CHEMISTRY

BOOKS - NIKITA CHEMISTRY (HINGLISH)

HALOALKANES AND HALOARENES

Multiple Choice Questions

1. Halogen derivatives of alkane is known as

A. alkyl halides

B. alkenyl halides

C. alkynyl halides

D. aralkyl halides

Answer: A

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2. 1,2-dichloroethane is known as

A. geminal dihalide

B. vicinal dihalide

C. haloform

D. all of the above

Answer: B

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3. Which is the IUPAC name of $CH_3 - \overset{\overset{C_2H_3}{|}}{\underset{\underset{C_2H_5}{|}}{C}} - CH_2Cl$

A. 1-chloro-2, 2-diethylpropane

B. 3-chloro-2, 2-diethylpropane

C. 1-chloro-2-ethyl-2-methylbutane

D. 1-chloro-2, 2-diethyl -2-methylethane

Answer: C

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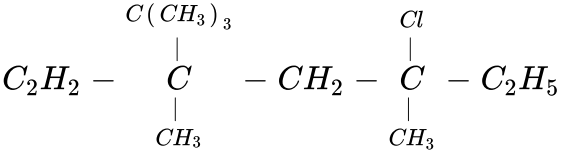
4. Given the IUPAC name of



A. 3-chloro -3,5-dimethyl-5-t-butylheptane

B. 3-chloro-5-ethyl-3, 5, 6, 6-tetramethyl heptane

C. 5-chloro-2, 2, 3, 5-tetramethyl-3-ethylheptane

D. 5-chloro-3, 5-dimethyl-3-t- butylheptane

Answer: B

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5. $CH_2 - X$ is presentation of

A. $1^\circ R - X$

B. $2^\circ R - X$

C. $3^\circ R - X$

D. $4^\circ R - X$

Answer: A

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6. IUPAC name of isobutyl halide is

A. 2-halopropane

B. 2-halo-2-methylpropane

C. 1-halo-2-methylpropane

D. 2-halobutane

Answer: C

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7. IUPAC name of neo-pentyl halide is

A. 2-halopropane

B. 2-halo-2-methylpropane

C. 1-halo-2-methylpropanes

D. 2-halobutane

Answer: B

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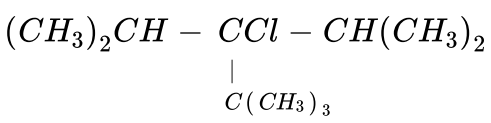
8. IUPAC name of following compound is



A. 3-chloro-3, 4-dimetyl -3-(2-methyl-2-propyl) pentane

B. 3-chloro2-, 2, 4-trimethyl-3-(2-propyl) pentane

C. 3-chloro-2,4, 4-trimethyl -3-(2-propyl)

D. 3-chloro-2, 4-dimethyl -3 -(2-methy- 2-propyl) pentane

Answer: B

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9. Structure of 2-methyl 2-halo butane is

A. $CH_3 - CX(CH_3)C_2H_5$

B. $CH_3 - CH_2 - CX(CH_3)C_2H_5$

C. $CH_3CX(CH_3)CH_3$

D. $CH_3 - CHXC_2H_5$

Answer: A

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10. Alkyl halide exhibit

A. optical isomerism

B. poistion is

C. chain isomerism

D. all of the above

Answer: D

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11. $CH_3CHClCH_3CH_3$ and $CH_3CH_2CH_2Cl$ shows which type of isomerism,

A. functional

B. chain

C. position

D. metamer

Answer: C

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12. An organic compound of structure $CH_3CH_2CH_2CH_2Cl$ shows chain isomer of compound of structural formula,

A. $(CH_3)_3CCl$

B. $CH_3CH_2CHClCH_3$

C. $(CH_3)_2CHCH_2Cl$

D. none of these

Answer: C

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13. Of the possible structure of the molecular formula $C_5H_{11}Br$ how many are opticllay active ?

A. 1

B. 4

C. 5

D. 3

Answer: D

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14. How many isomeres are possible for compounds having the molecular formubal $CH_5H_{11}Br$

A. nine

B. eight

C. six

D. seven

Answer: B

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15. A saturated compound $C_2H_4Cl_2$ permits the existence of,

A. Optical isomerism

B. Cis-trans isomerism

C. position isomerism

D. functional isomerism

Answer: C

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16. CH_3CN and CH_3NC are,

A. position isomers

B. chain isomers

C. functional isomers

D. metamers

Answer: C

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17. How many structural isomeric secondary alkyl halides aer possible for C_4H_9X

A. 0

B. 1

C. 2

D. 3

Answer: B

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18. $CH_3 - CH_2 - CH_2 - Cl$ and $CH_3 - CHCl - CH_3$ are

A. chain isomers

B. position isomers

C. optical isomers

D. metamers

Answer: B

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19. 1-butene and 2- butene are_____isomers.

A. position isomers

B. chain isomers

C. geomtrical isomers

D. metamers

Answer: A

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20. Toltal number of isomeric alkyl halide can be calculate by formula

A. $I = 2^{n-1}$

B. $I = 2^{n-2}$

C. $I = 2^{n}$

D. $I = 2^{n-3}$

Answer: B

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21. C_3H_7X represents

A. 1° and $2^\circ R - X$

B. 1° and $3^\circ RX$

C. 2° and $3^\circ RX$

D. only $2^\circ RX$

Answer: A

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22. C_3H_7X shows

A. optical isomerism

B. chain isomers

C. position isomerism

D. position isomerism

Answer: C

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23. C_4H_9X represents

A. 1° and $2^\circ R-X$

B. 1° and $3^\circ RX$

C. 2° and $3^\circ RX$

D. $1^\circ, 2^\circ, 3^\circ RX$

Answer: D

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24. How many $1^\circ RX$ are possible for molecular formula C_4H_9X?

A. 2

B. 3

C. 1

D. 4

Answer: A

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25. How many isomers are possible for C_4H_9X ?

A. 1

B. 2

C. 3

D. 4

Answer: D

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26. C_4H_9X shows

A. chain isomerism

B. position isomerism

C. optical isomerism

D. all of these

Answer: D

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27. How many isomers are possible for molecular formula C_3H_7X ?

A. 2

B. 3

C. 4

D. 5

Answer: A

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28. Which isomers of C_4H_9X shows optical isomerism ?

A. n-butyl halide

B. iso-butyl halide

C. sec-butyl halide

D. t-butyl halide

Answer: C

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29. 1-halobutane and 2-halobutane are

A. chain isomers

B. poistion isomers

C. functional isomers

D. metamers

Answer: B

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30. The reaction

Alcohol $+HCl \Leftrightarrow$ lakyl halide $+H_2O$ for completion of reaction is used

A. anhy $ZnCl_2$

B. conc. H_2SO_4

C. excess of water

D. $CaCl_2$

Answer: A

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31. How many stereoisomers are possible for chlorination of C_5H_{12} ?

A. 3

B. 4

C. 5

D. 6

Answer: D

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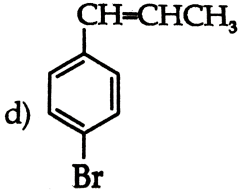
32. The reaction of $C_6H_5CH = CHCH_3$ with HBr produces :

A. $C_6H_5 - \underset{\underset{Br}{|}}{C}HCH_2 - CH_3$

B. $C_6H_5 - CH_2 - \underset{\underset{B}{|}}{C}HCH_3$

C. $C_6H_5 - CH_2 - CH_2 - CH_2 - Br$

D. d) 

Answer: A

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33. The synthesis of alkyl fluoride is best accomplished by:

A. Free radical fluorination

B. Sandmeyers reaction

C. Finkelstein reaction

D. Swart reaction

Answer: D

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34. During conversion of alcohol to monoiodo alkane which of the following is used

A. alc. Nal

B. NaI / H_3PO_4

C. NaI in ether

D. $NaI \text{in} H_2O$

Answer: B

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35. During conversion of isopropyl alcohol to isopropyl iodid which of the following is not used

A. NaI / H_3PO_4

B. KI / H_3PO_4

C. $MaI + H_2SO_4$

D. HI

Answer: C

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36. Addition of HBr gives same product in the presence or absence of peroxide when alkene is

A. 1-butuene

B. isobutylene

C. 2,3-dimethyl-2-butene

D. propene

Answer: C

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37. The intermediate during the addition of HCl to propene in the presence of peroxide is :

A. $CH_3 - \dot{C}H - CH_2 - Cl$

B. $CH_3 - CH_2 - \dot{C}H_2$

C. $CH_3 - \overset{+}{C}H - CH_3$

D. $CH_3 - CH_2 - CH_2^+$

Answer: C

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38. Purk alkyl bromide is formed from bromination of which alkane ?

A. iso-butane

B. ethane

C. propane

D. 2-methyl butane

Answer: B

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39. In which of the following compound antimarkownikoff's rule is not possible

A. $CH_2 - CH - CH_3$

B. $CH_3 - CH_2 - CH = CH_2$

C. $(CH_3)_2C = CH_2$

D. $CH_3 - CH = CH - CH_3$

Answer: D

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40. Which isomer of C_4H_8 produces same compoun with HBr in presence and absence of peroxide ?

A. 1-butuene

B. 2-butene

C. Isobutylene

D. Propene

Answer: B

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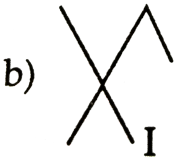
41. Addition of Hi in 2-methyl but- 1-en gives

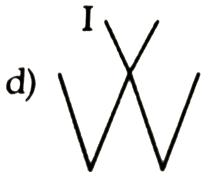
A.

B.



C.

D.



Answer: B

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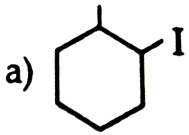
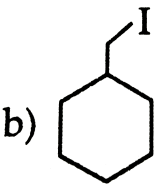
42. Addition of HI in methylene cyclohexane gives

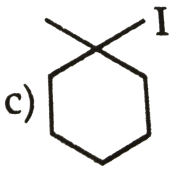
A.



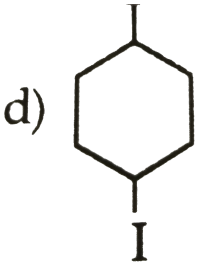
B.



C.



D.



Answer: C

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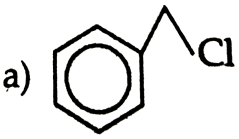
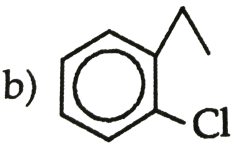
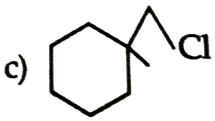
43. 1-phenyl ehtene is reacted with HCl gives

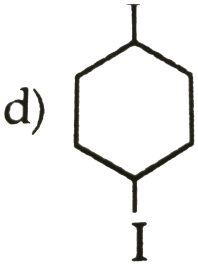
A.



B.



C. 

D. 

Answer: D

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44. Which of the following halogen-exchanged reaction is possible ?

A. $R - I + NaCl \rightarrow$

B. $R - F + KCl \rightarrow$

C. $CH_3F + HBr \rightarrow$

D. $RCl + Nacl \rightarrow$

Answer: D

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45. Frinkelestein reaction is used to prepare

A. R-F

B. R-Cl

C. R-Br

D. R-I

Answer: D

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46. Reagent used in Finkestein reaction is

A. NaI in dry acetone

B. HI in dry acetone

C. NaOI in dry acetone

D. NaI in dry ether

Answer: A

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47. Cyclopentyl bromide is reacted with NaI in dry acetone gives

A. cylopentyl sodium iodide

B. cylopentane

C. cyclopentane

D. cyclopentyl iodide

Answer: C

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48. Beznyl iodide is obtained from benzyl brimide by sing

A. HI in ether

B. HI in dry acetone

C. NaI in ether

D. NaI in dry ether

Answer: D

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49. Chlorination of an alkane involves the attack of

A. an electrophile

B. a base

C. a nucleophile

D. a free radical

Answer: D

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50. The product of reaction of alcoholic silver acetate and ethyl bromide is,

A. methyl acetate

B. ethyl acetate

C. ethyl methyl ether

D. ethyl alcohol

Answer: B

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51. Butane nitrile may be prepared from alcoholic KCN and what ?

A. n-propyl bromide

B. n-butyl bromide

C. n-butyl alcohol

D. n-propyl alcohol

Answer: A

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52. The number of isomers obtained on monochlorination of propane

A. 4

B. 3

C. 2

D. 1

Answer: C

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53. The typical reaction of olefinic bond is

A. electrophilic substitution reaction

B. electrophilic addition reaction

C. nucleophnilic substitution reaction

D. nucleophilic addtion reaction

Answer: B

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54. Which of the following compounds yields only one product on monobromination ?

