOH + l_2)}$

D. $CH_3 - C \equiv CH \xrightarrow{HOH\ /\ HgSO_4\ /\ H_2SO_4}$
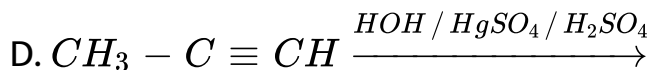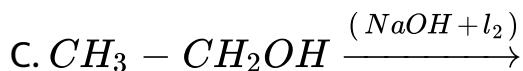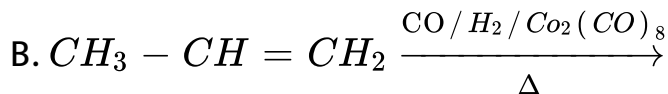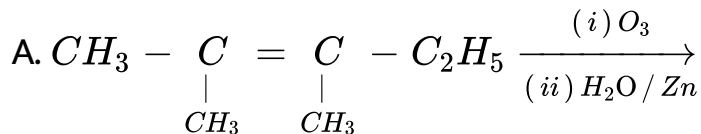
Answer: B

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26. Which of the following compounds will give acetic acid with $KMnO_4\ /\ H^{\oplus}\ /\ \Delta$:

A. $CH_3 - CHO$

B. $CH_3 - CH = CH - CH_3$

C. $CH_3 - C \equiv C - CH_3$
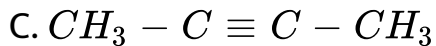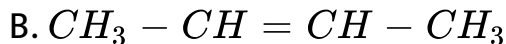
D. All of these

Answer: D

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27. Under the same conditions, how many mL of $1MKOH$ and $0.5MH_2SO_4$solutions, respectively, when mixed to form a total volume of $100mL$, produces the highest rise in temperature?

A. 67,33

B. 33,67

C. 40,60

D. 50,50

Answer: D

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28. Which liberates H_2 with NaOH

A. B

B. Al

C. Zn

D. All

Answer: D

29. Salts of A (atomic mass 15) B (atomic mass 27) and C (atomic mass 48) were electrolysed using same amount of charge . It was found that when 4.5 g of A was deposited , the masses of B and C deposited were 2.7 g and 9.6 g. The valencies of A, B and C were respectively

A. 1,3 and 2

B. 3,1 and 2

C. 2,6 and 3

D. 2,3 and 2

Answer: C

30. To a solution containing equimolar mixture of sodium acetate and acetic acid, some more amount of sodium acetate solution is adde. The pH of mixture solution.

  A. increases

  B. decreases

  C. remains same

  D. none of these can be predicted from given information

Answer: A

31. Which one of the following is β - amino acid ?

A. $CH_3 - \underset{\underset{NH_2}{|}}{CH} - COOH$

B. $NH_2CH_2 - CH_2 - COOH$

C. $NH_2 - (CH_2)_3 - COOH$

D.
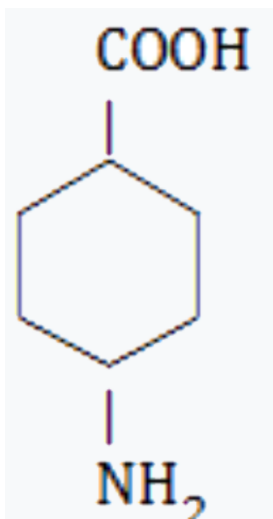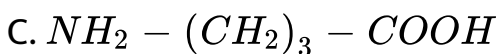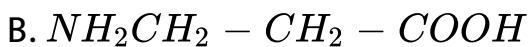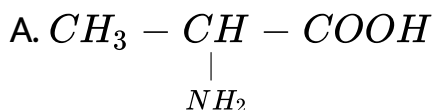
Answer: B

32. Four moles of PCl_5 are heated in a closed 4 dm^3 container to reach equilibrium at 400 K. At equilibrium 50% of PCl_5 is dissociated. What is the value of K_c for the dissociation of PCl_5 into PCl_3 and Cl_2 at 400 K ?
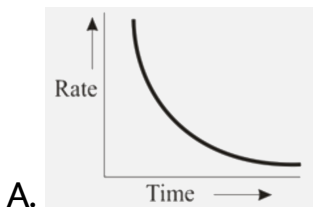
A. 0.50

