CHEMISTRY

BOOKS - GRB CHEMISTRY (HINGLISH)

ALCOHOL, ETHER AND EPOXY

STRAIGHT OBJECTIVE

1. On oxidation of alcohol with $H^{\oplus}K_2Cr_2O_7$, maximum yield of compound will be obtained in :

A. i° alcohol

B. 2° alcohol

C. 3° alcohol

D. equal in $1^{\circ}\text{and}2^{\circ}$ alcohol

Answer: b

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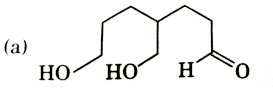
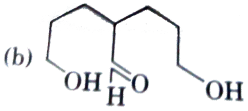
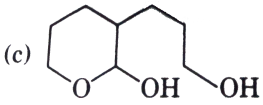
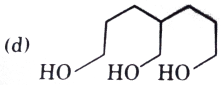
2. $\xrightarrow[\text{excess}]{H_3O^{\oplus}} X$

Structure of X is :

A. 

B. 

C. 

D. 

Answer: b

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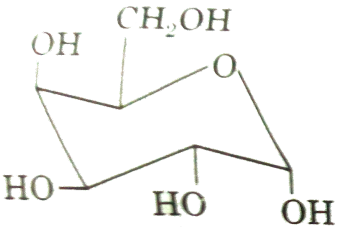
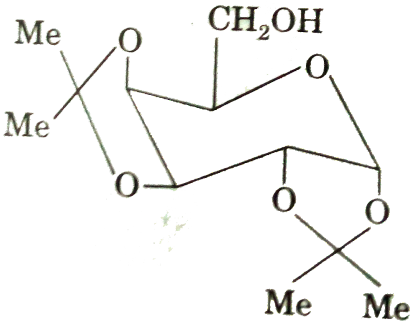


2 eq X
dry HCl



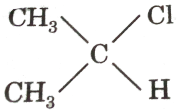
3.

Structure of X is :

A. $\underset{OH}{\overset{|}{C}}H_2 - \underset{OH}{\overset{|}{C}}H_2$

B. $\underset{OH}{\overset{|}{C}}H_2 - \underset{OH}{\overset{|}{C}}H_2 - CH_3$

C. $CH_3 - \overset{\overset{O}{\|}}{C} - CH_3$

(d)


D.

Answer: c

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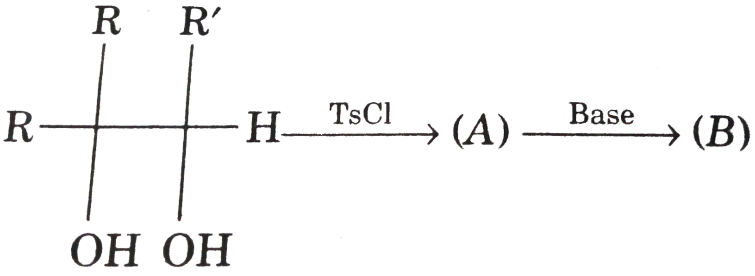
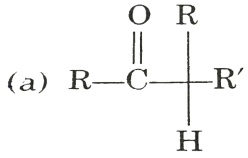
4. Complete the following reaction



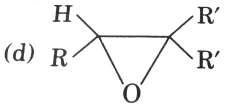
A.



B.

C. $R - \underset{R}{\overset{R'}{C}} - \overset{O}{C} - H$

D.



Answer: a

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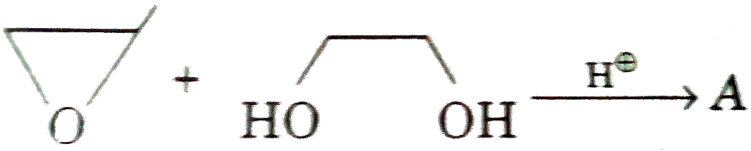
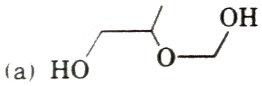
5.

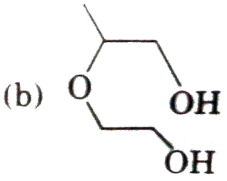


Structure of A is :

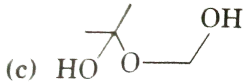
A.



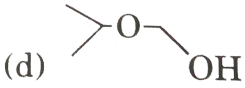
B.



C.



D.



Answer: b

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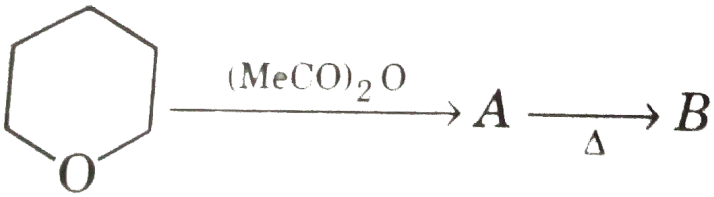
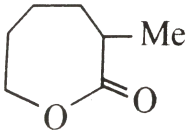
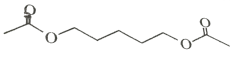
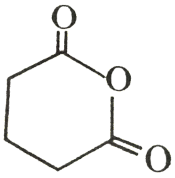
6. Complete the following reaction



A. (a) 

B. (b) 

C. (c) 

D. (d) 

Answer: c

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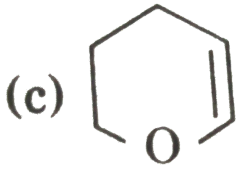
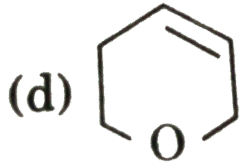
7. Preditct the major product of this reation

$$CH_2 = CH - O - CH_2 - CH = CH_2 \xrightarrow[\triangle]{}$$

A. $CH_2 = CH - CH_2 - CH_2 - CH = O$

B. $CH_2 = CH - O - CH = CH - CH_3$

C. 

D. 

Answer: a

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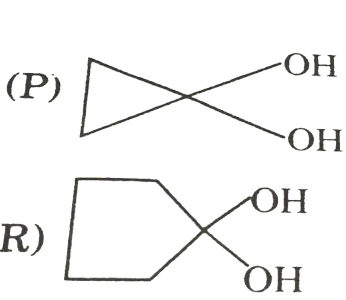
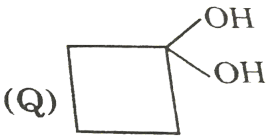
8. Arrange the stability of given gem diol in decreasing order :





Select the correct answers from give code :

A. P gt Q gt R

B. R gt Q gt P

C. P gt R gt Q

D. R gt P gt Q

Answer: a

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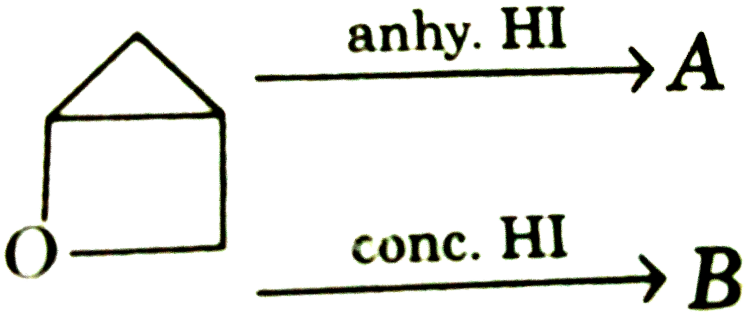
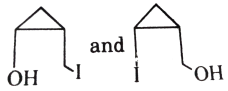
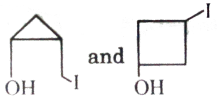
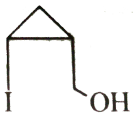


9.

A and B are respectively :

A. (a) 

B. (b) 

C. (c) Both 

D. (d) Both 

Answer: d

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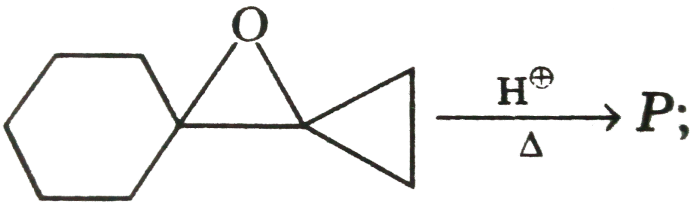
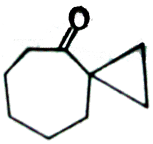
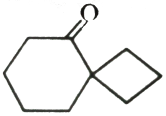
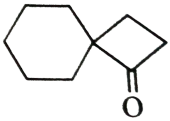


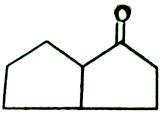
10.

Major product of reaction is :

A. (a) 

B. (b) 

C. (c) 

D. (d) 

Answer: c

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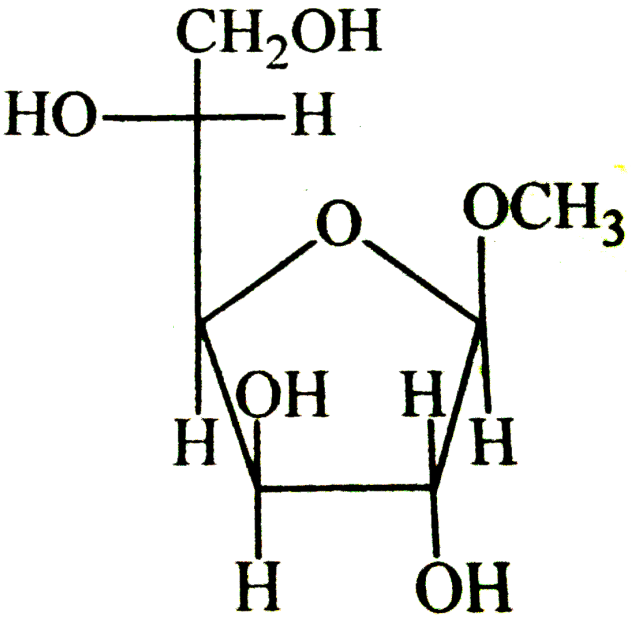
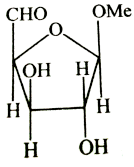
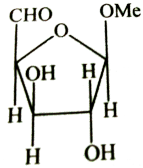
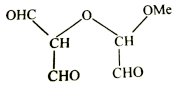
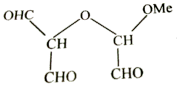
11. The products of periodic acid oxidation of the given compound are :



A. (a)  + HCO_2H

B. (b)  + HCHO

C. (c)  + HCO_2H

D. (d)  + HCHO

Answer: b

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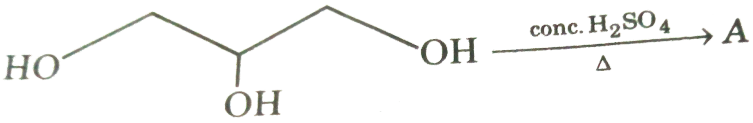


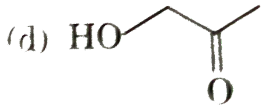
12.

Final product A is :

A. 

B. $CH_2 = C = CH_2$

C. 

D. 

Answer: c

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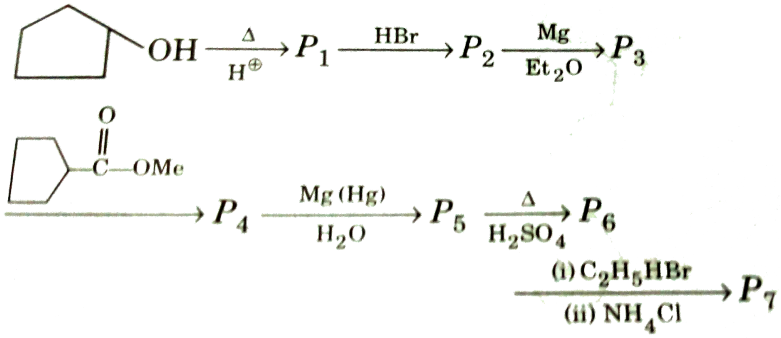

13.

What is the total number of carbon atoms in P_1 to P_7 products ?

A. 91

B. 92

C. 93

D. 34

Answer: d

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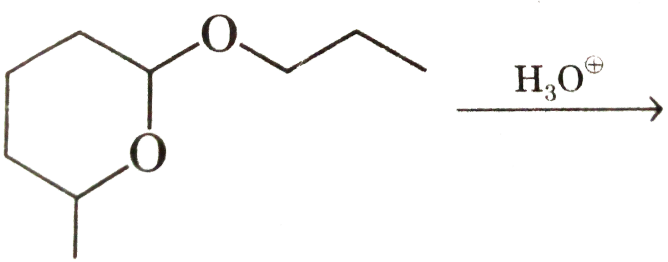
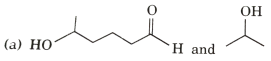
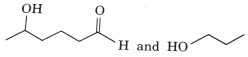
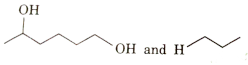
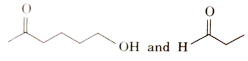
14. What are the most likely products of the reaction shown below ?



A. 

B. 

C. 

D. 