A. Neopentane

B. Propane

C. n-butane

D. iso-butane

Answer: A

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55. The reaction conditions leading to the best yield of C_2H_5Cl are

A. $C_2H_{6\,(\text{excess})} + Cl_2 \xrightarrow{U.V.\,\text{light}}$

B. $C_2H_6 + Cl_2 \xrightarrow{\text{dark}}$

C. $C_2H_{6\,(\text{excess})} + Cl_2 \xrightarrow{U.V.\,\text{light}}$

D. $C_2H_6 + Cl_2 \xrightarrow{U.V.\,\text{light}}$

Answer: A

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56. Reaction of alkanes with halogen is explosive in case of

A. Cl_2

B. Br_2

C. I_2

D. F_2

Answer: D

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57. Peroxide effe is observed

A. only with HBr

B. with both HCl and HBr

C. only with HI

D. with both HCI and HF

Answer: A

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58. The reaction $CH_3CH = CH_2 + HBr \xrightarrow{M.R}$ mainly gives

A. 2-bromopropane

B. 2,2-dibromoproane

C. 1-bromopropane

D. 1,2-dibromopropane

Answer: A

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59. The reaction $CH_3CH = CH_2 + HBr \xrightarrow{\text{peroxide}}$ mainly gives

A. 2-bromopropane

B. 2,2-dibromopropane

C. 1-bromopropane

D. 1, 2-dibromopropane

Answer: C

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60. Additon of HCl to t-butene in presence of R_2O_2 fomrs

A. 2-chlorobutane

B. 1-chlorobutane

C. 2,2-dichlorobutane

D. 2,3-dichlorobutane

Answer: A

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61. Correct orderof increasing reactivity of HX towareds alkenes is

A. $HF < HBr > HI > HCl$

B. $HF < HBr < HCl < HCl$

C. $HF < Hl < HBr < HCl$

D. $HF < HCl < HBr < Hl$

Answer: D

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62. The compound which reacts with HBr obeying Markownikoff's rule is

A. $CH_2 = CH_2$

B. $CH_3CH = CHCH_3$

C. $(CH_3)_2C = CH_2$

D. all of these

Answer: C

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

A. propene

B. 2-butene

C. 1-butene

D. vinyl chloride

Answer: B

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64. Which one of the following compounds will give in the presence of peroxide a product different from that obtainded in the absence peroxide ?

A. 1-butene, HCl

B. 2-butene, HCl

C. 1-butene, HBr

D. 2-butene, HBr

Answer: C

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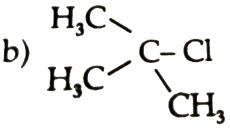
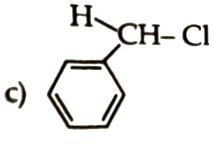
65. In which of the following compounds, the C-Cl bond ionisation shall give most stable carbonium ion ?

A. $CH_3 - \overset{\overset{Cl}{|}}{C}H - CH_3$

B.



C.



D. $O_2N - CH_2 - CH_2 - Cl$

Answer: C

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66. Which does not give alkyl bromide ?

A. $CH_3OH + HBr$

B. $CH_3OH + PBr_3$

C. $CH_3 = CH_2 + HBr$

D. $CH_3COOH + PBr_3$

Answer: D

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67. Which reagent cannot be used to prepare haloakane from an alcohol ?

A. HCl

B. HBr

C. HI

D. Br_2

Answer: D

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68. An alkane with moelcular mass 30 a. m. u. when brominate gives only on monobromiated product. The alkane is

A. pentane

B. ethane

C. butane

D. hexane

Answer: B

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69. Only two isomeric monochloro derivative are possible for

A. n-hexane

B. 2-methyl propane

C. n-heptane

D. 2-methyl butane

Answer: B

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70. In the chorination of isobutane (2-methyl propane) the major product is

A. $CH_3CH_2CH_2Cl$

B. $CH_3CH(CH_3)CH_2Cl$

C. $CH_3CH_2CH(CH_3)Cl$

D. $(CH_3)_3CCl$

Answer: D

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71. When prepane is treated with HCl in the presence of peroxide gives

A. $CH_3CH_2CH_2l$

B. $CH_3CHClCH_3$

C. $(CH_3)_2\mathbb{C}l$

D. CH_3CH_2Cl

Answer: B

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72. Hydrocarbon (A) reacts with bromine by substitution to form an alkyl bromide which by Wurtz reaction is converted to gaseous hydrocarbon containing less than four carbon atoms. A is

A. CH_4

B. $CH_2 = CH_2$

C. $CH \equiv CH$

D. C_2H_6

Answer: A

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73. When a hydrocarbon (A) is treated with Br_2 gives (B). The compound (B) is treated with Na metal in ether gives 2,3- dimethyl butane. The compound (A) is

A. $CH_3 - CH_3$

B. CH_4

C. $CHH_3CH_2CH_3$

D. $CH_3CH(CH_3)CH_3$

Answer: C

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74. Select correct statement (s) about following reaction :

$$C_2H_5O^- + CH_3CH_2\overset{\overset{Br}{|}}{C}HCH_3 \xrightarrow{C_2H_5OH}$$

A. It is termed as β- elimination reaction

B. $C_2H_5O^-$ is a Bronsted -base

C. Produced are 1-butene and 2-butene

D. All are correct statements

Answer: D

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75. $C_3H_8 + Br_2 \xrightarrow{AlBr_3} A$ (major product)

$C_2H_5ONa + A \rightarrow B.$

What is B in above reaction ?

A. $CH_3CH_2CH_2OC_2H_5$

B. $CH_3CH = CH_2$

C. $(CH_3)_2CHOC_2H_5$

D. all of the above

Answer: B

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76. $\underset{(I)}{CH_3 - CH_2} - CH = CH_2 \qquad \underset{(II)}{CH_3 - CH} = CH_2$

In additon of HBr in I and II

A. Br is at C_2 in both the case

B. Br is art C_2 in II and at C_1 in I

C. Br is at C_2 in II and at C_1 in II

D. Br is at C_1 in both the cases

Answer: A

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77. In the preparation of iodethane form ethane which of the following is uded

A. HI and HgO

B. PI_3

C. Only HI

D. I_2 and HIO_3

Answer: D

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78. Preparation of lakyl halide in laboratory is least preferred by,

A. direct halogenation of alkane

B. action fo $PX_3 PX_5$ on alohol

C. addition of HX in alkene

D. action of $SOCl_2$ on alcohol

Answer: A

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79. Which of following compounds will give 1° alkyl halide and 3° alkyl halide on monohalogation ?

A. pentane

B. 2-methyl propane

C. 2,3 dimethyl butane

D. n-butane

Answer: C

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80. Which of the following will give $1^{\circ}, 2^{\circ}, 3^{\circ}$, monobromo derivative ?

A. $CH_3CH_2 - CH_2 - CH(CH_3)CH_3$

B. $CH_3CH_2CH_2 - CH_2 - CH_3$

C. $CH_3CH_2 - C(CH_3) - CH_3$

D. $CH_3 - CH(CH_3)CH(CH_3)CH_3$

Answer: A

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81. Compound A of formula C_8H_{18} forms mainly 3-chloro 2,2,3-tri methyl penetane on monohalogenation. The compund (A) is

A. n-octane

B. 2-methyl heptane

C. 3-methyl heptane

D. 2,2,3-trimethyl penatane

Answer: D

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82. Vinly chloride undergoes

A. addition reaction

B. elimination reaction

C. substitution reaction

D. none of these

Answer: A

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83. Ethyl bromide can be obtained by the action of HBr on

A. acetylene

B. propene

C. ethane

D. ethanol

Answer: D

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84. Halogenation of alanes is

A. a reductive process

B. on oxidative process.

C. an isothermal process

D. an indothermal process

Answer: B

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85. Ethyl bromide can be obtained by the action of HBr on

A. ethane

B. propene

C. ethene

D. acetylene

Answer: C

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86. When 2-propanol is treated with red phosphorus and bromine gives

A. 1-bromo propane and H_3BO_3

B. 2-bromo propane and H_3BO_3

C. 2-bromo propane and H_3PO_3

D. 1-bromo propane and $POBr_3$

Answer: C

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87. In the reaction $C_2H_5CH = CH_2 + HX \rightarrow$ product. Wha is the product ?

A. $C_2H_5CH_3$

B. $C_2H_5CH_2 - CH_2X$

C. $C_2H_5 - CHX - CH_3$

D. $CH_3 - CH_2X - CH = CH_2$

Answer: C

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88. The reaction $CH_4Cl_2 \xrightarrow{\text{U.V. light}} CH_3Cl + HCl$ is an example of

A. addition reaction

B. substitution reaction

C. elimination reaction

D. rrerrangmenet reaction

Answer: B

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89. Alkynes usually show which type of reaction ?

A. Addition

B. Substitution

C. Elimination

D. none of these

Answer: A

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90. When ethyl alcohol is reacted with PCl_5 gives

A. Cl_3CHO

B. CCl_3CHO

C. CH_3CH_2Cl

D. CH_3COCH_3

Answer: C

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91. Conversation of CH_4 to CH_3CHl is an example of which of the following reactions ?

A. Free radical addition

B. Free radical substitution

C. Nucleophilin substitution

D. electrophili substitution

Answer: B

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92. 'The addition of unsymmertial reagent to unsymmetrical alknes occurs in such a way that the negative part of the addendum goes to that carbon atom of the double bond which carreis lesser number of hydrogen atoms'' is called by

A. Saytzeff rule

B. Markownikoff's rule

C. Kharasch effect

D. Anti-saytzeff rule

Answer: B

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93. The starting substance for the preparation of 2-iodoprpane by hydroodination is

A. $CH_3CHOHCH_3$

B. $CH_3 - CH = CH_2$

C. C_2H_5CHO

D. CH_3COOH_3

Answer: B

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94. Bromination of alkane in the presence of $AlBr_3$ is an example of,

A. free radical substitution

B. electrophilic substitution

C. addition

D. nucleophilic substitution

Answer: B

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95. The compound which reacts with HBr obeying Markownikoff's rule is

A. $CH_2 = CH_2$

B. $CH_3CH = CHCH_3$

C. $(CH_3)_2C = CH_2$

D. CH_3COCH_5

Answer: C

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96. HBr is added to $CH_3CH = CH_2$ in the presence of peroxide. The resultant product, is,

A. $C_2H_5CH_2Br$

B. $CH_3CHBRCH_3$

C.

D. none of these

Answer: A

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97. Which of the following is non-ionic reaction ?

A. $R-H+Br_2 \xrightarrow{AlBr_3}$

B. $R-H+Br_2 \xrightarrow{\text{U.V.light}}$

C. $CH_2=CH_2+HBr \rightarrow$

D. $R-X+OH^- \rightarrow$

Answer: B

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98. Pure alky chloride can be obtaned from alkanol by the eaction of

A. PCl_5

B. PCl_3

C. $SOCl_2$

D. HCl

Answer: C

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99. Select correct statement

A. HCl and HF do not form free radical due to more bond energy

B. HI with a minimum bond energy is very reactive and instead forms iodine

C. both of above

D. none of these

Answer: C

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100. The staring substane for the preparation of CH_3 is

A. CH_3OH

B. C_2H_5OH

C. CH_3CHO

D. $(CH_3)_2CO$

Answer: A

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101. The reagent used in the conversion of 1-butanol to 1-bromobutane is :

A. $CHBr_3$

B. Br_2

C. CH_3Br

D. PBr_3

Answer: D

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102. 2-Methylbutane on reacting with bromine in the presene of $AlBr_3$ gies mainly

A. 2-bromo 2-methylbutane

B. 1-bromo 2-methylbutane

C. 1-bromo 3-methylbutane

D. 1-bromo 3-methylbutane

Answer: A

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103. The addition of HCl in propene proceeds via

A. Cl^+ in first stpe

B. H^+ in first step

C. H^- in first step

D. Cl^+ and H^+ in single step

Answer: B

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104. In the following atom

$1Cl \quad 2F \quad 3Br \quad 4I$

The order of leving group ability is

A. $4 > 3 > 2 > 1$

B. $1 > 2 > 3 > 4$

C. $4 > 1 > 2 > 3$

D. $4 > 3 > 1 > 1$

Answer: D

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105. Boiling point of alkyl halides in influenced by

A. London force of attraction

B. dipole-dipole attraction

C. both of the above

D. none of the above

Answer: C

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106. $CH_3 - \underset{\underset{Br}{|}}{CH} - CH_2 - CH_3$ is obtained by bromination of n-butane.

The catyls is

A. U.V. light

B. $AlBr_3$

C. $LiAlH_4$

D. $Sn +$ conc HCl

Answer: B

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107. Isopropyl chloride undergoes hydrolysis by :

A. SN^{-1} reaction

B. SN^2 reaction

C. both SN^1 and SN^2 reaction

D. neither SN^1 and SN^2 reaction

Answer: C

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108. Among the following, the molecule with the highest dipole moment is :

A. $CH_3 - Cl$

B. CH_2Cl_2

C. $CHCl_3$

D. CCl_4

Answer: A

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109. Isopropyl magnesiumbromide with dry ether an methanol gives

A. $CH_3 - \underset{\underset{OH}{|}}{CH} - CH_2 - CH_3$ and $CH_3 - CH_2 - MgBr$

B. $CH_3 - CH_2 - CH_3$ and $CH_3 - CH_2 - OMgBr$

C. $CH_3 - CH_2 - CH_3$ and CH_3OMgBr

D. $CH_3 - \underset{\underset{CH_3}{|}}{CH} - CH_3$ and CH_3 and CH_3OMgBr

Answer: C

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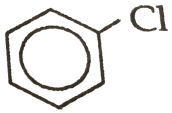
110. Which one of the following is most reactive towares unimolecular nucleophilic substituion reaction ?

A. $CH_2 = CH - Cl$

B. b) 

C. $CH_3 - CH = CH - Cl$

D. $CH_2 = CH = CH_2 - Cl$

Answer: D

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111. The order of reactivity of following alkyl halide in SN^2 reaction is

A. $R - I > R - Br > R - Cl > R - F$

B. $R - F > R - Cl > R - Br > R - I$

C. $R - I > R - CI > R - Br > R - F$

D. $R - I > R - F > R - Br > R - CI$

Answer: A

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112. $(CH)_3)_2C-$ MgBr reaction with H_2O produced

A. $(CH_3)_2CH$

B. $(CH_3)_3CH$

C. $(CH_3)_3COH$

D. $(CH_3)_3OH$

Answer: A

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113. Which of the following gives SN^1 reaction more easily ?