B. 1.00

C. 1.15

D. 0.25

Answer: A

33. The oxidation of oxalic acid by acidified $KMnO_4$ is an example of autocatalyiss. It is due to which of the following ?
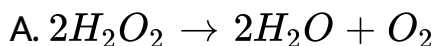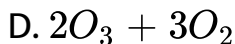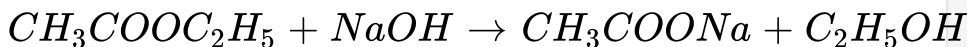

A.

B.

C.

D.

Answer: C

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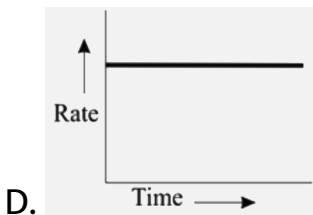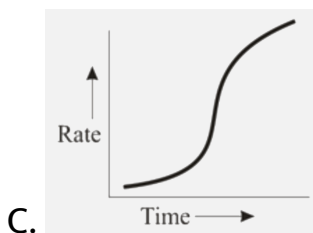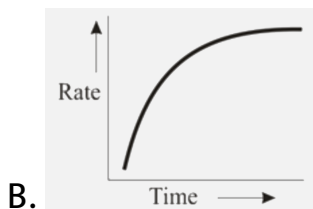
34. Which of the following is pseudo-unimolecular reaction

?

A. $2H_2O_2 \rightarrow 2H_2O + O_2$

B. $C_6H_5N_2Cl + HOH \rightarrow C_6H_5OH + N_2 + HCl$

C.

$$CH_3COOC_2H_5 + NaOH \rightarrow CH_3COONa + C_2H_5OH$$

D. $2O_3 + 3O_2$
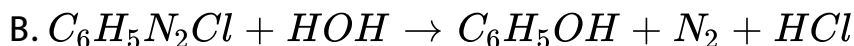
Answer: B

35. Which of the following compounds can form alcohol with $NaNO_2 / HCl$?

A. $CH_3 - \underset{\underset{CH_3}{|}}{\overset{\overset{CH_3}{|}}{C}} - NH_2$

B. $CH_3 - \underset{\underset{CH_3}{|}}{C} - NH_2$
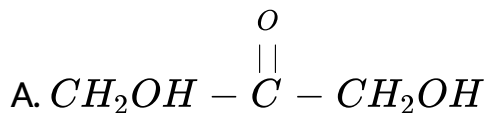
C. $CH_3 - CH_2 - NH_2$
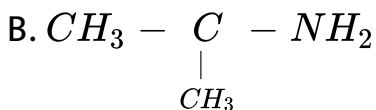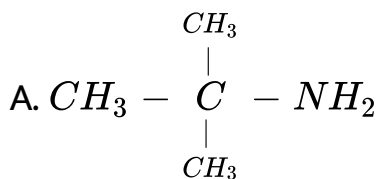
D. All of these

Answer: D

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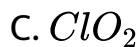**36.** Which the one of the following is first member of monosaccharides ?

A. $CH_2OH - \overset{\overset{\displaystyle O}{\|}}{C} - CH_2OH$

B. $HOCH_2 - CHOH - CHO$

C. $HOCH_2 - CHOH - CHOH - CHO$

D. $HOCH_2 - CHOH - \overset{\overset{\displaystyle O}{\|}}{C} - CH_2OH$
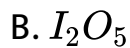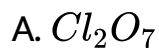
Answer: B

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37. Which of the following halogen oxide is used for estimation of carbon monoxide in automobile exhaust

gases?