Answer: b

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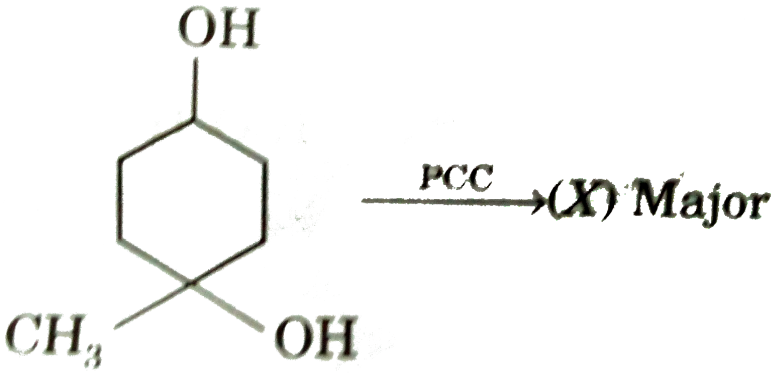
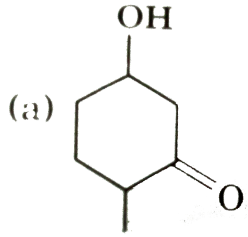
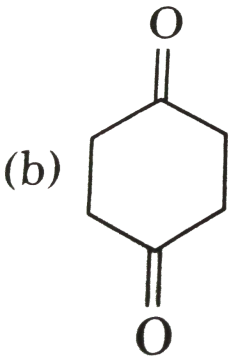
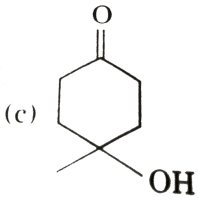
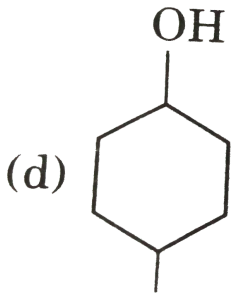
15. 

Major

A. 

B. 

C. 



D.

Answer: c

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16. Phenol and benzoic acid is separated by :

A. $NaHCO_3$

B. NaOH

C. Na

D. $NaNH_2$

Answer: a

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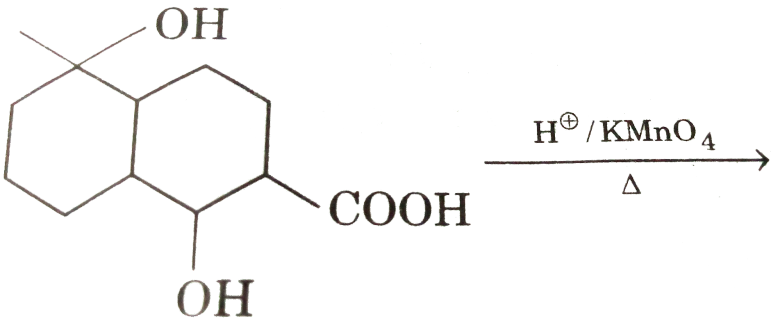
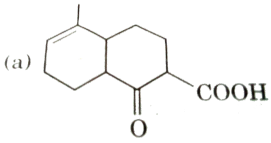
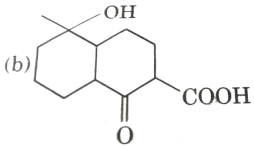
17. Complete the following reaction



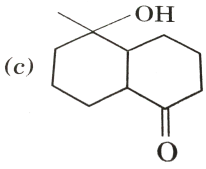
A.



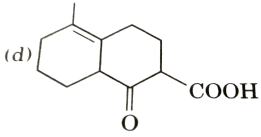
B.



C.



D.



Answer: c

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18. Select correct statement :

A. 3° alcohol can't be oxidized

B. 2° alcohol reacts faster then 1° alcohol during esterification reaction

C. solubility of phenol in water is higher than ethanol

D. none of the above

Answer: d

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19. 1, 2, 3 butanetriol undergoes oxidative cleavage of HIO_4. During this process :

A. 1 equivalent of HIO^4 consumed and HCO_2H and $H_3C - \underset{\underset{O}{||}}{C} - Co_2H$ are formed

B. 2 equivalents of HIO_4 consumed and HCO_2H and HCH = 0 and $CH_3 - CH = 0$ are formed

C. 3 equivalents of HIO_4 consumed and HCO_2H (2eq.) and 1 eq. of CH_3CO_2H are formed

D. 2 equivalents of HIO_4 consumed and 2eq. Of HCO_2H and 1eq. Of $CH_3CH = 0$is formed

Answer: b

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20. The boiling point of isomeric alchols alcohols follows the order :

A. primary gt secondary gt tertiary

B. tertiary gt secondary gt primary

C. secondary gt tertiary gt primary

D. does not follow any order

Answer: a

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21. Identify the which upon addition excess Grignard's reagent will provide a secondary alcohol :

A. CH_3CO_2Et

B. $(CH_3)_2CHCO_2Et$

C. HCO_2Et

D. $C_6H_5CO_2Et$

Answer: c

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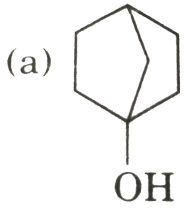
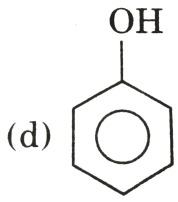
22. Which of the following can give immediate turbidity on treatment with Lucas Reagent?

A. 

B. $CH_3 - CH_2 - CH_2 - OH$

C. $CH_2 = CH - CH_2 - OH$

D. 

Answer: c

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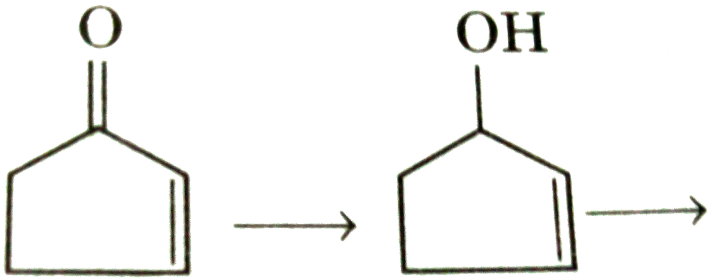
23.



Conversion can be carried out by :

A. $LiAlH_4$

B. DiBAL-H

C. 9BBN

D. all of these

Answer: d

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24. $Ph - CH = CH - \overset{\overset{O}{||}}{C}H \rightarrow Ph - CH_2 - CH_2 - \overset{\overset{OH}{|}}{C}H_2$

Conversion can be carride out by :

A. $LiAlH_4$

B. $NaBH_4$

C. Raney Ni / H_2(excess) / ($\triangle$) high P

D. N_4H_4 / H_2O_2

Answer: a

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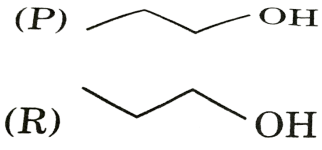
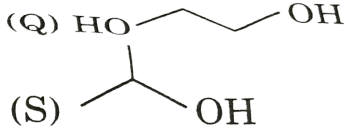
25. The correct increasing order of boiling point for the following alcohols is :





A. Q lt R lt P lt S

B. S lt P lt R lt Q

C. S lt R lt P lt Q

D. S lt P lt Q lt R

Answer: b

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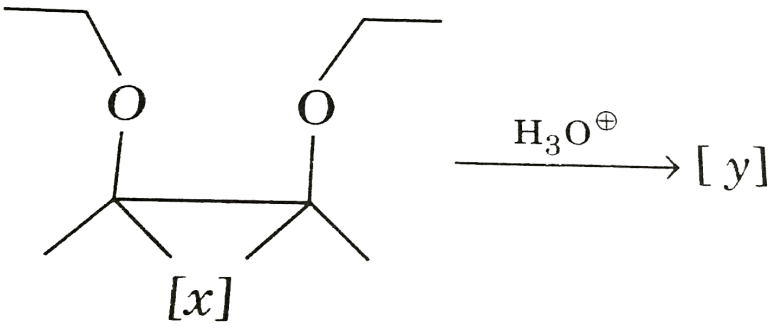
26.



Select correct statement about[x] and[y].

A. [x] has gauche from more stable than its any other conformation

across $C_2 - C_3$

B. [x] has gauche from less stable than its any other conformation across $C_2 - C_3$

C. [y] has gauche from less stable than its any other conformation across $C_2 - C_3$

D. Both options (b) and (c) are correct

Answer: c

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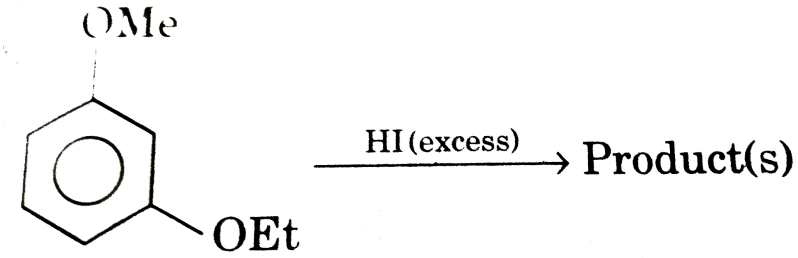
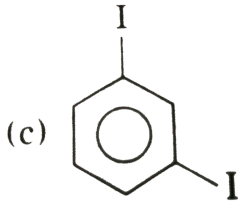
27.



Which compound will not from during reaction?

A. MeI

B. Et-I

C. 

D. 

Answer: c

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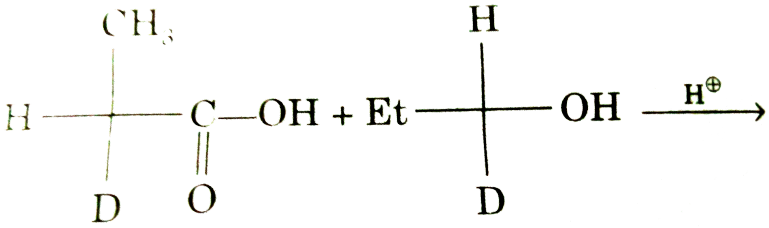
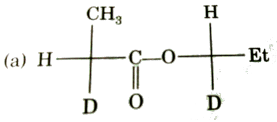
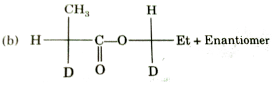
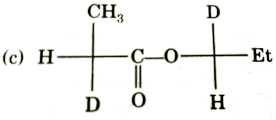
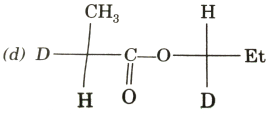
28. Complete the following reaction



A. 

B. 

C. 

D. 

Answer: c

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29. $Ph - O - Me \xrightarrow[\text{excess}]{HI}$

A. Ph-OH+MeI

B. Ph-I+MeOH

C. PhI+MeI

D. PhOH+MeOH

Answer: a

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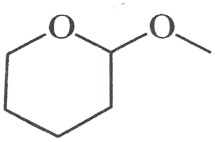
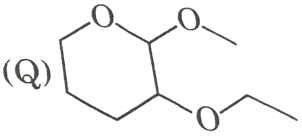
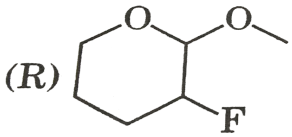
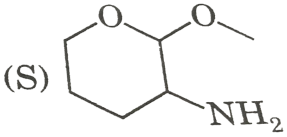
30. The correct order of relative rate of acidic hydrolysis of the following compound is :

(P) 

(Q) 

(R) 

(S) 

A. P gt S gt Q gt R

B. S gt R gt Q gt P

C. Pgt R gt S gt Q

D. P gt Q gt R gt S

Answer: d

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31. Correct rate of reaction with PhMgBr is :

A. $Ph-\overset{\overset{O}{||}}{C}-Cl > Ph-\overset{\overset{O}{||}}{C}-Me > Ph-\overset{\overset{O}{||}}{C}-OMe$

B. $Ph-\overset{\overset{O}{||}}{C}-Me > Ph-\overset{\overset{O}{||}}{C}-Cl > Ph-\overset{\overset{O}{||}}{C}-OMe$

C. $Ph-\overset{\overset{O}{||}}{C}-OMe > Ph-\overset{\overset{O}{||}}{C}-Cl > Ph-\overset{\overset{O}{||}}{C}-Me$

D. $Ph-\overset{\overset{O}{||}}{C}-Cl > Ph-\overset{\overset{O}{||}}{C}-OMe > Ph-\overset{\overset{O}{||}}{C}-Me$

Answer: a

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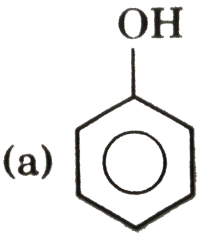
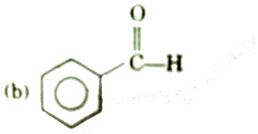
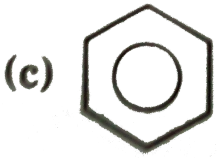
32. $PhMgCl \xrightarrow[(ii)\,H_2O]{(i)\,H-C\equiv\equiv N}$ Major product is :

A. 

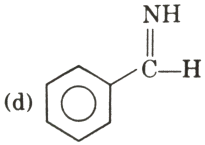
B.



C.



D.



Answer: c

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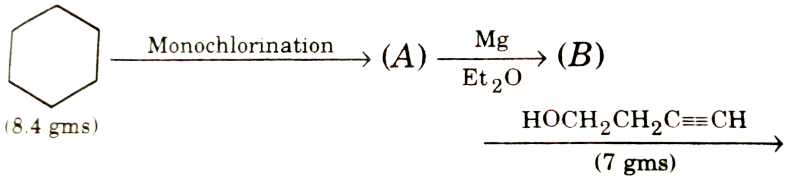

33.

How many gms of cyclohexane will be formed in the above rection(Consider the yield to be 100% in each step)?