A. CH_3Cl

B. $C_6H_5CH_2Cl$

C. $CH_2=CH-CH_2-Cl$

D. $CH_2=CH-Cl$

Answer: B

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114. Select correct statement (s) :

A. strongest force of attraction in alkyl halide is the London force

B. London fore is a surface attraction

C. Molecules with larger surface area have higher b.p

D. All of the above are correct statements

Answer: D

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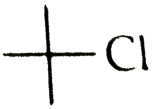
115. Which chlorine atom is more electronegative in the following ?

A. a) 

B. b) 

C. c) 

D. d) 

Answer: C

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116. $CH_3 - X\nu^- \rightarrow CH_3 - Nu + X^-$

The decreasing order of the rate of above reaction with X is

1 Cl $2F$ $3Br$ $4I$

A. $1 > 2 > 3 > 4$

B. $4 > 3 > 2 > 1$

C. $4 > 3 > 1 > 2$

D. $1 > 4 > 2 > 3$

Answer: C

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117. Which among the following has highest B.P. ?

A. a) 

B. b) 

C. c) 

D. d) 

Answer: B

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118. An alkyl halide by the formation of its grignards reagent and heating with water gives butane. What is the original alkyl halide ?

A. Methyl iodide

B. n-butyl iodide

C. Iso-butyl iodide

D. Iso-propyl iodide

Answer: B

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119. Ethyl cloride reacts with sodium ethoxide to form a compound (A)Which of the following reaction also yields (A) ?

A. $C_2H_5 + KOH(alc)$

B. $2C_2H_5OH + concH_2SO_4, 140^\circ C$

C. $C_2H_5Cl + Mg$ dry ether

D. $C_2H_2 + dil.\ H_2SO_4, HgSO_4$

Answer: B

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120. In the reaction

$$C_2H_5 - X + KCN \xrightarrow{alc} A \xrightarrow{dil.HCl} B$$

The product B is

A. $C\_(2)H_5 - CH_2NH_2$

B. $C_2H_5 - Cl$

C. C_2H_5COOH

D. C_2H_5CHO

Answer: C

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121. The number of monochloro product obtained during the reaction of 2,3-dimethyl butane with Cl_2 in presence of sunlight is : (do not consider optical isomers)

A. 2

B. 3

C. 4

D. 5

Answer: A

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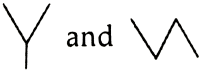
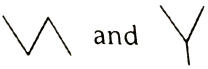
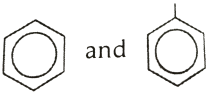
122. In which of the following pairs, the bromination of first member is easier than the second member ?

A. a)  and

B. CH_4 and C_2H_6

C. c)  and

D. d)  and

Answer: A

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123. Lesst reactive alkyl halide towards SN^2 mechanism is

A. $(CH_3)_3CH - CH_2 - Br$

B. $(CH_3)_2CH - CH - BrCH_3$

C. $(CH_3)_3C - CH_2 - CH_2 - Br$

D. $(CH_3)_3C - \underset{\underset{C(CH_3)_3}{|}}{CH} - CH_2 - Br$

Answer: B

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124. Swart reaction is used to prepare

A. R-F

B. R-Cl

C. R-Br

D. R-I

Answer: A

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125. In finklestein reaction alkyl chloride is converted in to

A. R-F

B. R-I

C. R-Br

D. R-OH

Answer: B

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126. In Swarts reactiion reagent used is are/

A. AgF

B. Ag_2F_2

C. COF_2

D. one of these

Answer: D

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127. Which of the following is Swart reaction ?

A. $R-Br+NaI \xrightarrow{\text{dry acetone}}$

B. $R-OH-+HCl \xrightarrow{\text{Anhy}ZnCl_2}$

C. $R-X+NH_3 \xrightarrow{\text{alc.\& excess}}$

D. $R-Cl+HgF_2 \rightarrow$

Answer: D

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128. Accroding to polarity, the expeceted reactivity of R-X is

A. $R-Cl > R-Br > R-I$

B. $R - l > R - I > R - Br$

C. $R - I > R - Br > R - Cl$

D. $R - Br - \ > R - I > R - Cl$

Answer: A

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129. The actual order of reactivity ofalkyl halide is

A. $R - Cl > R - Br > R - I$

B. $R - I > R - Br > Cl$

C. $R - Br > R - Cl > RI$

D. $R - I > R - Cl > R - Br$

Answer: B

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130. The correct order of B.P. of R-X

A. $R-I>R-Br>R-Cl$

B. $R-Cl>R-Br>R-I$

C. $R-I>R-Cl>R-Br$

D. $R-Cl>R-I>R-Br$

Answer: A

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131. When alkyl idodie are exposed to light produces

A. alkane and HI

B. alkanane and I_2

C. alkene ana HI

D. alkene and I_2

Answer: B

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132. Which of the following is/ are halogen exchange reaction (s)

1 Finkelstein reaction 2 swarts reaction

3 Wurtz reaction Hoffman's reaction

A. 1,3

B. 1,2

C. 3,4

D. 1,2,4

Answer: B

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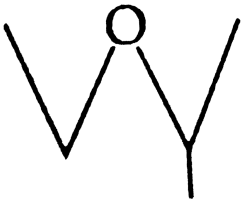
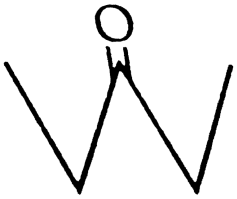
133. Find out 'B' in the following reaction.

$$C_2H_6 \xrightarrow{Cl_2} A \xrightarrow{CH_3-\overset{\overset{CH_3}{|}}{CH}-ONa} B$$

A. a) 

B. 

C. 

D. 

Answer: B

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134. Which has maximum boiling point ?

A. CH_2OH

B. CH_3CH_2I

C. CH_3CH_2Cl

D. CH_3CH_2Br

Answer: B

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135. Select the maor product formed from reaction of 2-bromo butane and lacoholic KOH

A. trans $CH_3CH = CHCH_3$

B. cis $CH_3CH = CHCH_3$

C. $CH_2 = CHCH_2CH_3$

D. $CH_2CH = CH_3$

Answer: A

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136. The reaction $2R - Z + 2Na \xrightarrow{\text{dry ether}} R - R + 2NaX$ is an example of

A. Williamson'ssynthesis

B. Wurtz synthesis

C. Hoffman's synthsis

D. Cannizaros's reaction

Answer: B

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137. A mixture of ethyl bromide and methyl bromide is subjected to Wurtz reaction. The mixture of alkanes so formed, consists of

A. ethane and propane

B. ethane and butane

C. propane and butane

D. ethane, propane and butane

Answer: D

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138. A mixture of ethyl iodide and n-proplyl iodide is treated with sodim of any one of the following substance is treated with sodium. The correct substace is

A. propene

B. butane

C. pentane

D. hexane

Answer: A

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139. To prepare a pure sample of n-hexane, the ethernal solution of any of the following substance is treated with sodium. The correct substance is

A. n-penthyl bromide and methyl bromide

B. n-propyl bromide

C. ethyl idodide and n-butyl iodide

D. all of these

Answer: B

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140. Which of the following alkanes can be synthesized by the Wurtz reaction in good yield ?

A. $(CH_3)_2CHCH_2CH(CH_3)_2$

B. $CH_3CH_2C(CH_3)_2CH_2CH_3$

C. $(CH_3)_2CHCH_2CH_2CH(CH_3)_2$

D. $(CH_3)_3CCH_2CH_2CH_3$

Answer: C

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141. The reaction

$CH_3CHBrCH_3 + KOH \xrightarrow{alc} CH_2 = CH - CH_3 + KBr + H_2O$ is an example of

A. addition reaction

B. Sibstitution reaction

C. elimination reaction

D. Rerrangement reaction

Answer: C

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142. Select the product with minimum yeild obtained form the following reaction

$CH_3CHBrCH_2 + KOH \xrightarrow{alc}$

A. 2-butene

B. 1-butene

C. 2-butanol

D. none of these

Answer: B

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143. Consider the following compounds

1. $CH_3CH_2CH_2Br \quad 2CH_2CHBrCH_3$

3. $(CH_3)_3CBr$

These compounds are dehydrohalgenated by treatement with strong base under indentical condition. The correct sequence of reactivity of these compounds in the given reaction is

A. $1 > 2 > 3$

B. $2 > 1 > 3$

C. $3 > 1 > 2$

D. $3 > 2 > 1$

Answer: D

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144. The product formed in highest yeild in the following reaction is,

$CH_3CH_2CH_2CHBrCH_3 + KOH \xrightarrow{alc}$

A. $CH_3CH_2CHOHCH_2CH_3$

B. $CH_3CH_2CH_2CH = CH_2$

C. $CH_3CH_2CH_2CH_2OH$

D. $CH_3CH_2CH = CHCH_3$

Answer: D

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145. Predict the product of the reaction

$(CH_3)_2CHCHClCH_2CH_3 + KOH \xrightarrow{alc}$

A. $(CH_3)C = CHCH_2CH_2CH_3$

B. $(CH_3)_2CHCH = CHCH_2CH_3$

C. $(CH_3)_2CHCH = C(CH_3)CH_2CH_3$

D. $(CH_3)_2C = CHCCH_3 = CH_2$

Answer: A

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146. Carbon-halogen bond lenghts increases in the order

A. $C-F<C-Cl<C-Br<C-I$

B. $C-I<C-Br<C-Cl<C-F$

C. $C-I<C-Br<C-F<C-Cl$

D. $C-I<C-F<C-Br<C-Cl$

Answer: A

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147. Consider the following haloakanes

1 $CH_3F2CH_3Cl3CH_2Br4CH_3I$

The increasing order of reactivity in nucelophilic subsittution reaction is

A. $1<2<4<3$

B. $1 < 2 < 3 < 4$

C. $1 < 3 < 2 < 4$

D. $4 < 3 < 2 < 1$

Answer: B

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148. Which of the following haloakane is hydrolysed b SN^1 mechansims ?

A. CH_3Br

B. $CH_3CH_2CH_2Br$

C. C_2H_5Br

D. $(CH_3)_3CBr$

Answer: D

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149. An halokane is made to treat with excess of alcholic ammonia to give mainly

A. 1° amine

B. 2° amine

C. $1^\circ, 2^\circ \text{ and } 3^\circ$ amines

D. mixture of $1^\circ, 2^\circ, 3^\circ$ amines and quaternary ammonium salt

Answer: A

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150. The correct sequence of relatvie reactvityof following alkyl halides

$1CH_3CH_2Cl, 2(CH_3)_2CHCHl, 3(CH_3)_3CCl$

A. $1 > 2 > 3$

B. $2 > 3 > 1$

C. $3 > 2 > 1$

D. $3 > 1 > 2$

Answer: C

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151. Match list I with list II and slect the correct anser using the codes below the lists.

List I Reactants	List II Products
$(i) CH_3CH_2CH_2CH_2Br + KOH_{(alc)}$	(1)cis 2-butane
$(ii) CH_3CH_2CHBrCH_3 KOH_{(alc)}$	(2)trans 2-butane
$(iii) (CH_3)_3CBr + KOH_{(alc)}$	$(3) 1-$ butane
	$(4) 2-$ methyl 1- propan

A.

(i)	(ii)	(iii)
2	1	3

B.

(i)	(ii)	(iii)
3	4	1

C.

(i)	(ii)	(iii)
3	1	4

D.

(i)	(ii)	(iii)
3	2	4

Answer: D

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152. $CH_3CH_2\underset{\underset{Br}{|}}{C}HCH_2CH=CH_2 \xrightarrow{\text{alcoholic KOH}} A$ (predominant) A is

A. $CH_3CH_2CH=CHCH=CH_2$

B. $CH_3CH_2=CHCH_2CH=CH_2$

C. $CH_2=CHCH_2CH_2CH=CH_2$

D. $CH_2CH_2CH_2CH_2C\equiv CH$

Answer: A

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153. 1-chloributane is treated with alcoholic potash the major product formed is

A. but-1-ene

B. but-2-ene

C. butane-1-ol

D. butane-2-ol

Answer: A

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154. The maine product of the reaction of CH_3CH_2Br and KCN is

A. CH_3CH_2CN

B. CH_3CH_2NC

C. CH_3CH_2COOH

D. C_2H_6

Answer: A

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155. Ethane nitrile is botain by the reaction of following

A. $CH_3Br + KCN$

B. $C_2H_5Br + KCN$

C. $CH_3Br + AgCN$

D. $C_2H_5Br + AgCN$

Answer: A

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156. Consider the following reactions

1 $CH_3CH_2Cl + NH_3(alc) \rightarrow$

2 $(CH_3)_3CBr + KCN(alc) \rightarrow$

3 $CH_4CHBrCH_3 + agCN(alc) \rightarrow$

4 $CH_3CHBrCH_3 + KOH(alc) \rightarrow$

The most likely productsis these reations would be

A. $CH_3CH_2NH_2, (CH_3)_3CNC, (CH_3)_2CHCN, (CH_3)_2CHOH$

B. $CH_3CH_2NH_2, (CH_3)_2 = CH_3, (CH_3)_2CHNCN, CH_3CH = CH_2$

C. $CH_3CH_2NH_2, (CH_3)_3CNC, CH_3CH = CH_2, (CH_3)_2CHOH$

D. $CH_3CH_2NH_2, (CH_3)_3CCN, (CH_3)_2CH - NC, (CH_2)_2CHOH$

Answer: D

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157. Which of the following will give SN^2 reaction

A. $C_6H_5CH_2 - X$

B. $(CH_3)_3C - X$

C. $CH_2 = CH - CH_2 - X$

D. CH_3X

Answer: D

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158. Which of the following haloakane undergoes nucleophilic substitution reaction by SN^2 mechanism only

A. CH_3Br

B. $CH_3CHBrCH_3$

C. $C_2H_5CHBrCH_3$

D. $(CH_3)_3CBr$

Answer: A

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159. The reaction is obtained by the action of alcholic KCN and what ?