A. Cl_2O_7
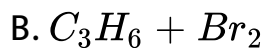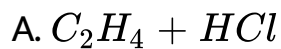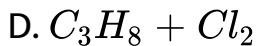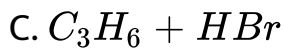
B. I_2O_5

C. ClO_2

D. BrO_3

Answer: B

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38. Markownikoff rule is best applicable to

A. $C_2H_4 + HCl$

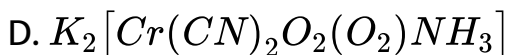B. $C_3H_6 + Br_2$
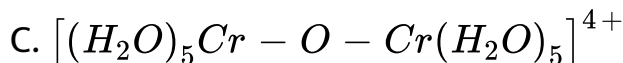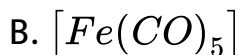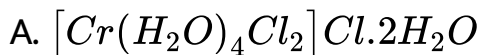
C. $C_3H_6 + HBr$

D. $C_3H_8 + Cl_2$

Answer: C

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39. In which of the following coordmation compounds do the transition metals have an oxidation number of +6?
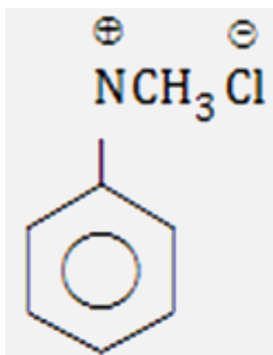
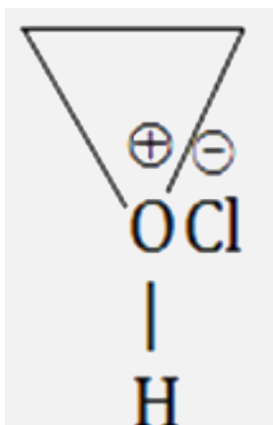A. $[Cr(H_2O)_4Cl_2]Cl.2H_2O$

B. $[Fe(CO)_5]$

C. $[(H_2O)_5Cr - O - Cr(H_2O)_5]^{4+}$

D. $K_2[Cr(CN)_2O_2(O_2)NH_3]$

Answer: D

40. Which one of the following is a Zwitter ion?

A.

B.

C.

D. $\overset{\oplus}{Na}\overset{\ominus}{Cl}$
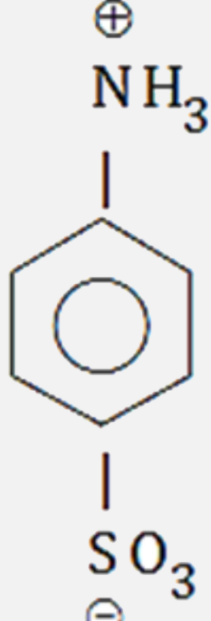
Answer: C

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41. Poiling process is used for:

A. The removal of Cu_2O from Cu

B. The removal of Al_2O_3 from Al

C. The removal of Fe_2O_3 from Fe

D. All of these

Answer: A

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42. Which of the following statement is correct here

A. $AgBr$ can show both Schottky and Frenkel defects
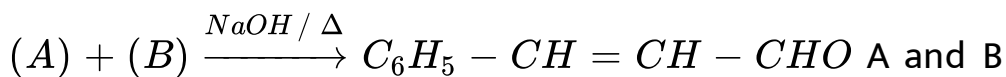
B. ZnO on heating shows metal excess defects

C. MnO_2 is ferromagnetic substance
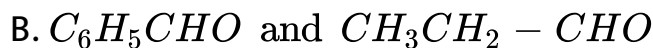
D. Both A and B are correct

Answer: D

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43. In the given reaction

$$(A) + (B) \xrightarrow{NaOH / \Delta} C_6H_5 - CH = CH - CHO$$ A and B

will be

A. C_6H_5CHO and $HCHO$

B. C_6H_5CHO and $CH_3CH_2 - CHO$

C. $C_6H_5 - CHO$ and $CH_3 - CHO$

D. $C_6H_5 - CH_2 - CHO$ and $CH_3 - CHO$

Answer: C

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44. The structure of $[BeF_4]^{-2}$ is

A. tetrahedral

B. octahedral

C. square planar

D. linear

Answer: A

45. Half life of a reaction becomes half when intial concentrations of reactants are made double. The order of

the reaction will be:

A. 1

B. 2

C. 0

D. 3

Answer: B