A. 1.68 gm

B. 8.40 gm

C. 16.80 gm

D. 0.84 gm

Answer: b

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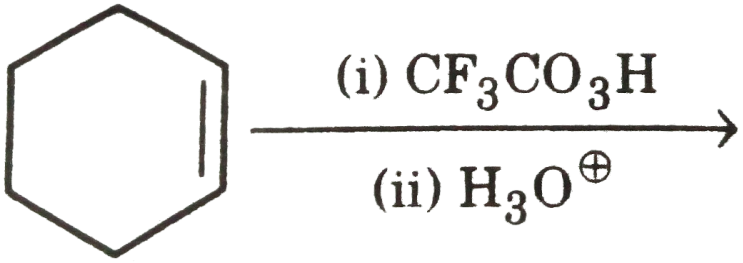
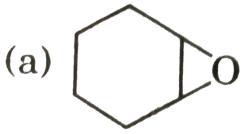
34. For the reaction



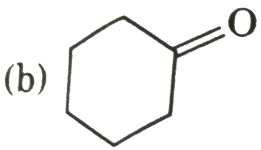
Final product

is :

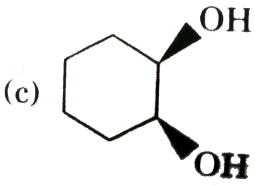
A.



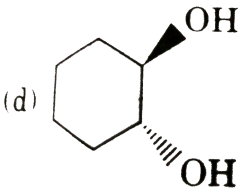
B.



C.



D.



Answer: d

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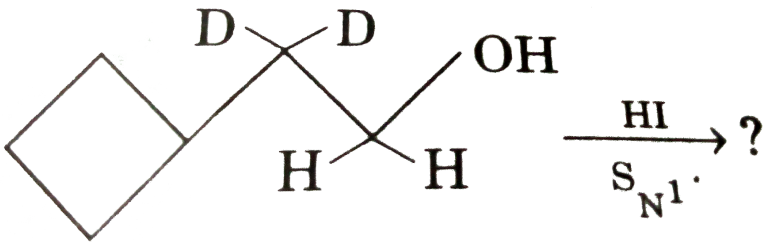
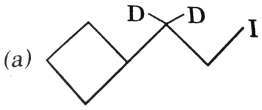
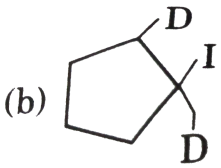
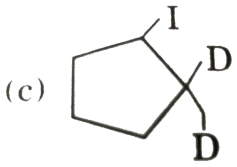
35.



Major product is :

A. 

B. 

C. 

D. none of these

Answer: b

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36. What will be the final product when elthyl benzene is treated with the reeagent listed, below?

(P)NBS, peroxide, heat (Q)alcoholic KOH, ($\triangle$)

(R) B_2H_6 (S) H_2O_2, HO_{Θ}

A. $Ph - CH_2 - CH_2 - OH$

B. $PH - \underset{\underset{OH}{|}}{\overset{|}{CH}} - H_2 - OH$
Br

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

D. $Ph - \underset{OH}{\overset{|}{C}}H - CH_2Br$

Answer: a

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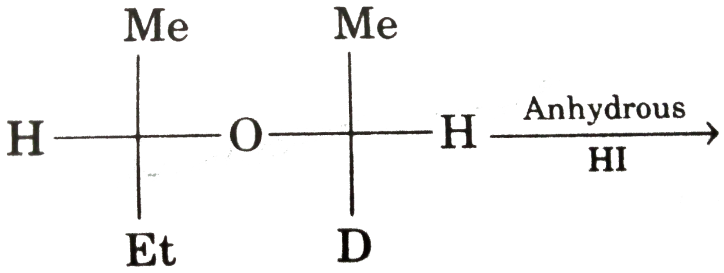
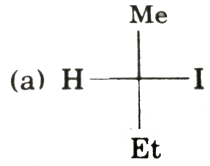
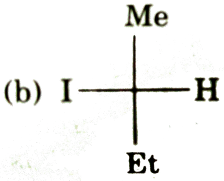
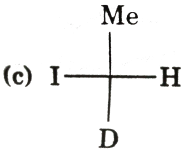


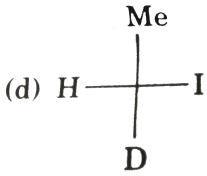
37.

Major product is :

A. 

B. 

C. 

D. 

Answer: d

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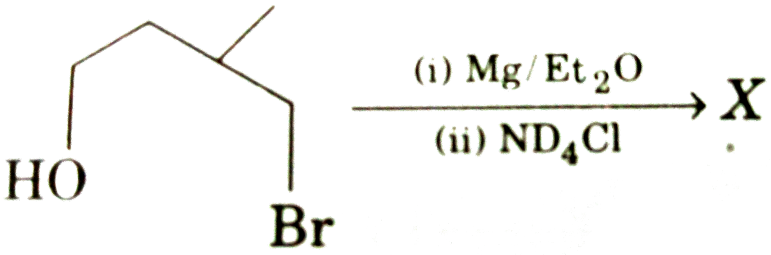
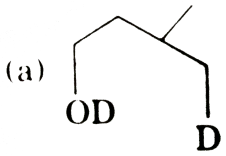


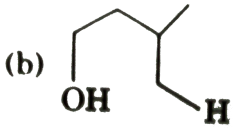
38.

Structure of X is :

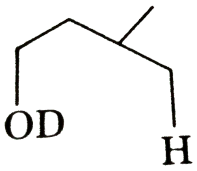
A.

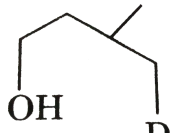


B.



C.



D. (d) 

Answer: c

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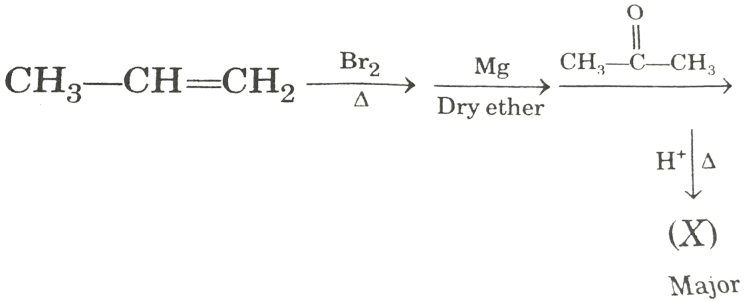

39.

End product of above reaction is :

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

B. $H_2C = CH - CH = \underset{\underset{CH_3}{|}}{C} - CH_3$

C. $H_2C = CH - CH - \underset{\underset{CH_3}{|}}{\overset{\overset{OH}{|}}{C}} - CH_3$

D. $H_2C = CH - CH_2 - \underset{\underset{CH_3}{|}}{C} - CH_3 - OH$

Answer: c

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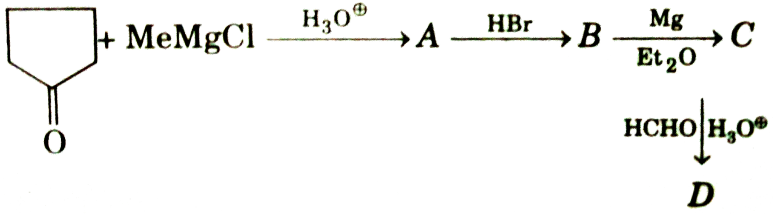
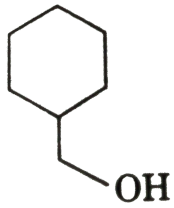


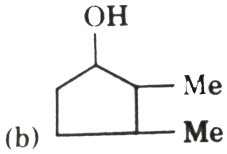
40.

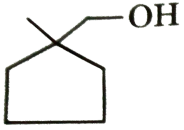
D is :

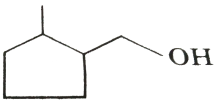
A.



B.



C. (c) 

D. (d) 

Answer: c

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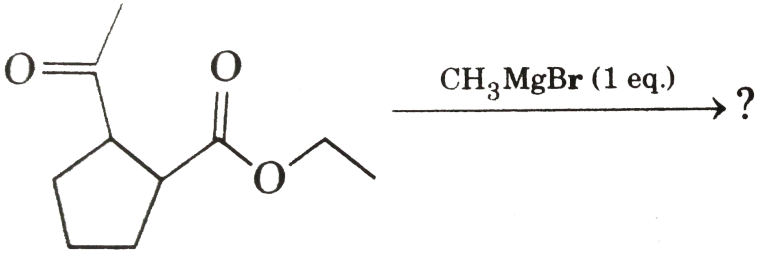
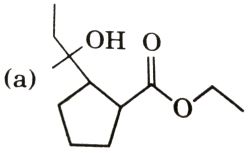
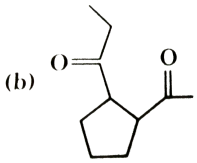
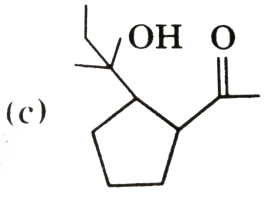
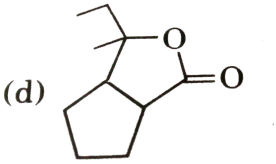
41. 

The product is :

A. (a) 

B. 

C. 

D. 

Answer: d

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42. $C_2H_5O-\overset{\overset{O}{||}}{C}-OC_2H_5 \xrightarrow{2MeMgBr} (A)$. The product (A) formed can:

A. is ethyl acetate.

B. further react with CH_3MgBr/H_2O^+ to give acetone.

C. further react with CH_3MgBr / H_2O^+ to give t-butyl alcohol.

D. (a) and (b) are correct.

Answer: c

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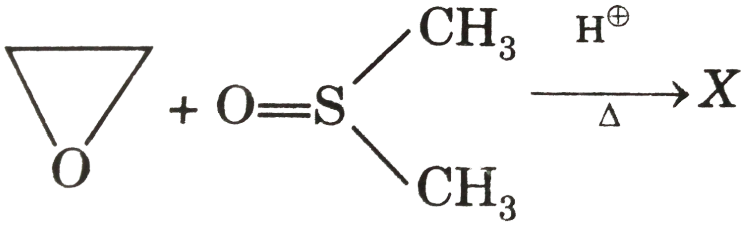

43.

Struture of X is :

A. $OH - CH_2 - CHO$

B. $\overset{OH}{\underset{|}{C}}H_2 - \overset{OH}{\underset{|}{C}}H_2$

C. $\overset{CHO}{\underset{|}{C}}HO$

D. $\underset{OH}{\underset{|}{C}}H_2 - CH_3$

Answer: a

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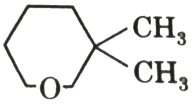
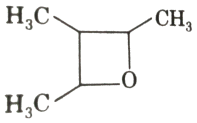
44. $CH_3\overset{\overset{O}{||}}{C}CH_2CH_2CH_2Cl \xrightarrow[\triangle]{CH_3MgBr} A.$

A is :

A. $CH_3\overset{\overset{OH}{|}}{\underset{\underset{OH}{|}}{C}}CH_2CH_2CH_2Cl$

B. $CH_3\overset{\overset{O}{||}}{C}CH_2CH_2CH_2CH_3$

C. (c) 

D. (d) 

Answer: c

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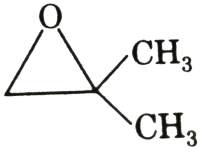
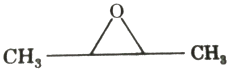
$$CH_2=C=O \xrightarrow[\text{(ii) } CH_3MgBr]{\text{(i) } Br_2} C_4H_8O$$

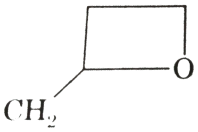
(2 equi)

45.

Product is :

A. (a) 

B. (b) 

C. (c) 

D. All of the above

Answer: a

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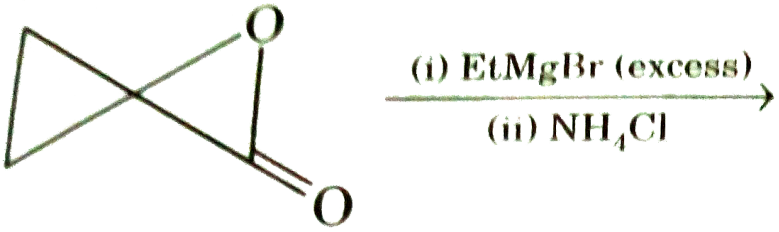
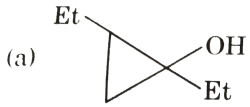


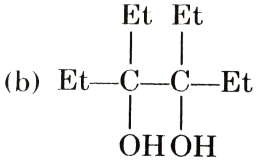
46.

Major product.

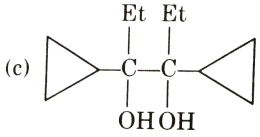
A.



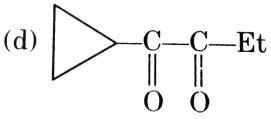
B.



C.



D.



Answer: b

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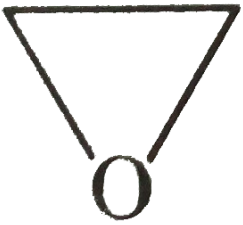
47. Following interconversion was done by Vandana and Upasana in ICL(International chemical Laboratory) New York.

$HC \equiv C - H \xrightarrow{?} DC \equiv C - CH_2 - CH_2 - OH$

Vandana's method :



(P) `CH_(3)MgBr (1 aq.) "followed by" " and " NH_(4)Cl(Q)CH_(3)MgBr

$(1eq.)\, followed by DOD.\ UPASANA's method (P)$CH_(3)MgBr $(excess)(Q)$Cl-CH_(2)CH_(2)-Cl$(R)\, Aq.\ KOH(S)$D_(2)O`

Find out the correct statement(s) based on above formation.