A. 1-butyl ehtyl ether

B. 2-methyl 1-propene

C. 2-2-dimethyl butane

D. isopropyl n-propyl ether

Answer: B

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160. Propanenitrile is obtained by the action of alcholic KCN and what ?

A. CH_3Cl

B. C_2H_5Cl

C. $(CH_3)_2CHCl$

D. C_2H_5OH

Answer: B

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161. Durig alkaline hydrolysis of 3° alkyl halide, if cencentration of aq. Potash is doubled, the rate of reaction is,

A. double

B. remaine same

C. tripe

D. upredictable

Answer: B

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162. An alkyl halide of formula C_4H_9Cl on treatement with alcoholic potash gives alkenes C_4H_8. Both alkenes on tratment with HI gives 2-iodo butate. Isomeric alkenes are

A. $CH_3CH_2CH = CH_2$ and $CH_3CH = CHCH_3$

B. $CH_3CH_2 = CH_2$ and $(CH_3)_2C = CH_2$

C. $CH_3CH = CH_2$ and $CH_3CH = CHCH_3$

D. $CH_3CH_2CH = CH_2$ and $CH_3CH = CH_2$

Answer: A

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163. Chlorination of ethane in the presence of U.V. light folowed by treatement with aq. NaOH gives.

A. sodium ethoxide

B. ethanol

C. ethene

D. metha

Answer: B

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164. $(CH_3)_3C - Br$ on treatement with mosit silver oxide give

A. $(CH_3)_3C - OH$

B. $(CH_3)_2CH - CH_2 - OH$

C. $(CH_3)_3C - Ag$

D. $(CH_3)_3CH - CH_2OH$

Answer: A

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165. Ethyl chloride is treated with sodium metal gives

A. n-butane

B. propane

C. ethyl alcohol

D. sodium ethoxide

Answer: A

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166. The following alkyl halidesin the decrasing order of SN^2 reactivity , is

$1(CH_3)_3CCl \qquad 2CH_3Br$

4 $CH_3Cl \qquad 4(CH_3)_2CHCl$

A. $1 > 2 > 3 > 4$

B. $2 > 3 > 4 > 1$

C. $3 > 2 > 4 > 1$

D. $2 > 3 > 1 > 4$

Answer: B

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167. Ethyl chloride react with sodium ethaoxide given,

A. ethoxy ethane

B. methoxy ethane

C. ethane

D. n-butane

Answer: A

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168. When 1-chloropropane is treated with alc. Potash gives propene. The reacts is

A. elimination

B. subsitution

C. addition

D. dehyderation

Answer: A

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169. During dehydrohalogenation of 2-bromobutane the major product is

A. 1-butane

B. 2-butene

C. 1-butanol

D. 2-butanol

Answer: B

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170. Markownikoff's rule provides guidance of addition of HX on

A. $CH_2 = CH_2$

B. $CH_3CH = CHCH_3$

C. $CH_3CH = CH_2$

D. CH_2CHO

Answer: C

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171. The halogen which is most reactions , in the halogenation of alkanes under sunlight is .....

A. fluorine

B. bromine

C. chlorine

D. iodine

Answer: C

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172. Anti $-$ Markovwnikoff's addtion of HBr is not observed in

A. propene

B. 1-butene

C. 2-butene

D. pen-2-ene

Answer: C

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173. Dehydrochlorination of $(CH_3)_2CHCHCHlCH_3$ gives major product,

A. $(CH_3)_2C = CHCH_3$

B. $(CH_3)_2CH - CH = CH_2$

C. bot 'a' and 'b'

D. $(CH_3)_2CHCHOHCH_3$

Answer: A

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174. Which of the following compounds is more reactivity in SN^1 reaction

A. t-butyl iodide

B. Vinyl iodide

C. Benzy iodide

D. Allyl iodide

Answer: C

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175. If methyl bromide and ethyl bromide are mixed iequal proportion and the mixture is treated with Na metal, the number of possible organic

product are

A. 2

B. 3

C. 4

D. 5

Answer: B

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176. The photocholorination of alkane, is

A. electrophilic substitution

B. nucloephilic substitution

C. free radical substitution

D. free radical addition

Answer: C

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177. Heterolysis of C-Br bond produces

A. two carbanions

B. two carbocations

C. two free radicals

D. one cation and one anion

Answer: D

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178. During dehydrohalogenation of 2-iodopropane which of the following carbocation is likely to be formed as an intermediate

A. $CH_3CH_2CH_2^+$

B. $CH_2CH^+CH_3$

C. $CH_3CH_2^+$

D. CH_3^+

Answer: B

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179. For the reaction $CH_2 = CH_2 + HX \rightarrow CH_3CH_2X$ the orther of reactivity of HX is ,

A. $HI > HCl > HBr$

B. $HCl > HBr > HI$

C. $HI > HBr > HCl$

D. $HBr > HCl > HI$

Answer: C

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180. Increasing order of reactivity of alkyl halide is

A. $R-F<R-Br<R-O=I$

B. $R-I<R-Br<R-Cl<R-F$

C. $R-I<R-Br<R-F<R-Cl$

D. $R-Cl<R-F<R-Br<R-I$

Answer: A

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181. $A \xleftarrow{HBr} 1-\text{pentene} \xrightarrow[R_2O_2]{HBr} B$ A and B are isomers, which of the following statements is true ?

A. Both are chain isomers

B. Both are optical isomers

C. A' shows optical isomerism 'B' is not

D. Both are metamers

Answer: C

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182. Which of the following alkane is synthesised from single alkyl halide ?

A. $(CH_3)_2CHCH_2CH_3$

B. $(CH_3)_2CHCH_3$

C. $(CH_3)_3C-C(CH_3)_3$

D. $CH_3CH(CH_3)CH_2CHCH_3$

Answer: C

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183. $C_5H_{11}Cl$ by Wurtz reaction forms 2, 2, 5, 5 tetramethyl hexane as the main product. Hence $C_5H_{11}Cl$ is.

A. 2-methyl , 1-chlorobutane

B. 2-2 dimethyl, 1-chloropropane

C. both 'a' and 'b'

D. none of these

Answer: B

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184. $(CH_3)_2CH - I \xrightarrow{Na/\text{Aether}} A$

The compound A is

A. $(CH_3)_2CHCH_2CH_2CH_3$

B. $CH_3CH_2CH_2CH_2CH_2CH_3$

C. $(CH_3)_2CHCH(CH_3)_2$

D. none of these

Answer: C

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185. $CH_3CH_2Br \xrightarrow[alc.]{NaCN} CH_3CN$ true, hence $(CH_3)_3CBr \xrightarrow[alc.]{NaCN} A$. Hence A is,

A. $(CH_3)_3C - CN$

B. $(CH_3)_3C - CN$

C. $CH_3 - CH = CH - CH_3$

D. $CH_3 - CH_2 - CH = CH_2$

Answer: B

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186. Which of the following compound cannot be prepared by Wurtz reaction in pure state?

A. $CH_3CH_2 - CH_3$

B. $CH_3 - CH_2 - CH_2 - CH_3$

C. $CH_3 - CH_3$

D. n-hexane

Answer: A

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187. Compound A is heated with alcoholic potash gives $(CH_3)_2C = CH - CH_3$. The compound A is

A. t-pentyl alcohol

B. iso-pentyl alcohol

C. neo-pentyl bromide

D. n-pentyl alcohol

Answer: C

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188. Compound A on elimination gives 2-methyl 2-butene. The compound A is

A. neo-pentyl bromide

B. iso-pentyl bromide

C. t-pentyl bromide

D. all of these

Answer: D

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189. The addition of HI in the presence of peroxide does not show anti-Markovnikov behavior because

A. the HI band is too strong not to be broken homolytically

B. HI is reducing agent

C. I free radical so formed readily combine with each other to give I_2 molecule

D. I comine with H to give back HI

Answer: C

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190. Iso-butyl bromide reacts with aq. KOH gives

A. iso-butyl alcohol

B. t-butyl alcohol

C. n-butyl alcohol

D. sec. butyl alcohol

Answer: B

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191. Compound (A) is heated with KCN produces butyronitrile. The compound (A) is

A. n-propyl alcohol

B. n-butyl chloride

C. n-propyl chloride

D. n-propyl amine

Answer: C

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192. Propane + $Cl_2 \xrightarrow{\text{UV light}} A \xrightarrow{Na/\text{ether}} B$. The compound (B) is.

A. n-hexane

B. 2-methyl butane

C. 2,3-dimethyl butane

D. 2,2-dimethyl propane

Answer: D

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193. $CH_3 - NC$ is formed when $CH_3 - Cl$ reacts with

A. KCN

B. AgCN

C. CH_3CHO

D. KOH and CH_3NH_2

Answer: B

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194. Ethane as well as methane can be prepared in single steps from

A. CH_2I

B. C_2H_5I

C. CH_3CHO

D. C_2H_5OH

Answer: A

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195. Accroding to Markownikoff's rule, when hydrogen chloride adds to an unsymmetrical alkene, the hydrogen on HX attaches to

A. carbon at the end of the molecule

B. carbon in the middle of the molecule

C. carbon with more no. of hydrogens

D. carbon with least no. of hydrogens

Answer: C

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196. Which of the following compounds does not undergo nucleophilic substitution reactions ?

A. Ethyl bromide

B. Vinyl chloride

C. ethyl alcohol

D. Isopropyl chloride

Answer: B

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197. When $2-$ bromobutane reacts with alcoholic $KOH,$ the reaction is called

A. halogenation

B. hydrogenation

C. chlorination

D. dehydrohalogenation

Answer: D

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198. Grignard reagent is not prepared in aqueous medium but prepared in ether medium because the reagent

A. reacts with water

B. is insouble in water

C. is highly reactive in ether

D. becomes inactive in water

Answer: A

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199. Which of the following is not an organonetallic compound ?

A. C_2H_5ONa

B. $(C_2H_5)_3Pb$

C. $(CH_3)_3Al$

D. CH_3MgBr

Answer: A

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200. The reaction $RX + Nu^- \rightarrow RNu + X^-$ is an example of

A. Nucleophilic substitution

B. electrophilic substitution

C. Nucleophilic addition

D. Electrophilic addition

Answer: A

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201. SN^2 mechanism proceeds through the formation of

A. carbonium ion

B. carbonion

C. T.S.

D. free radical

Answer: C

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202. The best Grignard's reagent is ,

A. CH_3Mgl

B. CH_3MgCl

C. CH_3MgBr

D. CH_3MgF

Answer: A

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203. Symmetrical alkane can be prepared from alkyl halide by,

A. Wurtzs reaction

B. Cannizzaros reaction

C. Hoffmanns reaction

D. Mendius reaction

Answer: A

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204. Ethene is formed from ethyl bromide by

A. nucleophilic substitution

B. hydrolysis

C. hydration

D. elimination

Answer: D

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205. In which ot the following Kharsch-Myo effect operate?

A. $CH_3CH = CHCH_3 + HBr$

B. $CH_3CH_2CH = CH_2 + HBr$

C. $CH_3CH_2CH = CH_2 + HCl$

D. $CH_3CH = CH_2 + HI$

Answer: B

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206. Reactivity of alkyl halide towards elimination is,

A. $3^{\circ} > 2^{\circ} > 1^{\circ}$

B. $2^{\circ} > 3^{\circ} > 1^{\circ}$

C. $2^{\circ} > 1^{\circ} > 3^{\circ}$

D. $1^{\circ} > 2^{\circ} > 3^{\circ}$

Answer: A

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207. Grignards reagent may be obtained by reacting Mg metal with,

A. acetaldehyde

B. alkyl halide

C. ethly amine

D. haloform

Answer: B

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208. 1-chlorobutane on elimination gives,

A. 1-butene

B. 2-butene

C. 1-butanol

D. 2-butanol

Answer: A

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209. Which of the following is best methylating agent?