A. Vandana's method is correct and upasana's method is wrong

B. upasana's method is correct and vandana's method is wrong

C. Both the methods can give desired profuct but Upasana's method is better.

D. Director of ICL (international chemical Laboratory) Arvind Vyas firds vandana and Upasana because both applied the wrong method.

Answer: d

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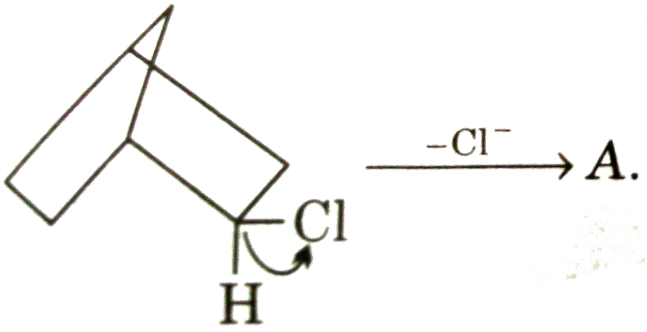
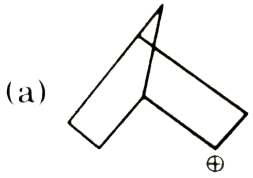
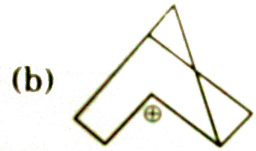
48.

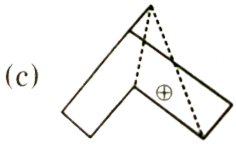


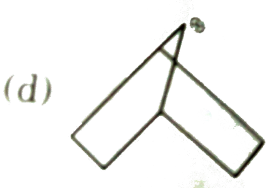
Best representation of A is :

A.



B. 

C. 

D. 

Answer: c

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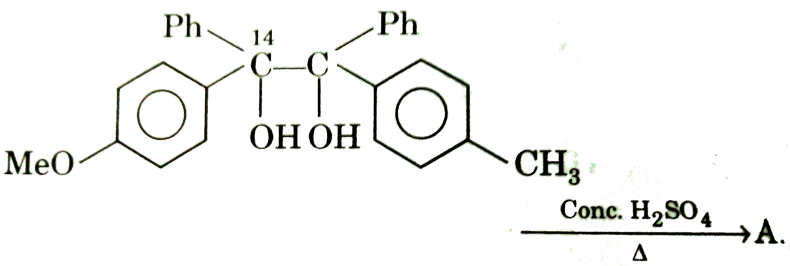
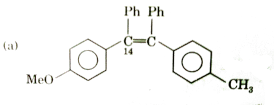


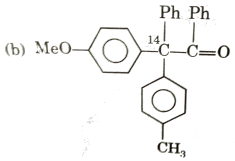
49.

A is :

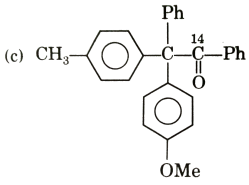
A.



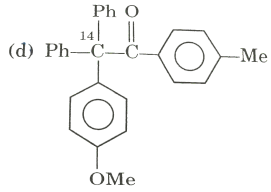
B.



C.



D.



Answer: b

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50. $Ph - \underset{\underset{Me}{|}}{C}(OH) - C(I)Me_2 \xrightarrow[\triangle]{AgNO_3}$?

Major product is :

A. $Ph - \underset{\underset{Me}{|}}{C}(OH) - C(NO_3)Me$

B. $Ph\ \underset{\underset{Me}{|}}{\overset{\overset{OAg}{|}}{C}} - C(NO_3)Me_2$

C. $PhCO - Cme_3$

D. $PhC(Me_2)COMe$

Answer: d

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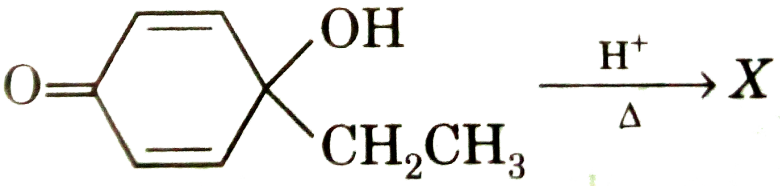
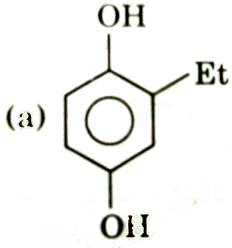
51.

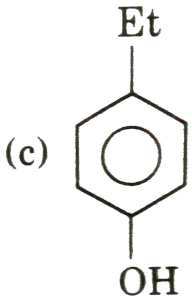


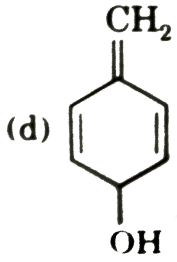
X is :

A.



B. 

C. 

D. 

Answer: a

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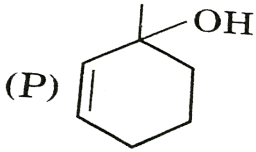
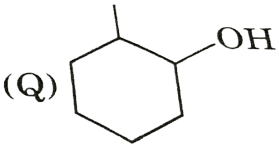
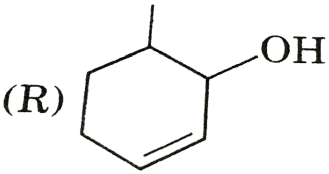
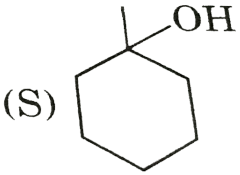
52. Find out the correct order of rate of dehydration for given compounds with cone.H_2SO_4.









A. $P > Q > R > S$

B. $P > R > Q > S$

C. $P > R > S > Q$

D. $R > P > Q > S$

Answer: c

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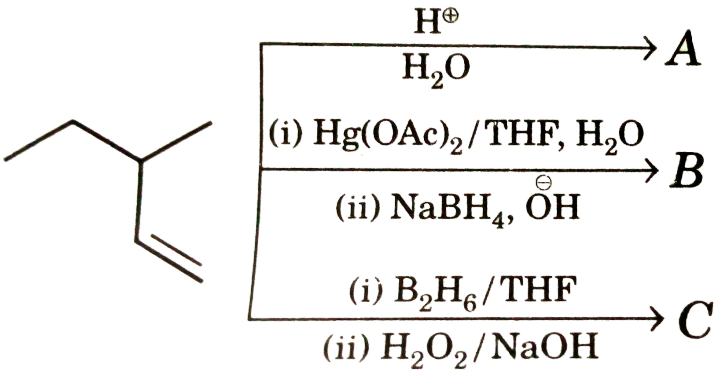
53.



Select the correct statement about oroducts A, B and C.

A. A is a secondary alcohol

B. B is a tertiary alcohol

C. C is a primary alcohol

D. A and C are tertiary alcohol

Answer: c

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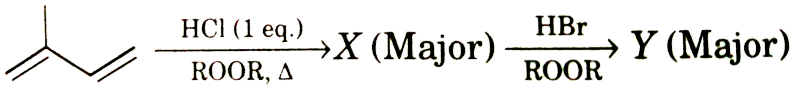
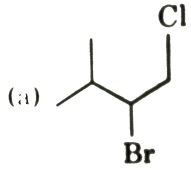
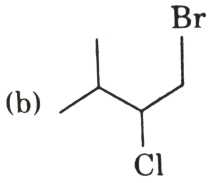
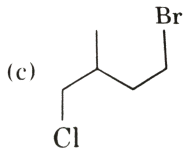
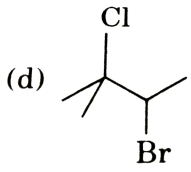
54. 

Y is :

A. 

B. 

C. 

D. 

Answer: a

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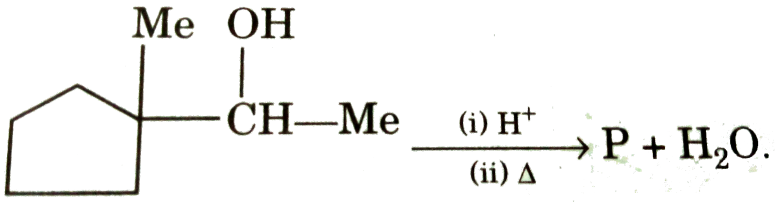
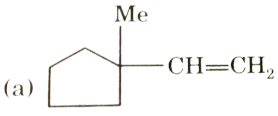
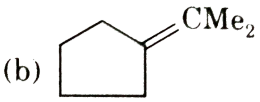
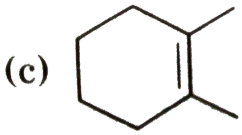
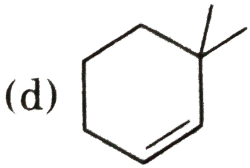
55. 

P is :

A. 

B. 

C. 

D. 

Answer: c

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56. Select incorrect option :

A. $EtOEt \xrightarrow[\triangle]{NaOH} EtONa + EtOH$

B. $EtOEt \xrightarrow[\triangle]{EtNa} CH_2 = CH_2 + CH_3CH_3$

C. $EtOEt \xrightarrow[2\ KCNS]{(1)\text{ air hv}} \underset{FeSO_4}{\text{Red colour}}$

D. $EtOEt + Co \xrightarrow[\triangle]{BF_3} Et - \overset{\overset{O}{||}}{C} - O - Et$

Answer: a

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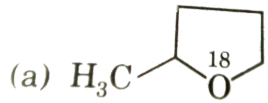
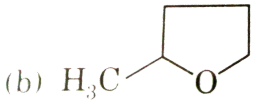
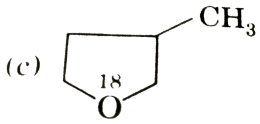
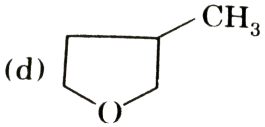
57. Dehydration product of 1,4 -diol given below will be :

$$CH_3\underset{OH}{\underset{|}{C}}HCH_2CH_2\underset{OH}{\underset{|}{C}}H_2 \xrightarrow[\triangle]{H^{\oplus}}$$

A. (a) 

B. 

C. 

D. 

Answer: a

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58. Solubility order in H_2O for compounds

(P) $H_2\underset{OH}{C}-\underset{OH}{CH}-\underset{OH}{CH}-\underset{OH}{CH_2}$

(Q) $H_2\underset{OH}{C}-CH_2-CH_2-\underset{OH}{CH_2}$

(R) $H_3C-CH_2-CH_2-CH_2-OH$

will be :

A. P > R > Q

B. P > Q > R

C. Q > R > P

D. R > Q > P

Answer: b

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59. Correct order of solubility of following compounds is :

1. Cyclopropane-1,2.3-triol

2. Cyclobutane-1,2-diol

3. Cyclopantanol

4. Cyclohexane

A. 1 > 2 > 3 > 4

B. 2 > 1 > 3 > 4

C. 4 > 3 > 2 > 1

D. 4 > 3 > 1 > 2

Answer: a

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60. Final product of oxidation of $MeCH_2 - CH_2OH$ is :

A. $MeCH_2CH = O$

B. $MeCH_2COOH$

C. $MeCH_2CH_3$

D. none of these

Answer: d

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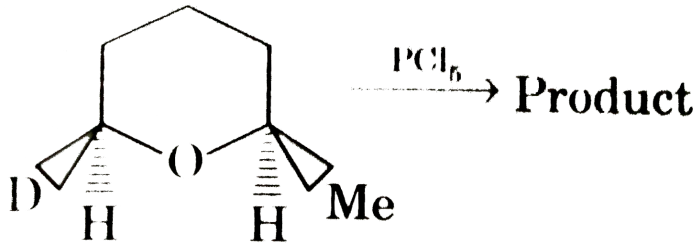
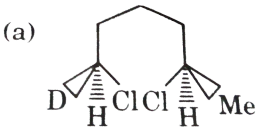
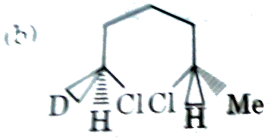
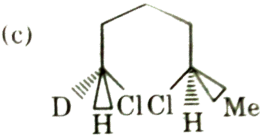
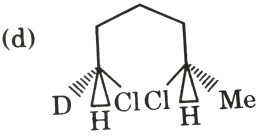
61. 

A. 

B. 

C. 

D. 

Answer: b

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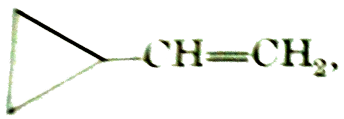
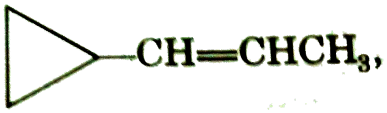
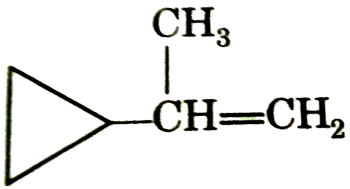
62. Rate of hydration of :



(I)



(II)



(III)

A. I lt II lt III

B. I lt III lt II

C. II lt I lt III

D. III lt II lt I

Answer: c

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63. Redution of ester with Na/C_2H_5OH is called as :

A. Birch reduction

B. Bouveault-Blanc reduction

C. Stephens reduction

D. Mozingo reduction

Answer: b

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64. How would you get recemic mixtureof 1,2 butane siol from cis 2-butane?

$CH_3CH=CHCH_3 \xrightarrow[(ii)\,B]{(i)\,A} CH_3-\underset{OH}{\underset{|}{C}}H-\overset{OH}{\overset{|}{C}}H-CH_3$ A and B are :

A. $A=KMnO_4/OH^-, B=H_2$

B. $A=CF_3CO_3H, B=H_2O$

C. $A=OsO_4/OH^-, B=H_2O$

D. $A = O_3 / H_2O, B = Ph_3P$

Answer: d

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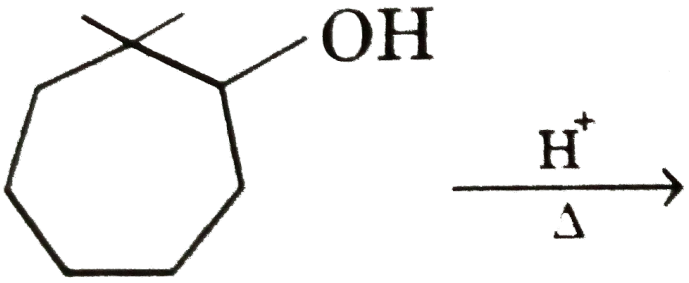
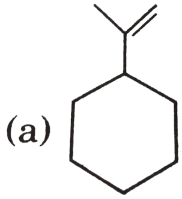
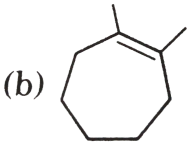
65. Which one of the following can not be the product during dehydration of following alcohol ?



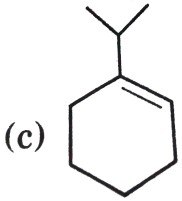
A.



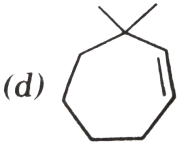
B.



C.



D.



Answer: c

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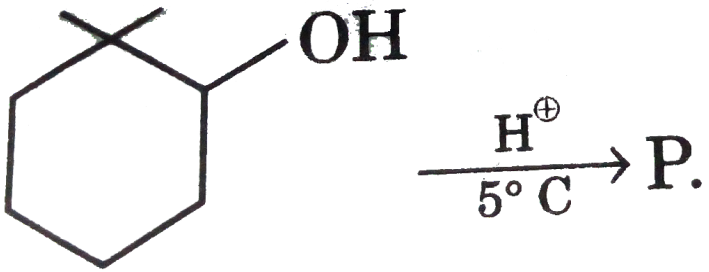
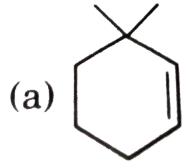
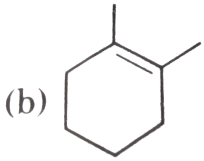
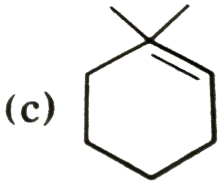
66.

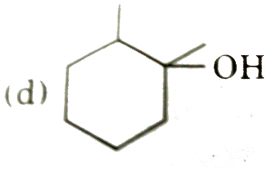


The product P is :

A. 

B. 

C. 

D. 

Answer: d

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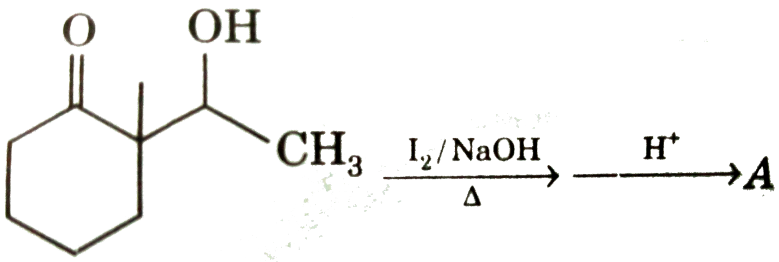
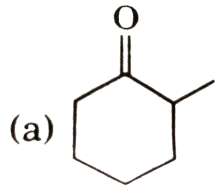
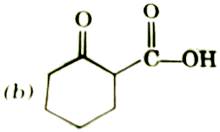
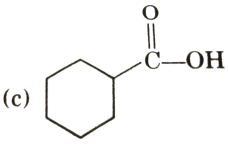
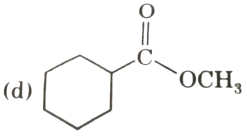
67. 

A is :

A. 

B. 

C. 

D. 

Answer: a

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68. Glycol on heatingwith PI_3mainly given Aglycol on heating with HI mainly gives B A and B are :

A. $CH_2 = CH_2$ and $CH_3CH_2 - I$

B. $CH_2 = CH_2$ and CH_2CH_2

C. $CH_3 = CH_2 - i - I$ and $CH_3CH_2 - I$

D. $CH_3 = CH_2 - I$ and CH_2CH_2

Answer: a

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69. Glycerol $\xrightarrow[\triangle]{KHSO_4} A$

A is :

A. acrolein

B. glycery sulphate

C. allyl alcohol

D. acrylic acid

Answer: a

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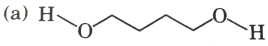
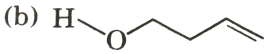
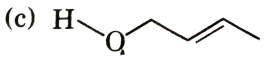
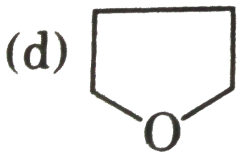
70. 

Mojar product is :

A. 

B. 

C. 

D. 

Answer: d

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71. Phenol with Hinsberg's reagent gives :

A. sulphone

B. sulphanilic acid

C. sulphonic ester

D. sulphonal

Answer: c

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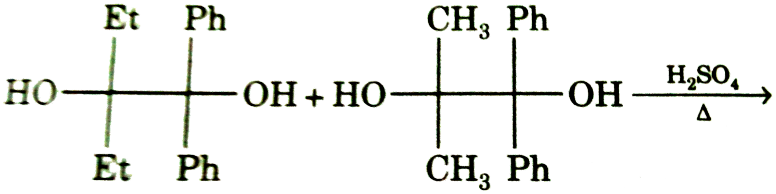
72. How many product are obtained in the gives reaction ?



A. 1

B. 2

C. 3

D. 4

Answer: b

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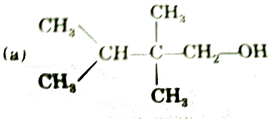
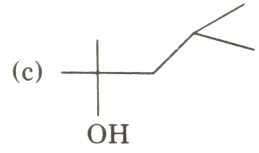
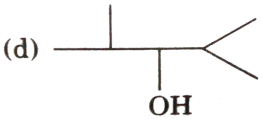
73. $CH_3 - \underset{CH_3}{\overset{|}{C}}H - \underset{CH_3}{\overset{CH_3}{\overset{|}{C}}} - CH_2 - NH_2 \xrightarrow{HNO_2} X$(major)

Major product of above reaction is :

A. 

B. 

C. 

D. 

Answer: c

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74. $CH_2=CH\underset{\underset{OH}{|}}{C}HCH_2CH_2OH \xrightarrow[\triangle]{MnO_2} A$ A is :

A. $CH_2=CH\underset{\underset{O}{||}}{C}CH_2CH_2OH$

B. $CH_2=CH\underset{\underset{OH}{|}}{C}HCH_2CHO$

C. $CH_2=CH\underset{\underset{O}{||}}{C}H_2CHO$

D. $CH_2=CH\underset{\underset{O}{||}}{C}CH_2\overset{\overset{O}{||}}{C}OH$

Answer: a

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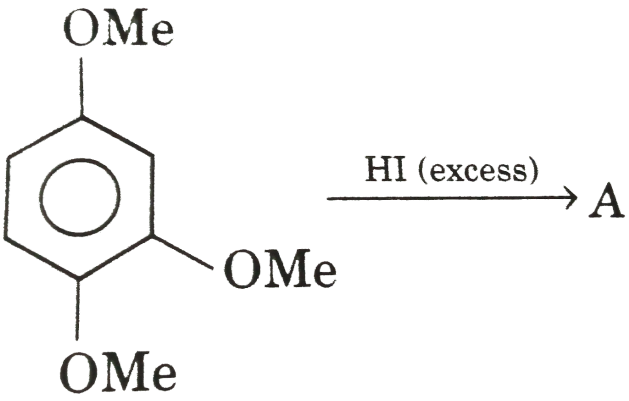
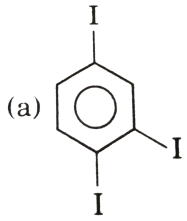
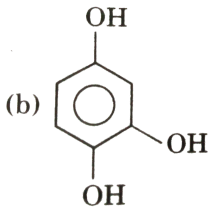
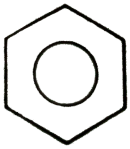
75.



A is :

A. 

B. 

(c) 

C.

D. MeOH

Answer: b

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76. $CH_3 - \overset{\oplus}{\underset{H}{C}} - \overset{CH_3}{\underset{CH_3}{C}} - CH_3 \rightarrow Me_3C - I + Me - OH$

ture about this is :

A. $Me_3C - Ome$ with anhydrous HI gives this reaction

B. $Me_3C - OMe$ with concentrated HI gives this reaction

C. both of the above

D. none of the above

Answer: c

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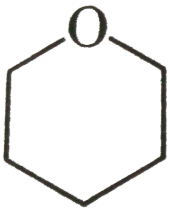
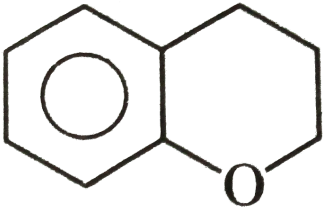
77. Consider the reaction of HI with the following :



(I)



(II)

Which forms di-iodide on reaction with HI (excess) ?

A. I and II both

B. II only

C. I only

D. None of these

Answer: c

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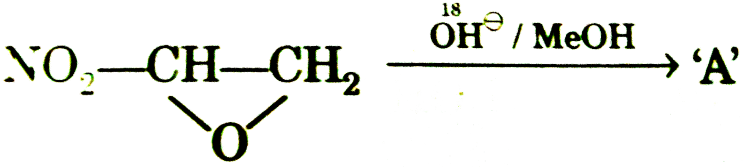

78.

product 'A' is : :

A. $NO_2 - \underset{\underset{OH}{|}}{\overset{\overset{18}{OH}}{|}}{C}H - \underset{\underset{OH}{|}}{C}H_2$

B. $NO_2 - \underset{\underset{OH}{|}}{\overset{OH}{|}}{C}H - \underset{\underset{OH}{|}}{C}H_2$

C. $NO_2 - \underset{\underset{OH}{|}}{\overset{\overset{18}{OH}}{|}}{C}H - \underset{\underset{OH}{|}}{C}H_2$

D. $NO_2 - \underset{\underset{OH}{|}}{\overset{OH}{|}}{C}H - \underset{\underset{OH}{|}}{C}H_2$

Answer: b

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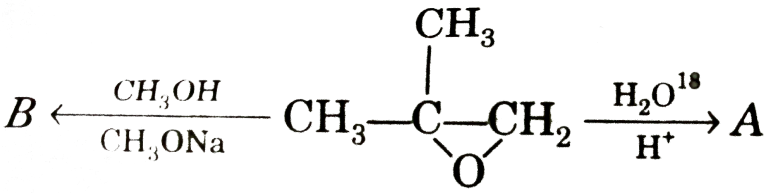
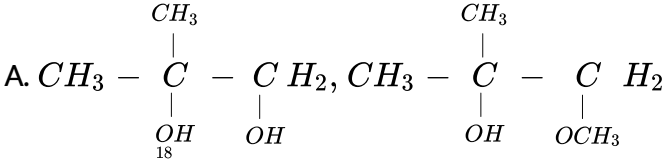
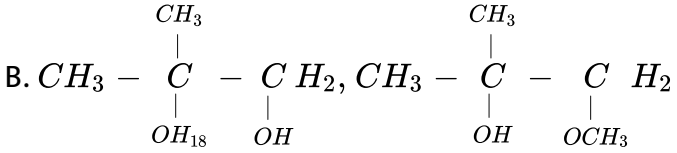
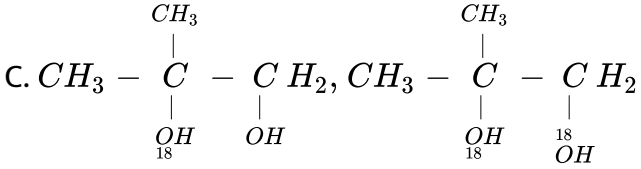


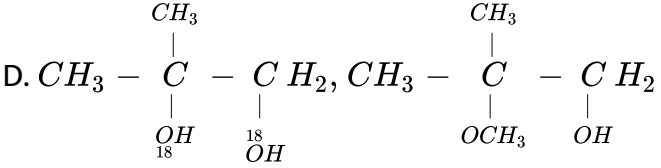
79.

and B are :

A. 

B. 

C. 

D. 

Answer: a

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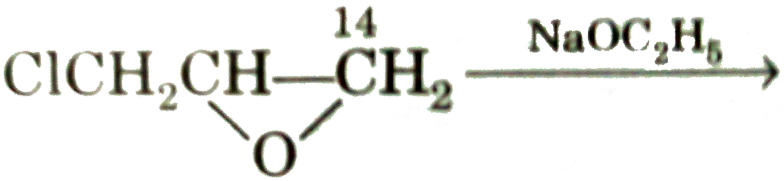
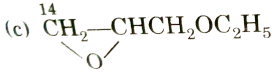
80. In the following reaction, final product is :



A. $ClCH_2\,C(OH)\,{}^{14}HCH_2OC_2H_5$

B. $ClCH_2\,C(OC_2H_5)\,{}^{14}H_2ONa$

C. 

D. 