A. CH_3Cl

B. CH_3I

C. CH_3F

D. CH_3Br

Answer: B

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210. The reaction,

$C_2H_5 + KOH \xrightarrow{aq.} C_2H_5OH + KBr$ is,

A. a electrophilic

B. a nucleophilic

C. free radical

D. redox

Answer: B

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211. n-propyl bromide on treatment with alcoholic KOH produces

A. propane

B. propane

C. propyne

D. hypnotic

Answer: B

View Text Solution

212. Iodoform can be used in medicine as an

A. antiseptic

B. anaesthetic

C. antifebrin

D. hypnotic

Answer: A

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213. Griganrds reagent add to,

A. $> C = O$

B. $- C \equiv N$

C. $> C = S$

D. all of these

Answer: D

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214. In the preparation of Griganrds reagent catalyst used is,

A. I_2

B. Cl_2

C. Br_2

D. $CaOCl_2$

Answer: A

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215. The n-propyl iodide is heated with aq. KOH the product obtained is

A. 2-propanol

B. 1-propanol

C. porpene

D. cyclopropane

Answer: B

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216. If alkyl halide is optically active SN^1 reaction leads to,

A. racemisation

B. Walden inversion

C. retention

D. none of these

Answer: A

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217. Substitution reactions of alkyl halide are initiated by,

A. electrophile

B. nucleophile

C. free readical

D. none of these

Answer: B

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218. When propene is reacted with HBr in the presence of peroxide. The species first attack on propene is

A. Br^+

B. Br^-

C. $H^\cdot$

D. $Br^\cdot$

Answer: B

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219. Alcoholic solution of caustic potash is a specific reagent for

A. dehydration

B. dehydrohalogenation

C. dehydrogenation

D. dehalogenation

Answer: B

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220. In the elimination reaction of ethyl halide carbon atom change its hybridisation is,

A. $sp^2 \text{to} sp^3$

B. $sp^3 \text{to} sp$

C. $sp^3 \text{ to } sp^2$

D. $sp \text{ to } sp^3$

Answer: C

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221. The structural formula of the comopund with yields propylene on elimination is,

A. $(CH_3)_2CHCl$

B. $CH_3CH_2CH_2Br$

C. $(CH_3)_3CCl$

D. both 'a' and 'b'

Answer: D

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222. In the presence of peroxide HCl do not give anti Markownikoffs addition to alkene because

A. it is highly ionic

B. it is oxidising agent

C. peroxide cannot break HCl bond

D. it is highly polar

Answer: C

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223. Indicate which of the following is correct

A. Increasing the concentration of nucleophile favors an SN^1 reaction over SN^2 reaction

B. ethyl iodide is more reaction than ethyl choride in an SN^2 reaction

C. In an SN^2 reaction, a greater yield of the product with retained configuration is obtained

D. An SN^2 reaction is two step reaction

Answer: B

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224. The order of reactivity of different halogens with alkanes for halogenation is s

A. $F_2 > Cl_2 > Br_2 > I_2$

B. $F_2 > Br_2 > C_2 > I_2$

C. $F_2 > Cl_2 > I_2 > Br_2$

D. $F_2 > I_2 > Br > Cl_2$

Answer: A

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225. Markownikoff's rule governs the addition of

A. asymmetrical reagent to symmetrical alkenes

B. symmetrical reagent to asymmetrical alkenes

C. asymmetrical reagent to asymmetrical alkenes

D. symmetrical reagnet to symmetrical alkenes

Answer: C

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226. About aliphatic hydrocarbon some statements are given below,

1. chlorination takes place slowly in drak

2. idoination is carried in the presence of HgO

3. photochlorination is a electrophilic substitution reaction

4. direct iodination of alkane is ir-reversible reaction

Among the above, the correct statement(s) is /are

A. only 3

B. only 1, 2 and 3

C. only 2 and 3

D. only 1 and 2

Answer: D

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227. Formation of ester from alkyl halide and RCOOAg is,

A. electrophilic substitution

B. nucleophilic substitution

C. electrophilic addition

D. nucleophilic addition

Answer: B

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228. Which of the following is true about the second order reaction?

A. The rate of reaction depends on concentration of $1^{\circ} R-X$ and OH^{-}

B. non polar solvent favours this reaction

C. Minimum branching and tiny alkyl group can fovours this reaction

D. All are true

Answer: D

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229. Some statement are given below about SN^{1} reaction

1. ΔH is negative

2. the first step is slower than second step

3. kinetics depends on alkyl halide taken

4. product formed as racemisation of configuration

Among the above the incorrect statement(s) is/are

A. only 4

B. only 3 and 4

C. only 1 and 2

D. none of these

Answer: D

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230. Which of the following is /are organometallic compound(s) ?

1) C_2H_5MgI 2) C_2H_5ONa

3) $(CH_3COO)_2Ca$ 4) CH_3COOK

A. only 1

B. only 1 and 2

C. only 1, 3

D. all of these

Answer: A

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231. The halogen atom from haloalkane can be replaced by nucleophile such as

A. NH_2^-

B. CN^-

C. RO^-

D. all of these

Answer: D

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232. In SN^1 reaction the first step is the formation of,

A. carbocation

B. carbanion

C. free readical

D. all of these

Answer: A

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233. The reaction of t-butyl bromide with aq. KOH us represented as

$$(CH_3)_3 - C - Br \xrightarrow[\text{StepI}]{} (CH_3)_3C^{\delta+} \ldots\ldots\ldots Br^{\delta-} \xrightarrow[\text{StepII}]{-Br^-} (CH_3)_3C^+ \xrightarrow[\text{StepIII}]{OH^-} (C$$

In above reaction which is the fast step?

A. Step -I

B. Step-II

C. Step-III

D. All steps takes place with equal and ease

Answer: C

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234. Which of the following is ambidantate nucleophile?

A. OH

B. NH_2

C. RO

D. CN

Answer: D

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235. Some statement are given below

1. Kharasch effect is only applicable for HI

2. Wurtz reaction can be used to ascend the alkane series

3. ease of elimination of R-X is $1^\circ > 2^\circ > 3^\circ$

4. addition of H-X in alkene is an example of electrophilic addition.

Among the above the correct statement(s) is /are

A. only 4

B. only 1 and 2

C. only 3 and 4

D. only 2 and 4

Answer: D

View Text Solution

236. 1-butane reacts with HBr in presence of peroxide given

A. $CH_3 - CHBrC_2H_5$

B. $CH_3 - CH_2 - CH_2 - CH_2 - Br$

C. $(CH_3)_2CH - CH_2 - Br$

D. $(CH_3)_3C - Br$

Answer: B

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237. Some reaction are given below

1) $C_2H_5Br + C_2H_5ONa \rightarrow (C_2H_5)_2 + O + NaBr$

2) $C_2H_5Br + KCN \rightarrow C_2H_5CN + KBr$

3) $CH_4 + Br_2 \xrightarrow{AlBr_3} CH_3Br + HBr$

4) $C_2H_5Br + KOH \xrightarrow{alc.} CH_2 + KBr + H_2O$

Among the above reactions, depict teh nucleophilic substitution reactions is/are

A. only 3

B. only 3 and 4

C. only 1, 2

D. only 4

Answer: C

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238. Isobutylene reacts with HBr by peroxide effect gives

A. $CH_3CH_2 - CH_2 - CH_2Br$

B. $CH_3 - CHBrCH_2 - CH_3$

C. $(CH_3)_2CH - CH_2 - Br$

D. $(CH_3)_3C - Br$

Answer: C

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239. Ethyl bromide and ethanolic KOH mainly produces

A. ethene

B. ethanol

C. diethyl ether

D. ethane

Answer: A

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240. Which of the following is known as freon which is used as refrigerant ?

A. CCl_2F_2

B. $CHCl_3$

C. CH_2F_2

D. CF_4

Answer: A

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241. Which metal is used in Wurtz synthesis?

A. Ba

B. Al

C. Na

D. Fe

Answer: C

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242. Which of the following is boiled with ethyl chloride to form ethyl alcohol?

A. Alcoholic KOH

B. Aqueous KOH

C. H_2O

D. H_2O_2

Answer: B

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243. An alkyl halide may be converted into an alcohol by

A. addition

B. substitution

C. dehydrohalgenation

D. elimination

Answer: B

View Text Solution

244. Ethyl bromide can be converted into ethyl alcohol by

A. heating with dilute hydrochloric acid and zinc

B. boiling with an alcoholic solution of KOH

C. the action of moist silver oxide

D. refluxing methanol

Answer: C

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245. Carbon-halogen bond is strongest among the following

A. CH_3Cl

B. CH_3Cl

C. CH_3F

D. CH_3I

Answer: C

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246. Which of the following halideso is most reactive towards nucleophilic substitution reaction?

A. C_2H_5Br

B. C_2H_5Cl

C. C_2H_5F

D. C_2H_5I

Answer: D

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247. Grignard's reagent is prepared by the reaction between

A. zinc and alkyl halide

B. magnesium and alkyl halide

C. magnesium and alkane

D. magnesium and aromatic hydrocarbon

Answer: B

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248. Haloalkane in the presence of alcoholic KOH undergoes

A. elimination

B. polymerization

C. substitution

D. dimerization

Answer: A

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249. Transition state is accompanied by the formation of which of the fowllowing species in SN^1 reaction

A. carbocation

B. free radicals

C. carbanion

D. a dianion

Answer: A

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250. Major product of the following S_N1 reaction is

$$CH_3\underset{\underset{Br}{|}}{C}H\underset{\underset{CH_3}{|}}{C}HCH_3 + C_2H_5ONa \rightarrow$$

A. $\underset{OC_2H_5}{\underset{|}{CH_3CHCHCH_3}}$

B. $\underset{CH_5}{\underset{|}{CH_3CHCHCH_2CH_2OC_2H_5}}$

C. $CH_3CH_2\overset{CH_3}{\overset{|}{\underset{OC_2H_5}{\underset{|}{C}}}}CH_3$

D. none is correct

Answer: C

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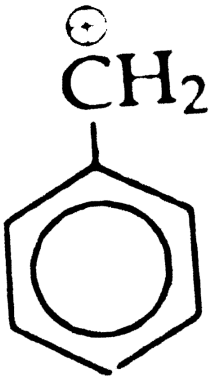
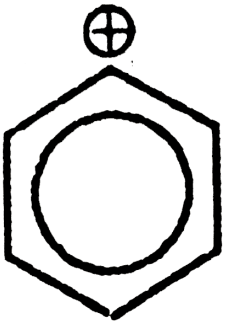
251. Which is most stable carbocation formed as intermediate in nucleophilic substitution reaction

A. $CH_2 = CH^+$

B. $(CH_3)_3C^+$

C. 

D. 

Answer: B

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252. In SN^1 reaction the hybridisation changes in rate determination step select the correct change among the following

A. from sp^3 to sp^2

B. from sp^2 to sp^3

C. from sp to sp^3

D. from sp^2 to sp

Answer: A

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253. SN^1 reaction is.

A. single step reation

B. a reaction involving free readical intermediate

C. two step reaction

D. two step and reaction intermediate is carbocation

Answer: D

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254. Reaction of HI si easiest with

A. CH_3OH

B. CH_3CH_2OH

C. $(CH_3)_2CHOH$

D. $(CH_3)_3COH$

Answer: D

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255. The reaction

$CH_2 = CH - CH_3 + HBr \rightarrow CH_3CHBr - CH_3$ is

A. nucleophilic addition

B. electrophilic addition

C. electrophilic substitution

D. free radical addition

Answer: B

View Text Solution

256. β- elimination of 1-halo-3-methyl butane gives

A. 2-methyl but-2-ene

B. 3-methyl but-ene

C. 2-methyl propene

D. 2-methyl butan-2-ol

Answer: A

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257. 2-Bromopentane is heated with potassium ethoxide in ethanol. The major product obtained is

A. pent-1-ene

B. cis pent-2-ene

C. trans-pent-2-ene

D. 2-ethoxypentane

Answer: C

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258. Symmetrical alkane is prepared from which of the following reaction ?

A. Resenmund's reaction

B. Carbylamine reaction

C. Reimer-Tieman reaction

D. Wurtz reaction

Answer: D

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259. Reactivity order of halides for dehydrohalogenation is

A. $R-F>R-Cl>R-Br>R-I$

B. $R-I>R-Br>R-Cl>R-F$

C. $R-I>R-Cl>R-Br>R-F$

D. $R-F>R-I>R-Br>R-Cl$

Answer: B

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260. Tertiary alkyl halides are practically inter to substitution by SN^2 mechanism because of

A. instability

B. insolubility

C. steric hindrance

D. inductive effect

Answer: C

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261. Elimination of bromine and hydrogen from 2-bromobutane results in the formation of

A. predominantly trans 2-butyne

B. equimolar mixture of 1-butene and 2-butene

C. predominantly cis 2-butyne

D. predminantly 1-butyne

Answer: A

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262. An SN^2 reaction at on asymmetric carbon atom of a compound always gives

A. an enantiomers of a substrate

B. a product with same optical rotation

C. a mixture of diastereoisomers

D. a single stereoisomers

Answer: D

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263. The shape of methyl carbocation is likely to be

A. tetrahedral

B. pyramidal

C. planar

D. linear

Answer: C

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264. Which of the following species is an electrophile ?

A. H_2O

B. NH_3

C. R-O-H

D. CH_3^+

Answer: D

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265. Relative rate of SN^1 reaction for t-butyl bromide?

A. 37

B. 0.02

C. 10^6

D. 1

Answer: C

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266. Relative rate of methyl bromide in SN^2 reaction is

A. 1

B. 0.02

C. 10^6

D. 37

Answer: D

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267. If a carbanion is bonded to hydrogen or an alkyl group then, the shape of methyl carbainon is likely to be

A. tetrahedral

B. planar

C. pyramidal

D. linear

Answer: C

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268. Which of the following series contains electrophiles only ?

A. H_2O, BF_3, NO_2^+

B. NH_3, H_2O, Bl_3

C. $AlCl_3, BF_3, Cl^+$

D. ROH, NH_3, NO_3

Answer: C

View Text Solution

269. Which of the following is most stable carbonium ion ?

A. $CH_3CH_2^+$

B. $(CH_3)_3C^+$

C. CH_3^+

D. $(CH_3)_2CH^+$

Answer: B

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270. Consider the following reactions

$1^{\circ} R - X + Nu^{-} \rightarrow R - Nu + x^{-}$

The rateof reaction maximum in the case of

A. Solvent $= H_2O, X = I$

B. Solvent $= CCl_4, X = Cl$

C. Solvent $= H_2O, X = Cl$

D. Solvent $= CCl_4, X = I$

Answer: D

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271. Methyl carboium ion si isoelectronic with,

A. CH_4

B. $:CCl_2$

C. CH_3^-

D. F^-

Answer: B

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272. Which of the following is lactic acid ?