Answer: d

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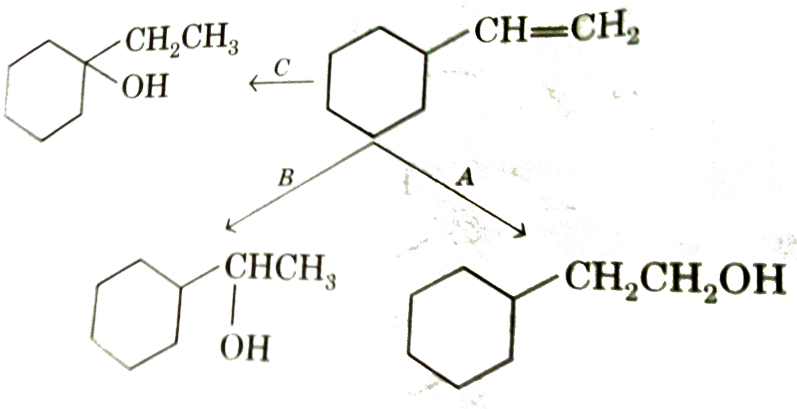

81.

Select schemes A, B, C out of :

I acid catalysed hydration

II HBO

III oxymercuration-demercuration

A. I in all cases

B. I, II, III

C. II, III, I

D. III, I, II

Answer: c

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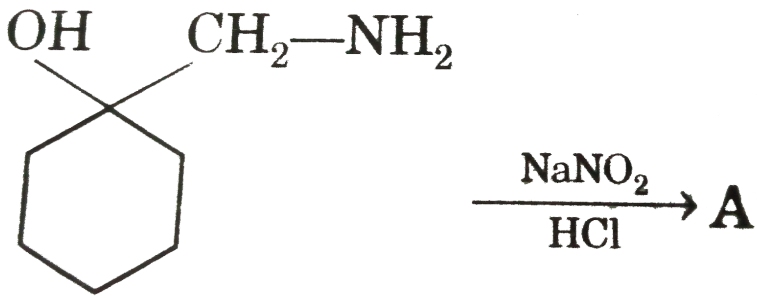
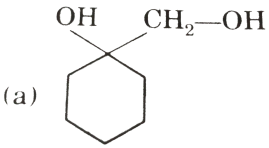
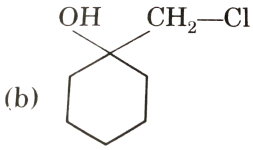
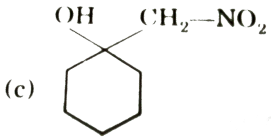


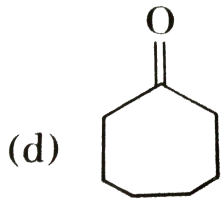
82.

A is :

A. 

B. 

C. 

D. 

Answer: d

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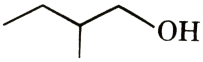
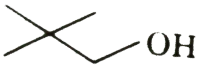
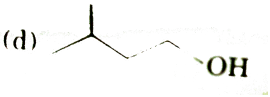
83. Which of the following alcohols connot be prepared from an alkene?

A. 

B. 

C. 

D. 

Answer: b

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84. On treatment with Lucas reagent , there is an appearance of a precipitate at once. This is a :

A. primary alcohol

B. secondary alcohol

C. tertiary alcohol

D. none of these

Answer: c

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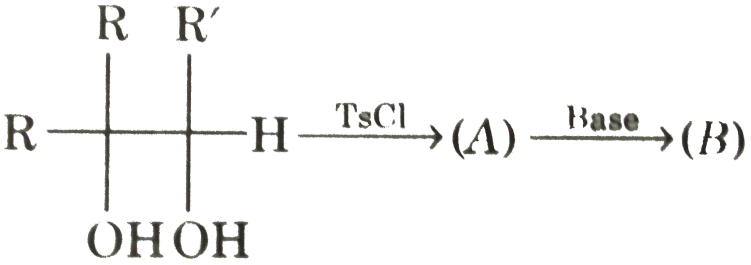
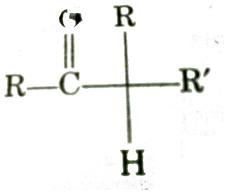
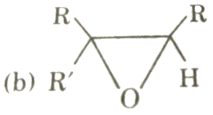
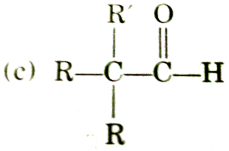
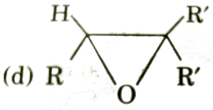
85.



A. 

B. 

C. 

D. 

Answer: a

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86. Which mechainsm is not seen during the hydrolysis of ester ?

A. A_{AC^2}

B. B_{AC^2}

C. A_{AL^2}

D. B_{AL^2}

Answer: c

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87. $Ph-\overset{\overset{O}{||}}{C}-O-CPh_3-\xrightarrow{H_3O^{\oplus}}$

Product of this reaction is :

A. $Ph-\overset{\overset{O}{||}}{C}-OH+Ph_3C-\overset{18}{O}H$

B. $Ph-\overset{\overset{O^{18}}{||}}{C}-OH+Ph_3C-OH$

C. $Ph-\overset{\overset{O}{||}}{C}-\overset{18}{O}H+Ph_3C-\overset{18}{O}H$

D. $Ph-\overset{\overset{O}{||}}{C}-\overset{18}{O}H+Ph_3C-OH$

Answer: a

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88. An enantiomerically pure acid is treated with racemic mixture of an alcohol having one chiral carbon. The ester formed will be :

A. optically active mixture

B. pure enantiomer

C. meso compound

D. racemic mixture

Answer: a

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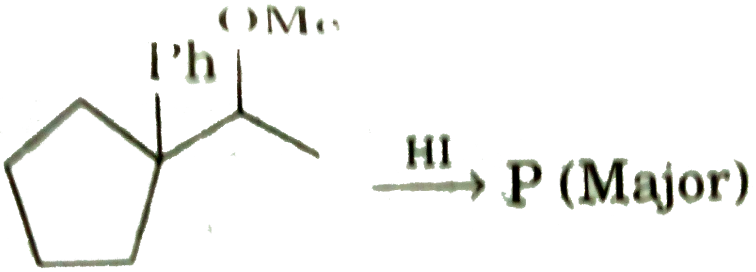
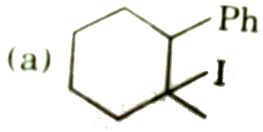
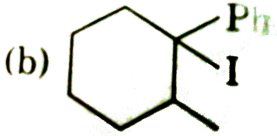
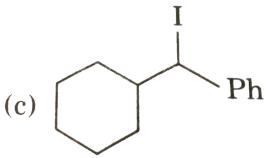


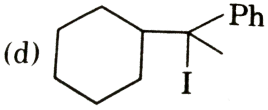
89.

P is :

A. 

B. 

C. 

D. 

Answer: b

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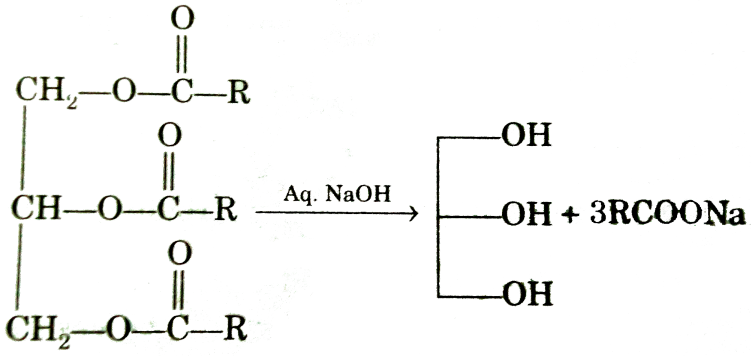
90. 

This reaction is called as :

A. esterification

B. decarboxylation

C. saponification

D. Schotten Baumann reaction

Answer: c

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REASONING TYPE

1. STATEMENT - 1 : Cyclohexanol is less souble in water than 1-hexanol.

STATEMENT - 2 : 1- hexanol can from intermoleculae H-bond with H_2O.

A. Statement - 1 is true, Statement - 2 is Ture, Statement-2 is a correct explanation for Statement-1.

B. Statement -1 is True , Statement -2 is False.

C. Statement -1 is False , Statement -2 is True.

D. Statement -1 and Statement -2 both are False.

Answer: a

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2. STATEMENT - 1 : Propan -2, 2-diol is unstable.

STATEMENT - 2 : Repusion between lone pairs of electron of two OH groups makes its unstable.

A. Statement - 1 is true, Statement - 2 is Ture, Statement-2 is a correct explanation for Statement-1.

B. Statement -1 is True , Statement -2 is False.

C. Statement -1 is False , Statement -2 is True.

D. Statement -1 and Statement -2 both are False.

Answer: c

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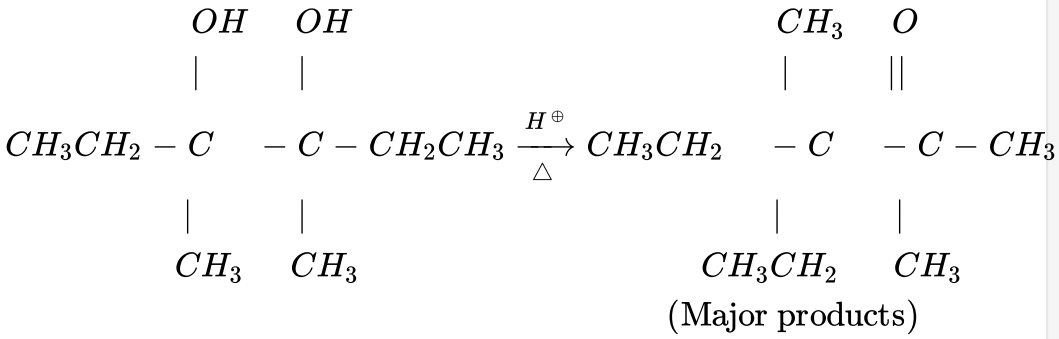
3. STATEMENT - 1 :



(Major products)

STATEMENT - 2 : CH_3CH_2group shifts during this reaction as it is a better electron donor so better migrator than -CH_3group.

A. Statement - 1 is true, Statement - 2 is Ture, Statement-2 is a correct explanation for Statement-1.

B. Statement -1 is True , Statement -2 is False.

C. Statement -1 is False , Statement -2 is True.

D. Statement -1 and Statement -2 both are False.

Answer: a

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4. STATEMENT - 1 : 1,1,1-trideutero-2-priopanol reacts with conc. H_2SO_4at high temperature to give only one alkene, 3,3,3-trideutero propene.

STATEMENT - 2 :C-D bond is stronger than C-H bond.

A. Statement - 1 is true, Statement - 2 is Ture, Statement-2 is a correct explanation for Statement-1.

B. Statement -1 is True , Statement -2 is False.

C. Statement -1 is False , Statement -2 is True.

D. Statement -1 and Statement -2 both are False.

Answer: d

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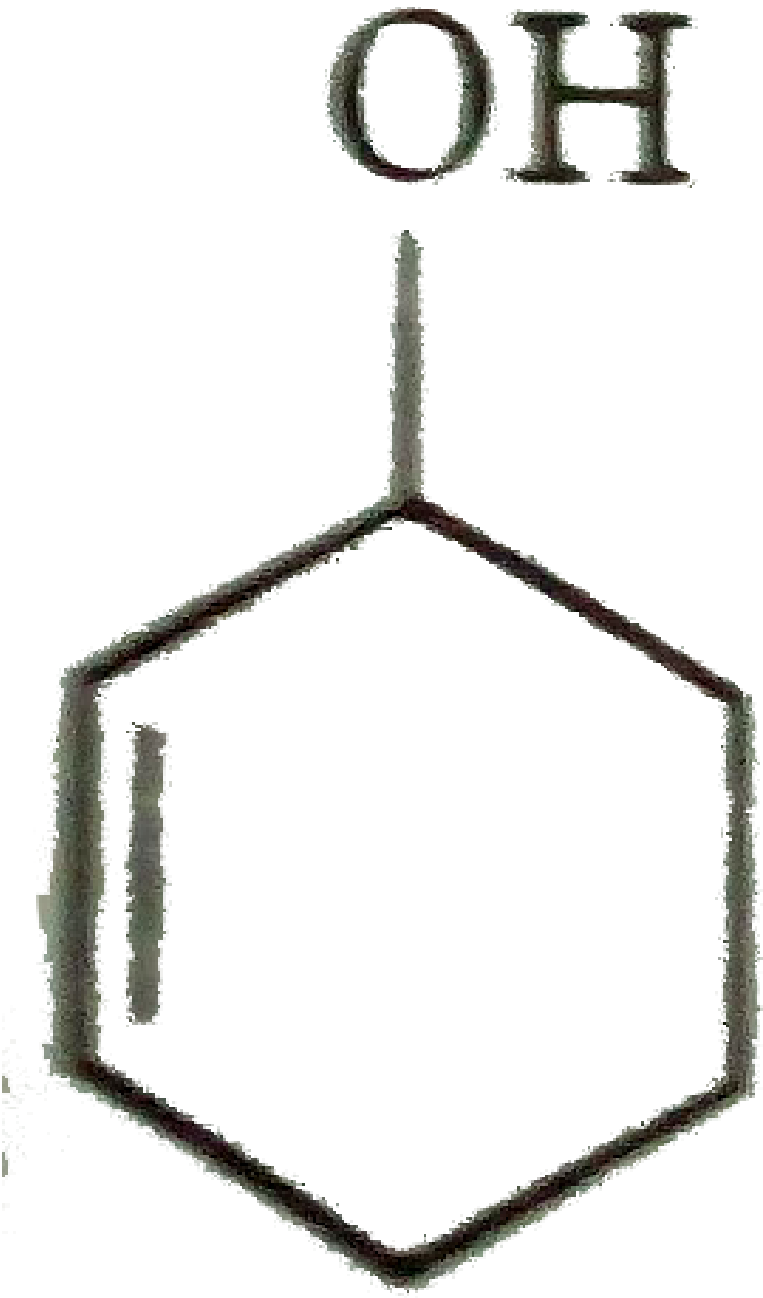
5. STATEMENT - 1 :



gives

turbidity with $ZnCl_2 / HCl$ in 5 minutes.