A. $H-\underset{\underset{CH_3}{|}}{\overset{\overset{COOH}{|}}{C}}-OH$

B. $H-\underset{\underset{CH_3}{|}}{\overset{\overset{CH_3}{|}}{C}}-COOH$

C. $H-\underset{\underset{CH_3}{|}}{\overset{\overset{CHOOH}{|}}{C}}-COOH$

D. $H-\underset{\underset{CH_3}{|}}{\overset{\overset{H}{|}}{C}}-COOH$

Answer: A

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273. Optical active compounds have same

A. refractive index

B. action of PPL

C. configuration

D. all of these

Answer: A

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274. A racemic mixture consistsof

A. equal amounts of enantiomers

B. different amounts of enantiomers

C. unknown amounts of enentiomers

D. unknown amounts of unknown compounds.

Answer: A

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275. an optically active compouns is

A. 1-bromobutane acid

B. β bromobutyric acid

C. 2-bromo-2-methylpropane

D. 1-bromo-2-methylpropane

Answer: B

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276. If a compounds has n chical centres and compound is unsymmetric then possible number of steroisomers (or optical isomers) is

A. 2^n

B. 2^{n+1}

C. $2\sqrt{n}$

D. $\sqrt{2n}$

Answer: A

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277. For a molecule to be optically active, it should

A. contain at least two sp^2 hybridized carbon atoms

B. not be super imposable on its mirror image

C. have tetrahedral geometry.

D. super-imposable on its mirror image.

Answer: B

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278. When the hybiridization state of the carbon atom changes as follows:

$sp^3 \rightarrow sp^2 \rightarrow so$, the angle between the hybridized orbitals.

A. decreases gradually

B. decreases considerably

C. is not affected

D. inceases progressively.

Answer: D

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279. An organic compounds n3ecessarily shows optical isomerism of it

A. contains asymmmetric carbon atoms

B. is non-polar

C. is super imposable on its major image

D. is non-super imposable onits mirror image.

Answer: D

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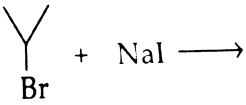
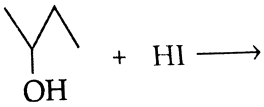
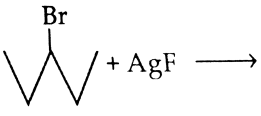
280. In which of the following reaction an optically active product is formed?

A. $CH_3ONa + \ + C_2CH_5Cl \rightarrow$

B. 

C. 

D. 

Answer: C

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281. In which of the following reaction an optically active product is formed?

A. $CH_3 - \overset{\overset{H}{|}}{\underset{\underset{H}{|}}{C}} - Cl - SN^2$ Walden inversion

B. $CH_3 - \overset{\overset{H}{|}}{\underset{\underset{H}{|}}{C}} - Cl - SN^1$ Walden inversion

C. $C_6H_5 - \overset{\overset{C_2H_5}{|}}{\underset{\underset{CH_3}{|}}{C}} - Cl - SN^1$ retention of configuration

D. $C_6H_5 - \overset{\overset{C_2H_5}{|}}{\underset{\underset{CH_3}{|}}{C}} - Cl - SN^2$ retention of configuration

Answer: A

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282. Which of the following has asymmetric carbon atom

A. $CH_2 - Cl - CH_2 - Br$

B. $CH_3CH(COOH)CH_2CH_3$

C. CH_3CHCl_3

D. CH_3CHO

Answer: B

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283. Steroisomes have different

A. molecular formula

B. structural formula

C. configuration

D. conformation

Answer: C

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284. Which of the following compound is optically active

A. $C_2H_5 - OH$

B. $(CH_3)_2CHCH_3 - Cl$

C. $CH_3 - CHClC_2H_5$

D. CCl_2F_2

Answer: C

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285. A compound contain two dissimilar chiral carbon atoms. The number of optical isomes is/are

A. 2

B. 3

C. 4

D. 1

Answer: C

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286. Lactic acid shows

A. metamerism

B. optical isomerism

C. functional isomerism with aldehyde

D. tautomerism

Answer: B

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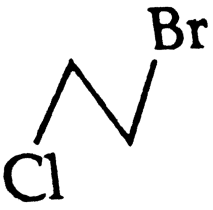
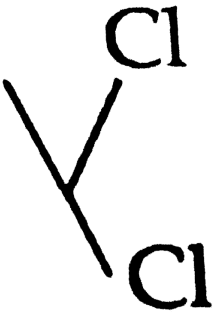
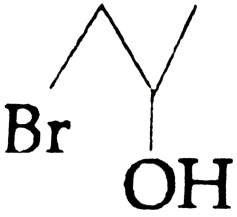
287. Which of the following has asymmetric carbon atoms ?

A. 

B. 

C. 

D. 

Answer: D

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288. Which of the following compounds is not chiral?

A. 1-chloro-2-methyl pentane

B. 2-chloropentane

C. 1-chloropentane

D. 3-chloro 2-methyl pentane

Answer: C

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289. Amongst the following compounds, the optically active alkane having lowest molecular mass is:

A. $CH_3 - \overset{\overset{H}{|}}{\underset{\underset{C_2H_5}{|}}{Cl}}$

B. $CH_3 - \overset{\overset{CH_3}{|}}{CH} - CH_2 - CH_3$

C. $CH_3 - CH_2 - CH_2 - CH_3$

D. $CH_3 - CH_2 - C \equiv CH$

Answer: B

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290. Racemisation is a processof

A. mixing of isomers

B. separation of isomers

C. mixing of enantiomers

D. separation of enantiomers

Answer: C

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291. Tetrahedral nature of a carbon atom was first shown by

A. Lewis

B. Pasteur

C. Biot

D. Vant Hoff's and Le-Bel

Answer: D

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292. If mirror image of the compouns is not superimposable on it, most appropriately it represent

A. pair of optical active isomers

B. pair of structural isomers

C. pair of geometrical isomers

D. pair of keto-enol tautomers

Answer: A

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293. Mosth appropriate method to distingussh two optical isomers will be

A. use of polarimeter

B. B.P. determination

C. chemical test of functional group

D. M.P. determination

Answer: A

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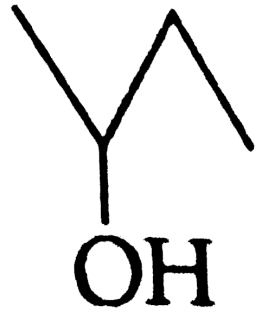
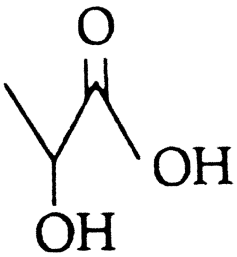
294. Which of the following compounds can exhibits both geometrical and optical isomerims?

A. 

B. 

C. 

D. all of these

Answer: B

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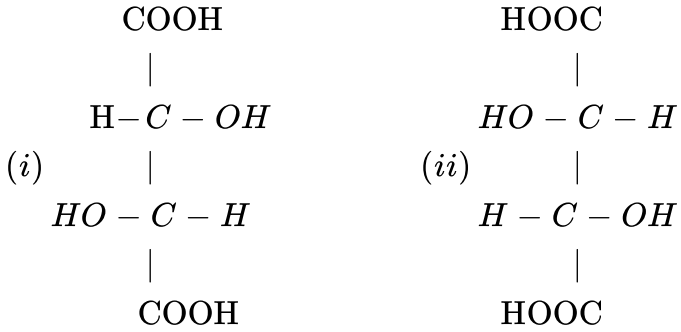
295. Two osomers given below are



A. enatiomers

B. mesomers

C. diastereoisomers

D. position isomers

Answer: A

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296. Optical isomers essentially have

A. super imposable mirror image

B. asymetric carbon atom

C. nonsuper imposable mirror iamge

D. symetric carbon atom

Answer: C

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297. Which statements is wrong about enantioners?

A. They rotate PPL to different direction

B. Normally they posses same physical properties

C. The shape of ther crystals are same

D. Their chemical properties are same.

Answer: C

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298. Which of the following is correct statements ?

A. Optical active isomers have same geometrical shape

B. Optical active isomers have different geometrical shape

C. Optical active isomers have same different chemical properties

D. Optical active isomers have same configuration

Answer: B

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299. R-OH chrial central and is optically active. It is subjected to following reaction :

I $ROH \xrightarrow{PCl_5} \xrightarrow{Alc.KOH}$

II $ROH \xrightarrow{PCl_5} \xrightarrow{Ag_2O/H_2O}$

Configruation about chiral centre is retained in

A. I

B. II

C. both 'a' and 'b'

D. none of these

Answer: B

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300. A compound with molecular formula C_7H_{16} shows optical isomerism, the compound will be

A. 2,3-dimethyl pentane

B. 2,2-dimethyl pentane

C. 2,2-methyl hexane

D. none of the above

Answer: A

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301. If OH-group in lactic acidis replaced by hydrogen atom, which will happened ?

A. optical activity is retained

B. optical activity is lost

C. form recemic mixutre

D. produce non-superimposable mirror image

Answer: B

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302. Consider the following statement about chirility

A. molecule which are non super imposable on their mirror image are chiral.

B. a chiral molecule has simple axis of symmetry

C. a carbon atom to which four different groups are attached is a chiral centre

D. a compound whose meleculesare achiral exhibits optical activity

Answer: C

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303. In lactic acid, a methyl group, a hydroxy group, a carboxylic group are attached to a central carbon atom shows optical activity due to the molecular geometry at

A. central carbon atom

B. carbon atom of methyl group

C. carbon atom of the COOH group

D. oxygen atom of the hydroxyl group

Answer: A

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304. Among the following four structures 1 to 4.

1 $C_2H_5 - \overset{CH_3}{\overset{|}{C}}H - C_3H_7$

2 $CH_3COCH(CH_3) - C_2H_5$

3 $CH_3 - \overset{CH_3}{\overset{|}{C}}H - COCH_3$

4 $C_2H_5 - \overset{CH_3}{\overset{|}{C}}H - C_2H_5$

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305. Some satatments are given below about reacment

1. It may rotate plane of plane polarised light towards right side

2. it is a mixutre to two optical isomers in equimolar proportions.

3. it has same chemical properties.

4. it is optically incative by external compensation

A. only 4

B. only 2

C. only 1 and 2

D. only, 2,3 and 4

Answer: D

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306. Compounds which rotate plane of plane polarised light in clockwise direction are knownas

A. dextro rotatory

B. leave rotatory

C. recemic mixture

D. optical in active

Answer: A

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307. Chiral which correct statements(s) is/are

A. not super imposable on their mirror image

B. are super imposable on their mirror image

C. show geometrical isomerism

D. show option isomerism

Answer: A

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308. Only the chiral molecule show the phenomenon of

A. optical isomers

B. chain isomers

C. geometrical isomers

D. functional isomerism

Answer: A

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309. Isomer which are non super imposable mirror image are known as,

A. antimeter

B. metamer

C. racemate

D. all

Answer: A

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310. Dissymmetric molecule are those which, are

A. non super imposable mirror image

B. super imposable mirror image

C. plane of symmetry

D. plane of symmetry

Answer: A

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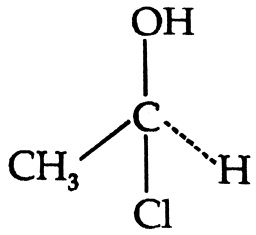
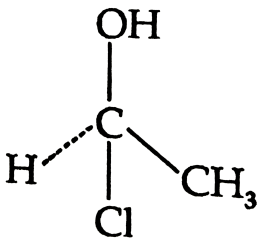
311. Which of the following has R configuration ?

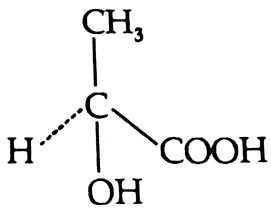
A.



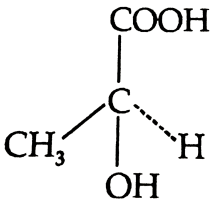
B.



C.



D.



Answer: B

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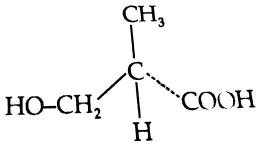
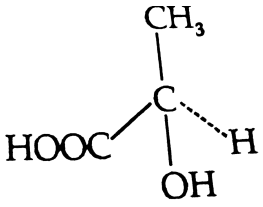
312. Which of the following has 'S configuration ?

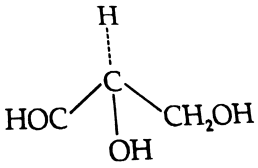
A.



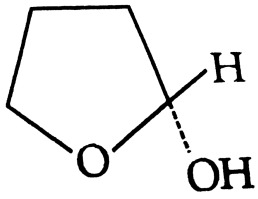
B.



C.



D.



Answer: D

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313. Which of the following group has highest priority order in R-S configuration ?

A. $-CH_2OH)$

B. $-CHO$

C. $-COOH$

D. $CH_2 = CH_2$

Answer: C

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314. In R-S configuration $-C \equiv N$ group can be represented as

A. $-C = N - C$

B. $\begin{matrix} & C & \\ & | & \\ -C & = & N \end{matrix}$

C. $\begin{matrix} C & = & N - C \\ | & & \\ N & & \end{matrix}$

D. $\begin{matrix} & & N & & \\ & & | & & \\ -C & - & N & - & C \\ | & & | & & \\ N & & C & & \end{matrix}$

Answer: D

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315. Which of the following is used as insecticides gt

A. $CHCl_3$

B. CHl_3

C. CH_2Cl

D. DDT

Answer: D

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316. Common name of DDT is

A. p,p dichloro diphenyl tetrachlorethane

B. p,p-dichlorodiphenyl trichloro ethane

C. p,p- dichlorodipheynl tetrachloro methane

D. p,p-dichlorodiphenyl trichloro methanae

Answer: B

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317. the chemcial name of DDT is :

A. 2,2-Bis (4-chlorophenyl) trichloropropane

B. 2,2,2-tris (4-chlorophenyl) trichloro ethane

C. 2,2,-Bis (3-chlorophenyl) trichloropropane

D. 2,2,2-tris (3-chlorophenyl) trichloropropane

Answer: A

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318. Which of the following is used as dyr cleaning ?

A. $CHCl_3$

B. CH_2Cl_2

C. CCl_4

D. CHl_3

Answer: C

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319. Which of the following is used as aerosol spry propellant ?

A. $CHCl_3$

B. CCl_4

C. CH_2Cl_2

D. DDT

Answer: C

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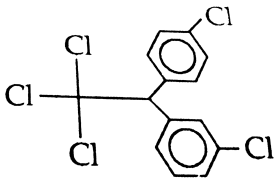
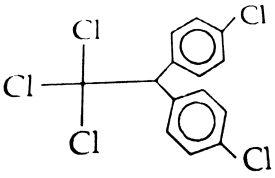
320. Which of the following is DDT

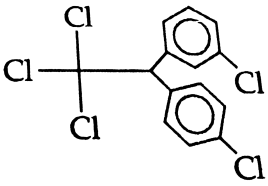
A.



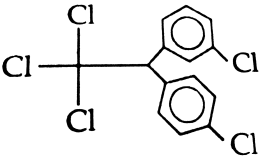
B.



C.



D.



Answer: B

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321. Which of the following deplete ozone layer? a)SO_2 b)CO_2 c)CO d) NO & freons

A. $CClF_2$

B. $CHCl_3$

C. $CF_2 = CF_2$

D. CH_2Cl_2

Answer: A

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322. Which of the following chlorofuorocarbon is hyghly toxic ?

A. $CClF_2$

B. $CHClF_3$

C. $CHCl_2F_2$

D. $C_3H_2Cl_3F_3$

Answer: D

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323. When chloroform is exposed to air and sunlight it gives

A. phosgene

B. neoprene

C. tear gas

D. chlorofluorocarbon

Answer: A

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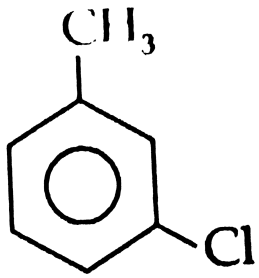
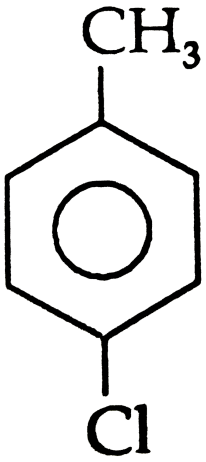
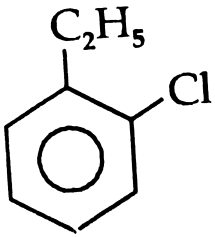
324. Which of the following is o-choro toluene ?



A.

B. 

C.

D. 

Answer: C

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325. In halides, halogen atom is attached to

A. sp^3 hybridised carbon atom

B. sp^2 hybridised carbon atom

C. sp hybridised carbon atom

D. sp-d hybridised carbon atom

Answer: B

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326. The product of following reaction

$C_6 + Cl_2 \xrightarrow{FeCl_3} ?$ is

A. $C_6H_5 - Cl$

B. $C_6H_6Cl_6$

C. ortho $- C_6H_4Cl_2$

D. para $- C_6H_4Cl_2$

Answer: A

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327. Iodination of benzene require

A. HgO

B. HNO_3

C. HIO_3

D. one of the obove

Answer: D

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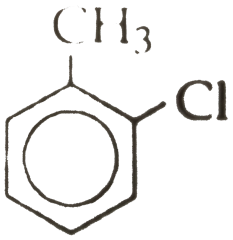
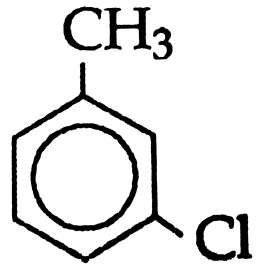
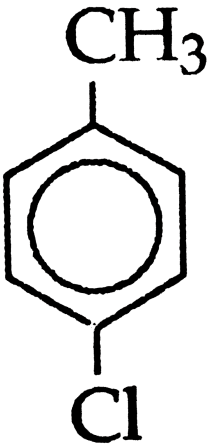
328. Major product formed when toluene on monochlorination.

A. 

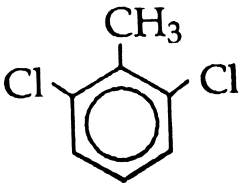
B.



C.



D.



Answer: C

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329. Sandmeyer's reaction is used to prepane

A. methyl benzene

B. halobenzene

C. p-xylene

D. nitrobenzene

Answer: B

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330. Replacement of diazonium group by chlorine atom can be carried but by use of

A. AgCl

B. CuCl

C. Cu_2Cl_2

D. PCl_5

Answer: C

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331. Benzene diazonium chloride is reacted with KI gives

A. iodobenzene

B. chlorobenzene

C. benzene diazonium chloride

D. m-iodo benzene diazonium chloride

Answer: A

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332. Replacement of diazonium group by halogen atom can be done by the reaction

A. Ullmann reaction

B. Fitting reaction

C. Sandmeyer's reaction

D. Friedel Craft reaction

Answer: C

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333. Benzene diazonium chloride is converted in to iodobenzene by use of

A. KI

B. PI_3

C. HIO_3

D. CuI

Answer: A

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334. In haloarenes C-Cl bond has partial double bond character, which is due to

A. inductive effect

B. electromertic

C. resonance

D. steric effect

Answer: C

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335. Which of the following is more reactive in nucleophilic substitution reaction

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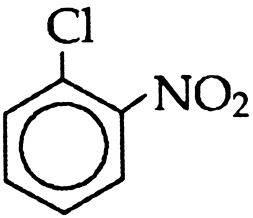
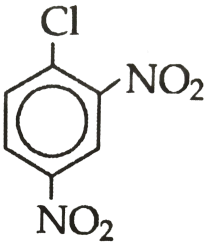
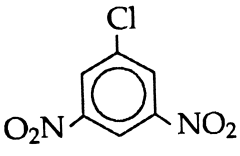
B. 

C. 

D. 

Answer: C

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336. 2, 4, 6 -trinitrochorobenzene is warmed with water gives

A. piciric acid

B. 2, 4, 6-trinitrobenezoic acid

C. phenol

D. p-nitrophenol

Answer: A

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337. Aniline is obtained by reacting chlorobenzene with

A. NH_3

B. NH_4

C. NH_4Cl

D. $CH_3 - NH_2$

Answer: A

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338. Which of the following is used to replace halogen atom from chlorobenzene by CN?

A. HCN

B. AgCN

C. CuCN

D. $CH_3 - CN$

Answer: C

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339. The necessary condition for halogenation are

A. low temperature

B. darkness

C. the presence of halogen carrier

D. all of these

Answer: C

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340. When benzene diazonium chloride is treated with cuprous chloride in HCI. Chlorobenzene is formed . This reaction is called :

A. Perkin's reaction

B. Ullmann reation

C. Sandmeyer's reaction

D. Etard reaction

Answer: C

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341. The major product obtained when, chlorobenzene is reacted with chlorine in the presence of $FeCl_3$

A. 1, 2-dichlorobenzene

B. 1, 3- dichlorobenzene

C. 1, 4- dichlorobenzene

D. 1, 2, 4- trichlorobenzne

Answer: C

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342. Aryl halide undergoes electrophilic substitution reaction slowly as comparred to benzene why ?

A. more resonence stabilization

B. less resonence stabilization

C. $-I$ effect halogen

D. $+I$ effect of halogen

Answer: C

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343. Nitration of chlorobenzene produces

A. 1- chloro-2-nitrobenzene

B. 1-chloro-4-nitrobenzene

C. 1-chloro -3-nitrobenzene

D. mixture of a and b

Answer: D

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344. Friedel Craft acetylation of chlorobenezene gives

A. 3-chloroacetophenone

B. 2-chloroacetophenone

C. 1-(4-chlorophyenyl) ethanone

D. 1-(3-chlorophenyl) ethanal

Answer: C

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345. Wurtz-Fitting reaction is used to prepare

A. alkyl benzene

B. higher alkane

C. diphenyl

D. phyenyl benzene

Answer: A

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346. Ethyl benzene is prepared from chlorobenzene and what ?

A. $C_2H_5 - Cl$ in dry ether

B. $C_2H_5 - Cl$ and Na in dry ether

C. $C_2H_5 - Cl$ and Mg in dry ether

D. $C_2H_5 - Cl$ and alc. KOH

Answer: B

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347. Benzene is reacted with chlorine in the presence of $FeCl_3$ gives A, which is reacted with sodium in ether gives

A. benzoic acid

B. benzaldehyde

C. diphenyl

D. toulene

Answer: C

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348. Fitting reaction is used to prepare

A. diphenyl

B. higher alkane

C. alkyl benzene

D. phenol

Answer: A

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349. The following reaction is

$$2C_6H_5 - Cl + 2Na \xrightarrow{\text{dry ether}} C_6H_5 + 2NaCl$$

A. Fitting reaction

B. Wurtz reaction

C. Wurtz-Fitting reaction

D. Ullmann reaction

Answer: A

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350. In Fitting reaction metal to used is

A. Na

B. Cu

C. K

D. Mg

Answer: A

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351. Wurtz reaction is used to prepare

A. alkyl benzene

B. phenol

C. alkane

D. diphenyl

Answer: C

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352. Find out X and Y in the following reaction

$$X \xrightarrow{I_2 / HgO} \text{iodobenzene} \xrightarrow{2Na} Y$$

A. toluene and alkyl benzene

B. toluene and diphenyl

C. benzene and alkyl benzene

D. benzene and diphenyl

Answer: D

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353. Diphenyl is prepared from iodobenzene by

A. Wurtz reaction

B. Fitting reaction

C. Kolbes reaction

D. Darzen reaction

Answer: B

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354. Reduction of chlorobenzene by $LiAlH_4$ gives

A. toluene

B. benzene

C. diphenyl

D. phenyl

Answer: B

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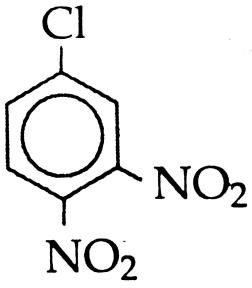
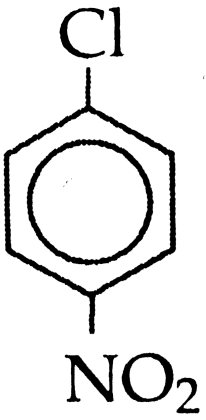
355. Which chloroderivatives of benzene among the following would undergoes hydrolysis with aq. NaOH to furnish the corresponding hydroxy compounds?

A. 



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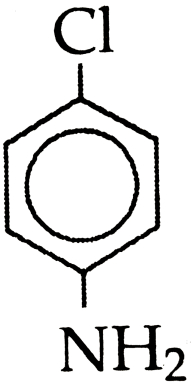

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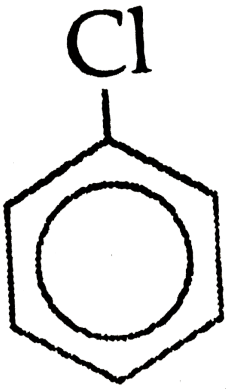

D.

Answer: A

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356. Anhydrous $AlCl_3$ is used in Firedel-Craft reaction because it is

A. electron rich

B. electron deficient

C. soluble in ether

D. ionise to Al and Cl ions

Answer: B

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357. Which of the following is used in Friedel Craft acetylation reaction

A. $(CH_3CO)_2O$

B. CH_3Cl

C. $C_2H_5 - OH$

D. $C_2H_5COOCH_3$

Answer: A

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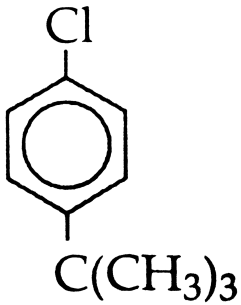
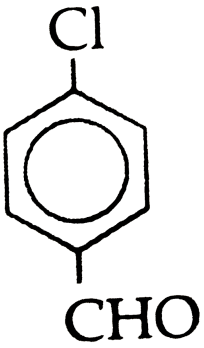
358. More reactive haloarenes in electrophilic substitution reaction is



A.



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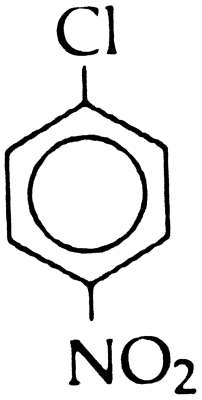

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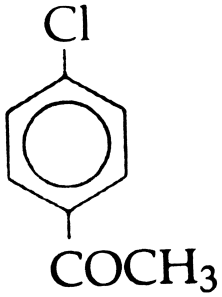

D.