STATEMENT - 2 : 2° alcohol usually gives turbidily in 5 minutes.

A. Statement - 1 is true, Statement - 2 is Ture, Statement-2 is a correct explanation for Statement-1.

B. Statement -1 is True , Statement -2 is False.

C. Statement -1 is False , Statement -2 is True.

D. Statement -1 and Statement -2 both are False.

Answer: d

View Text Solution

6. STATEMENT - 1 : Result of victor Meyer test

1° ROH-Red colour

2° ROH - Blue colour

3° ROH - white or no colour

STATEMENT - 2 : Victor Meyer test is a method for separtions of 1°, 2° and 3° alcohol.

A. Statement - 1 is true, Statement - 2 is Ture, Statement-2 is a correct explanation for Statement-1.

B. Statement -1 is True , Statement -2 is False.

C. Statement -1 is False , Statement -2 is True.

D. Statement -1 and Statement -2 both are False.

Answer: c

View Text Solution

7. STATEMENT - 1 : MESH is more basic than MeOH.

STATEMENT - 2 : O is more electrongative than S.

A. Statement - 1 is true, Statement - 2 is Ture, Statement-2 is a correct explanation for Statement-1.

B. Statement -1 is True , Statement -2 is False.

C. Statement -1 is False , Statement -2 is True.

D. Statement -1 and Statement -2 both are False.

Answer: d

View Text Solution

8. STATEMENT - 1 :Boiling point of ethanol is more than ethylene glycol.

STATEMENT - 2 : Ethylene glycol forms intramolecular H-bonding.

A. Statement - 1 is true, Statement - 2 is Ture, Statement-2 is a correct explanation for Statement-1.

B. Statement -1 is True , Statement -2 is False.

C. Statement -1 is False , Statement -2 is True.

D. Statement -1 and Statement -2 both are False.

Answer: d

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9. STATEMENT - 1 : Rate of reaction with Lucas reagent is $C-\overset{OH}{\overset{|}{C}}-C>C-C-OH>C-OH$

STATEMENT - 2 : Lucas reagent reacts with all alcohol by S_N1 mechanism and rate $\propto$ stability of carbocation.

A. Statement - 1 is true, Statement - 2 is Ture, Statement-2 is a correct explanation for Statement-1.

B. Statement -1 is True , Statement -2 is False.

C. Statement -1 is False , Statement -2 is True.

D. Statement -1 and Statement -2 both are False.

Answer: d

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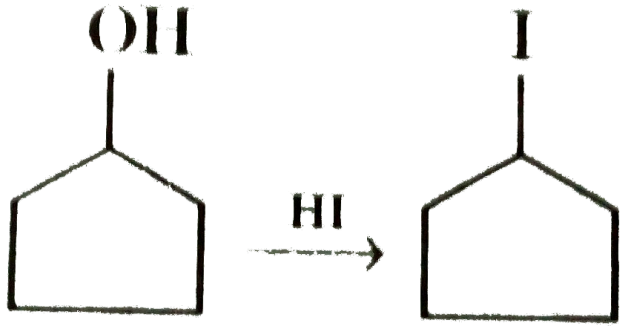
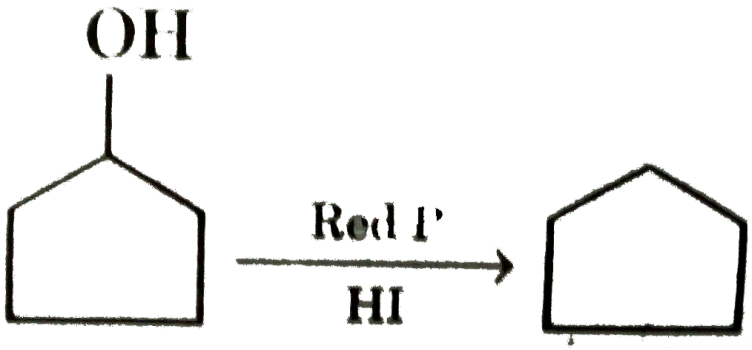
10. STATEMENT - 1 :





STATEMENT - 2 : Hi can act as reducing agent and red P acts as catalyst for this reaction.

A. Statement - 1 is true, Statement - 2 is Ture, Statement-2 is a correct explanation for Statement-1.

B. Statement -1 is True , Statement -2 is False.

C. Statement -1 is False , Statement -2 is True.

D. Statement -1 and Statement -2 both are False.

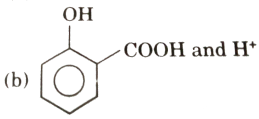
Answer: c

View Text Solution

MULTIPLE OBJECTIVE TYPE

1. Which of the following reagents or process are suitable to distinguish MeOH and EtOH ?

A. NaCl

B. 

C. anhydrous $ZnCl_2$+conc. HCL

D. Victor Meyer's process

Answer: a,b

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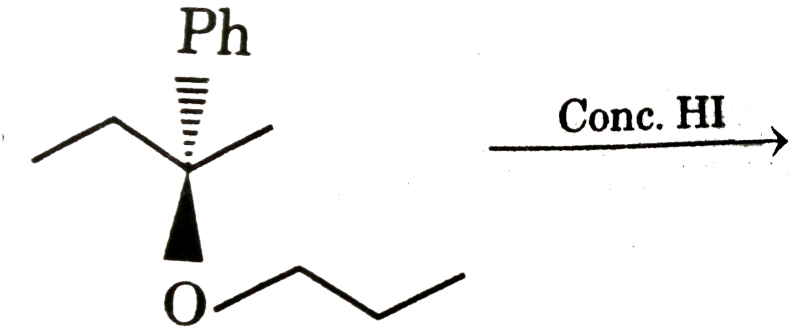
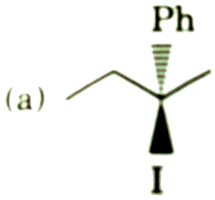
2.

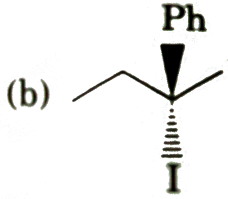


Product(s) of above reaction is / are :

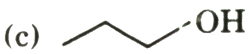
A.

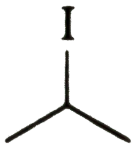


B.



C.



D. (d) 

Answer: a,b,c

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3. Correct method to prepare $Me_3C-O-Me$ in good yield is /are :

A. $Me_3C-Cl+MeONa\rightarrow$

B. $Me_2C=CH_2\xrightarrow[(ii)\,SBH]{(ii)\,Hg(OAc)_2+MeOH}$

C. $Me_3C-ONa+MeCl\rightarrow$

D. $Me_2C=CH_2\xrightarrow[MeOH]{H^{\oplus}}$

Answer: b,c,d

View Text Solution

4. Alcohol (R-OH)can be converted to R-Cl by reaction with :

A. NaCl

B. HCl / $ZnCl_2$

C. PCl_5

D. $SOCl_2$

Answer: b,c,d

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5. Which of the following reaction (s) are correctly matched with major product ?

A. $H_3C - O - CH_2 - CH_3 + PCl_5 \rightarrow H_3C - Cl + Et - Cl$

B. $CH_3COOH + PCl_5 \rightarrow CH_3COCl$

C. $MeCOMe + PCl_5 \rightarrow MeCH(Cl)Me$

D. cyclohexanol +$PCl_5 \rightarrow$ Cyclohexylcholoride

Answer: a,b,d

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6. Which of the following will produce methylcyclopentanol on heating with conc. H_2SO_4?

A. 2-cyclopentylethanol

B. methylcyclohexanol

C. ethylcyclopentanol

D. cycclohexylmethanol

Answer: a,b,d

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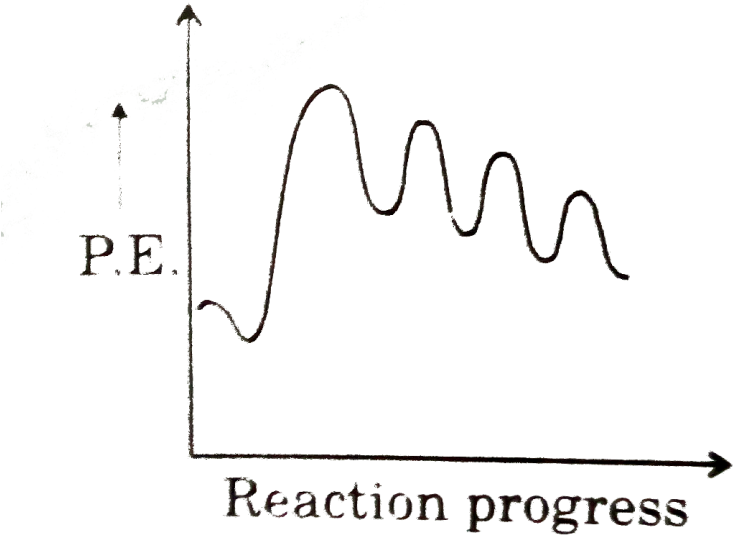
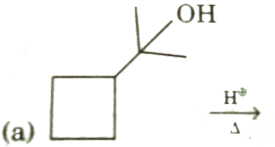
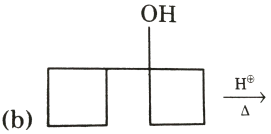
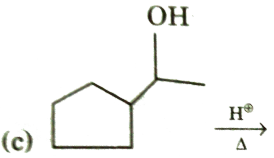
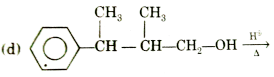
7. Which of the following reactions(s) follow the same pattern of energy graph for the formation of major product only ?



A. 

B. 

C. 

D. 

Answer: a,b,c,d

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8. Which of the folowing reaction proceeds via formation of carbacation ?

A. Dehydration of alcohols

B. Pinacol-Pinacolcne rearrangement

C. Diazotisetion of aliphatic amines

D. Photo halogenation of alkanes

Answer: a,b,c

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9. In which of the following reaction 3° alcohol will be obtained as a product ?

A. MgBr(excess)+$H-\overset{\overset{O}{||}}{C}-Cl\rightarrow \underset{H^{+}}{\longrightarrow}$

B. PhMgBr(excess)+$CH_3-\overset{\overset{O}{||}}{C}-Cl\rightarrow \xrightarrow[H^+]{}$

C. $CH_3MgBr(\text{excess})+CH_3-\overset{\overset{O}{||}}{C}-O-\overset{\overset{O}{||}}{C}-CH_3\rightarrow \xrightarrow[H^+]{}$

D. $CH_3MgBr(\text{excess})+CL-\overset{\overset{O}{||}}{C}-O-Et\rightarrow \xrightarrow[H^+]{}$

Answer: b,c,d

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10. End-product of which of following reaction give positive Iodoform test.

A. $H-\overset{\overset{O}{||}}{C}-Cl\xrightarrow[(ii)\,H^{\oplus}]{(i)\,CH_3MgBr\,(\text{excess})}$

B. $H-\overset{\overset{O}{||}}{C}-Et\xrightarrow[(ii)\,H^{\oplus}]{(i)\,CH_3MgBr\,(\text{excess})}$

C. $H-\overset{\overset{O}{||}}{C}-O-Et\xrightarrow[(ii)\,H^{\oplus}]{(i)\,CH_3MgBr\,(\text{excess})}$

D. $H-\overset{\overset{O}{||}}{C}-H\xrightarrow[(ii)\,H^{\oplus}]{(i)\,CH_3MgBr\,(\text{excess})}$

Answer: a,b,c,d

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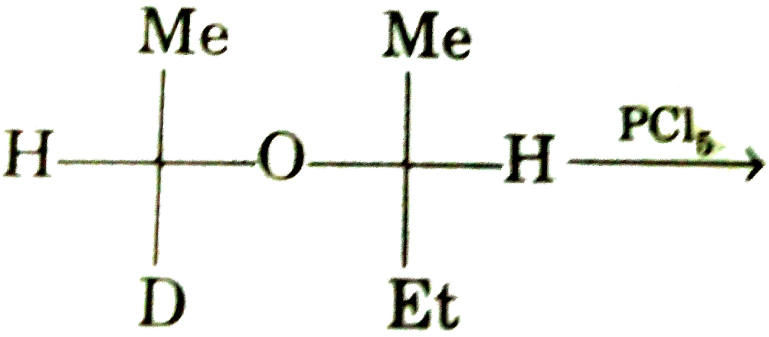
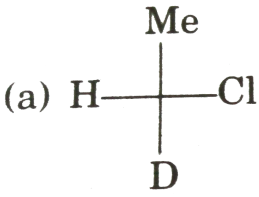
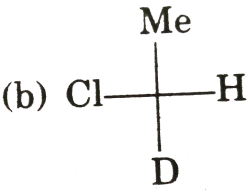
11. Product of the following reaction are:

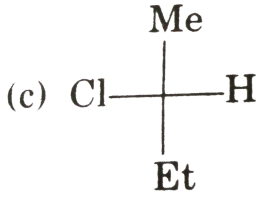


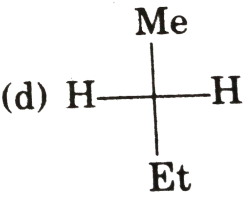
A.