Answer: A

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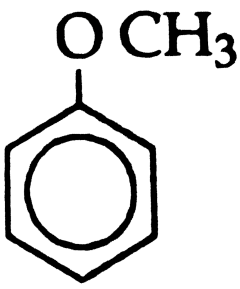
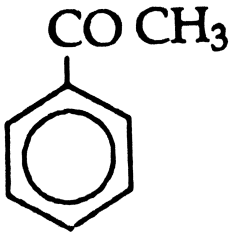
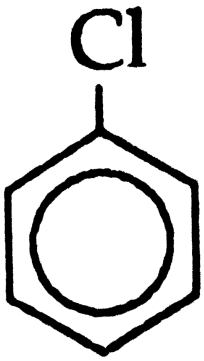
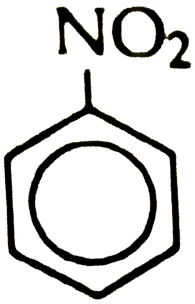
359. The most reactive compound in electrophilic substitution reaction is

A. 

B. 

C. 

D. 

Answer: A

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360. The replacement of chlorine of chlorobenzene to give phenol requires drastic conditions, but the chlorine of 2,4-dinitrochlorobenzene is readily replaced since

A. nitro groups makes the aromatic ring electron rich at ortho and pare postion

B. nitrogroup withdraw electron from meta position of the aromatic ring

C. nitro group donate electron at meta position

D. Nitro group withdraw electron from ortho and para position of the aromatic ring

Answer: D

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361. A set of compounds in which the reactivity of halogen atom is in ascending order is

A. chlorobenzene $<$ vinyl chloride $<$ ethyl chloride

B. ethyl chloride $<$ chlorobenzene $<$ vinyl chloride

C. vinyl chloride $<$ chlorobenzene $<$ ethyl chloride

D. vinyl chloride $<$ ethyl chloride $<$ chlorobenzene

Answer: A

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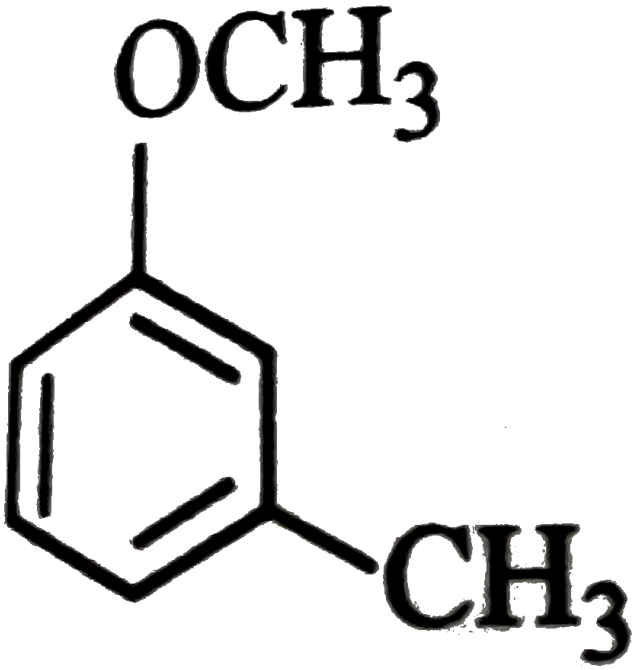
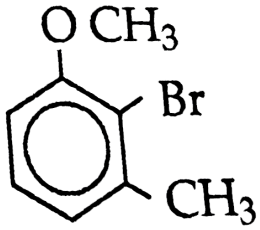
362. The major product obtained on monobromination (with $Br_2 / FeBr_3$) of the following compound A is

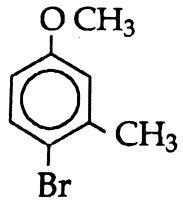


A

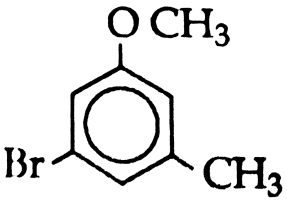


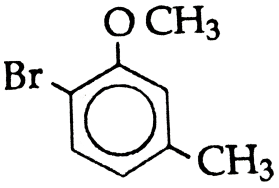
A.

b)



B.

C. 

D. 

Answer: B

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363. Which of following species is less reactive than benzene in electrophilic substitution reaction

A. aniline

B. bromobenzene

C. nitrobenzene

D. phenol

Answer: C

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364. The halogen atom in aryl halide is

A. o and p directing

B. meta directing

C. o, p, and m-directing

D. only o-directing

Answer: A

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365. Which of the following is weakly deactivating atom /group in electrophilic substitution reaction of benzene ?

A. OH

B. NO_2

C. OCH_3

D. I

Answer: D

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366. Chlorobenzene does not give SN^1 reaction, because of

A. chlorine is attached to sp hybridized carbon atom.

B. chlorine is attached to sp^3 hybridized carbon

C. resonance stabilization of benzene produces

D. self ionization of chloro benzene produces phenyl cation, which is not stabilized by resonance.

Answer: D

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367. Substitution of chlorine takes place readily at higher temperature in

A. $CH_3 - CH = CH_2$

B. $CH_2 = CH_2$

C. $CH \equiv CH$

D. none of the above

Answer: A

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368. Haloarenes show mostly

A. electrophilic addition

B. nucleophilic addition

C. electrophilic substitution

D. nucleophilic substitution

Answer: C

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369. Suitable reaction to prepare chlorbenzene is

A. Sandmeyer's reaction

B. Wurtz reaction

C. Fittig reaction

D. Grignards reaction

Answer: A

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370. Which of the following statement is correct about halobenzene?

A. It are more reactive than haloalkane

B. C-X bond has always single bond character

C. C-X bond in haloarene is more polar than C-X bond in haloalkane

D. Never undergoes SN^1 reaction

Answer: D

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371. Which of the following has strongest C-Cl bond ?

A. $C_6H_5 - Cl$

B. $CH_3 - Cl$

C. $(CH_3)_3C - Cl$

D. $(CH_3)_3CH - Cl$

Answer: A

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372. Which of the following compound is more reactive in nucleophilic substitution reaction?

A. o-bromotoluene

B. 2, 4, 6-trinitro chlorobenzene

C. 2-nitro chlorobenzene

D. 4-nitro chlorobenzene

Answer: B

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373. The reaction of toluene with chlorine in the presence of $FeCl_3$ gives predominantly

A. Benzyl chloride

B. Benzal chloride

C. m-chloro toluene

D. o-and p-chloro toluene

Answer: D

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374. In nucleophilic substitution reaction aryl chloride resembles

A. ethyl chloride

B. benzyl chloride

C. allyl chloride

D. vinyl chloride

Answer: D

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375. Pick out the correct statement

1. The C-Cl bond in Chlorobenzene is shorter than methyl chloride.

2. The C-Cl bond in chlorobenzene has some double bond character

3. The C-Cl bond in chlorobenzene has some double bond character

A. only 1, 2

B. only 1,3

C. only 1, 2, 3

D. only 1

Answer: C

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376. Bond present in benzene diazonium chloride are

A. only ionic

B. ionic, covalent and co-ordinate

C. only covalent

D. ionic and covalent

Answer: B

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377. Aryl halides are less reactive than alkyl halide in mucleophilic substitution reaction which is due to

The formation of less stable coarboniumion

2. Reasonance stabilization

3. Longer C-X bond

4. the indicutive effect

5. sp^2- hybdrizied carbon atom attached to halogen

A. 1,3,5

B. 2,4,5

C. 2,3,5

D. 1,2,5

Answer: D

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378. Benzyl chloride is prepared from toluene by chlorination with

A. $Cl_2 / FeCl_3$

B. $Cl_2 / U.V.$ light

C. $SOCl_2$

D. $HCOl$

Answer: B

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379. Toluene is reacted with Cl_2 in the presence of $FeCl_3$ give p-chlorotoluene as the major product because the methyl group is

1. p-directing

2. m-directing

3. activatingh the ring by hyper conjugation

4. deactivate the ring

A. 1

B. 3

C. ac

D. $1, 3$

Answer: C

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380. Which of the following compounds are arranged in order of decreasing reactivity towards electrophilic substitution

A. p-chlrochlorbenzene $>$ o-chlorotoluene $>$ p-nitrochlorobezene

B. p-nitrochlorobenzene $>$ o-chlorotoluene $>$ p-chlorotoulene

C. p-chlorotoulene $>$ p-nitrochlorobenznen $>$ o-chlorotoluene

D. o-chlorotoluene $>$ p-chlorotolene $>$ p-nitrochlorobenzne

Answer: A

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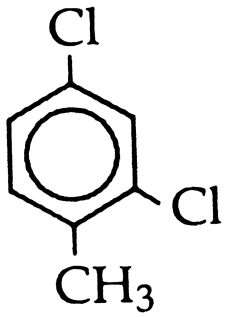
381. p-chlorotoluene on chlorination in the presence fo $FeCl_3$ gives



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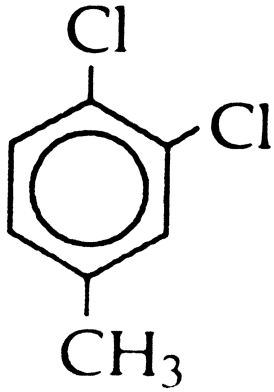

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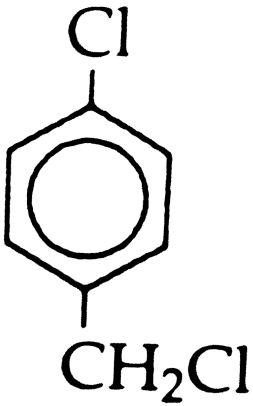

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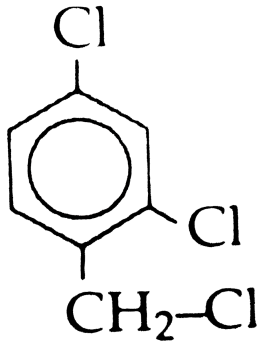

D.

Answer: A

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382. Which of the following group would enhance the reactivity of electrophile aromatic substiution

A. $-NO_2$

B. $-CH_3$

C. $-CN$

D. $-CHO$

Answer: B

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383. Which of the following statement is /are correct ?

An activating group is an electron releasing group

2. An activating group activate all position of benzene ring

3. The effect of any group whether activating or decativating is the strongest at ortho and para position in the benzene ring

4. An activating group activate only the ortho and para position in benzing ring

A. 2,3

B. 1,3,4

C. 1,2,3

D. 1,2,3,4

Answer: B

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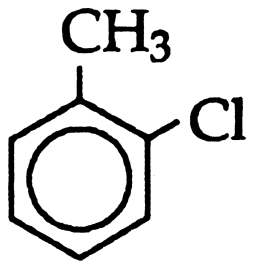
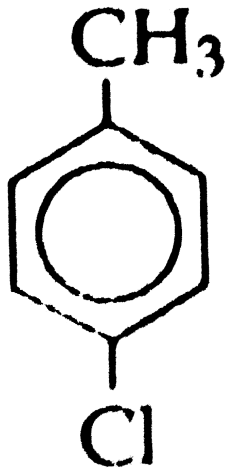
384. Weakest C-Cl bond is present in



A.



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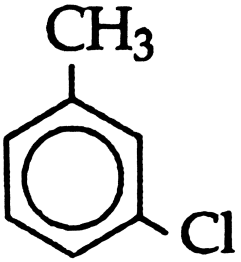

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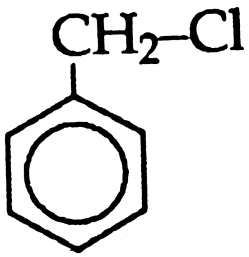

D.

Answer: D

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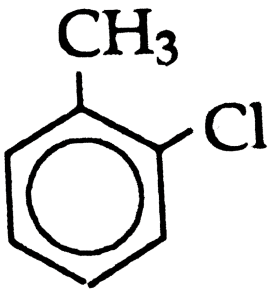
385. The major product is formed when toluene si reacted with chlorine in the presence of halogen carrier.



A.

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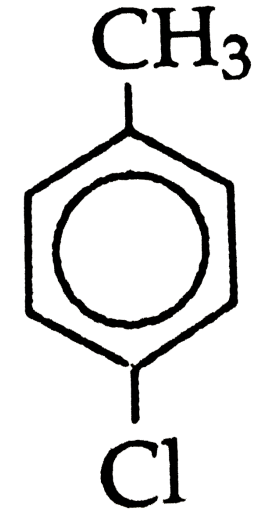

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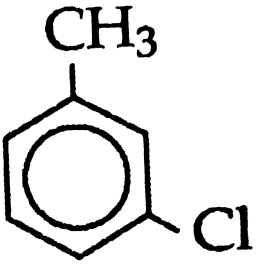

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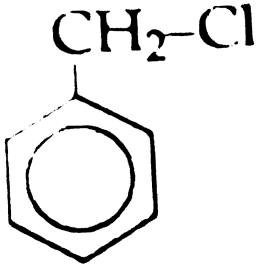

Answer: B

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386. The reactivity of following compound in electrophilic substitution reaction is in the order of

1. $C_6H_5 - CH_3$
2. $C_6H_5 - Br$
3. $C_6H_5 - Cl$
4. $C_6H_5 - NO_2$

A. $1 > 2 > 3 > 4$

B. $4 > 3 > 2 > 1$

C. $1 > 4 > 3 > 2$

D. $1 > 3 > 2 > 4$

Answer: D

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