B.



C. 

D. 

Answer: a,d

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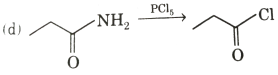
12. Select correct sreaction :

A. 

B. 

C. 

D. 

Answer: a,b,c

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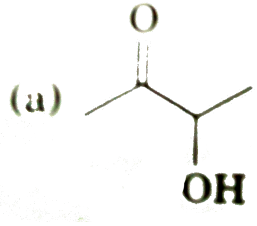
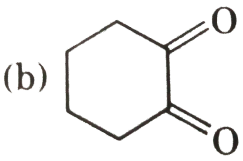
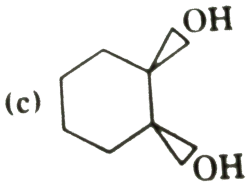
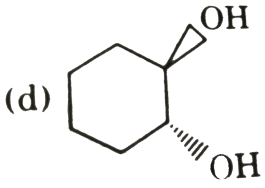
13. Compounds which can give periodic cleavage are :

A. 

B. 

C. 

D. 

Answer: a,b,c,d

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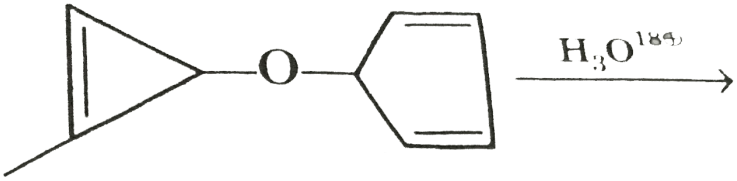
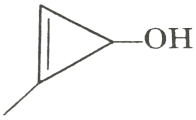
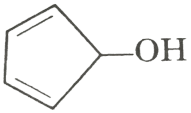
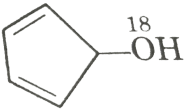
14. Product of following reaction can be :



A. (a) 

B. (b) 

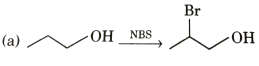
C. (c) 

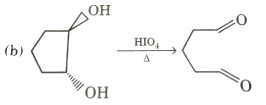
D. (d) 

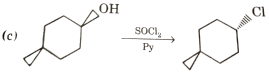
Answer: b,c,d

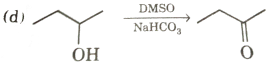
View Text Solution

15. Select reaction with incorrect major product :

A. 

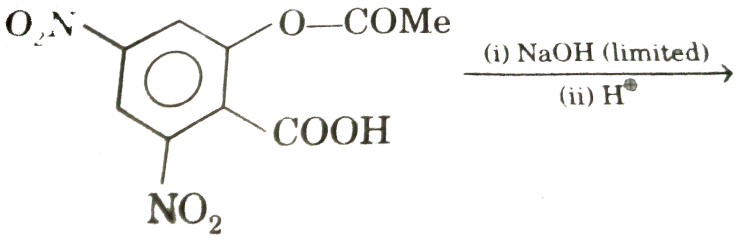
B. 

C. 

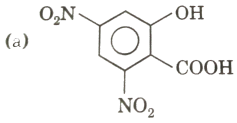
D. 

Answer: a,b,d

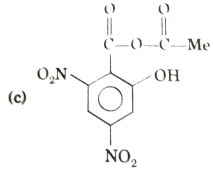
View Text Solution

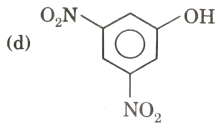
16. 

Compounds present product mixture :

A. 

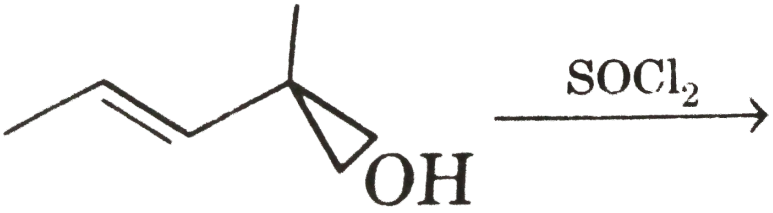
B. $Me - \overset{\overset{O}{||}}{C} - OH$

C. 

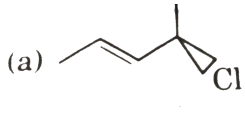
D. 

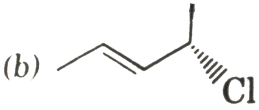
Answer: c

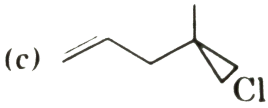
View Text Solution

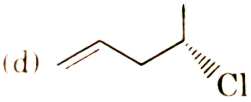


17. Product is/ are :

A. 

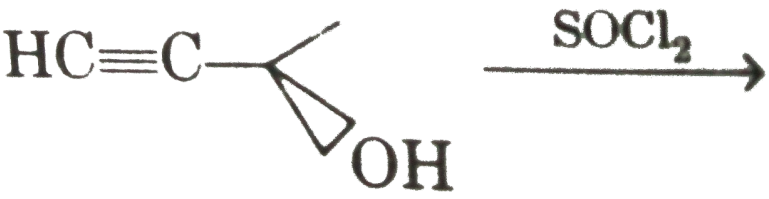
B. 

C. 

D. 

Answer: a,b

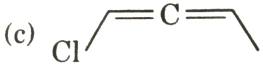
View Text Solution

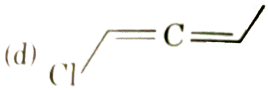


18. Product is/are :

A. 

B. 

C. 

D. 

Answer: a

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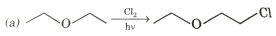
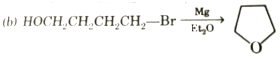
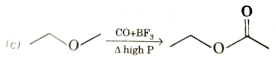
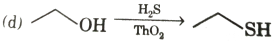
19. Select reaction with correct major product :

A. 

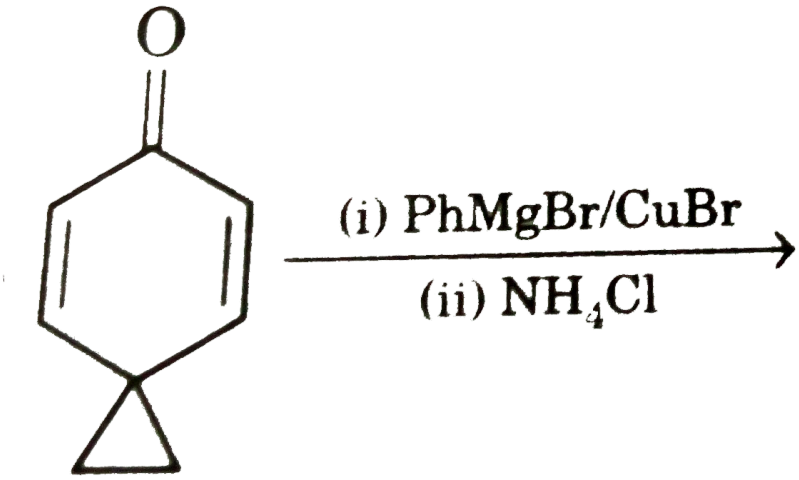
B. 

C. 

D. 

Answer: c,d

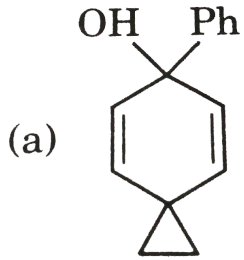
View Text Solution



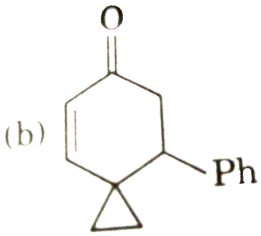
20. possible

product can be :

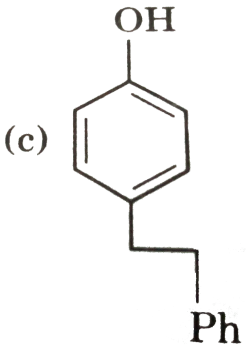
A.



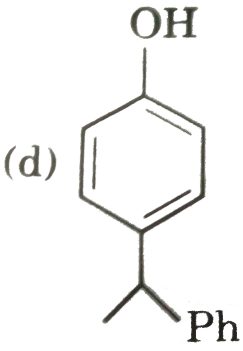
B.



C.



D.



Answer: a,b,c

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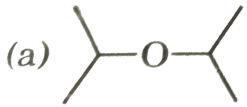
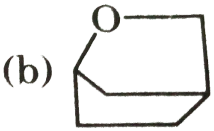
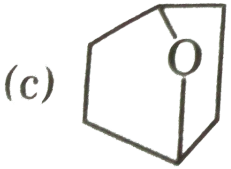
21. Which of the following compound(s) will give red colour with $FeSO_4$ + KCNS after keeping open in sunlight for sametime?

A. 

B. 

C. 

D. Ph-O-Ph

Answer: a,b

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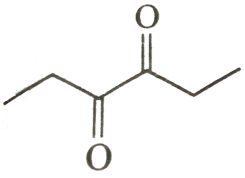
22. Which of the following will periodic cleavage ?

A. $MeOC - \overset{OH}{\overset{|}{C}}H - \underset{OH}{\overset{|}{C}}H - COOMe$

B. 

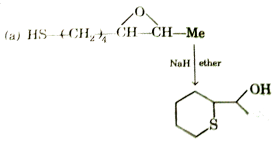
C. $Me - \underset{OH}{\overset{|}{C}}H - \underset{NH_2}{\overset{|}{C}}H - Me$

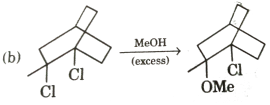
D. $Me - \underset{OH}{\overset{|}{C}}H - CH_2 - OH$

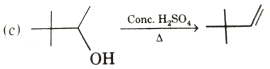
Answer: a,b,c,d

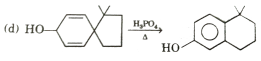
View Text Solution

23. Select reaction with correct majoe product :

A. 

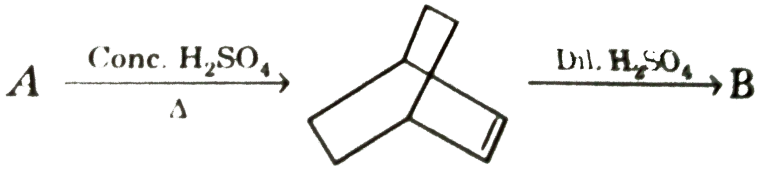
B. 

C. 

D. 

Answer: a,b

View Text Solution



24.

A and B can be:

A. homomers

B. chain isomers

C. optical ispmers

D. functional isomers

Answer: a,b,c

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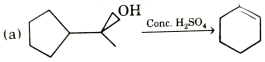
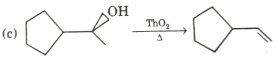
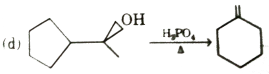
25. Select incorrect major product(s) :

A. 

B. 

C. 

D. 

Answer: d

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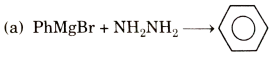
26. Select reaction with correct major product :

A. 

B. $PhMgBr + NH_2Cl \rightarrow PhNH_2$

C. $PhMgBr + NH_2 - OMe \rightarrow PhOMe$

D. $PhMgBr + NH_2 - OH \rightarrow PhOH$

Answer: b,d

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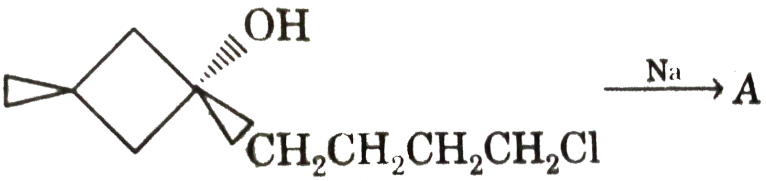
27.



A. A is capable of showing geometrical ismerism

B. A is capable of showing optical isomerism

C. A is a racemic mixture

D. A is epoxy compound

Answer: b,d

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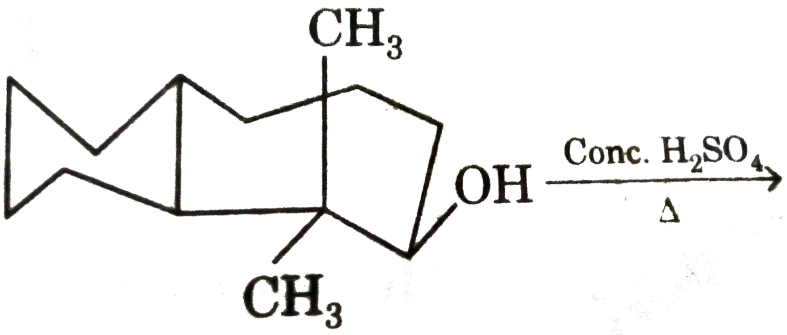
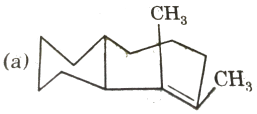
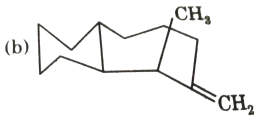
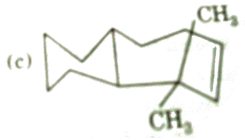


28. major

product is :

A. 

B. 

C. 

D. 

Answer: d

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29. Which are not cleaved by HIO_4?

I : glycerol II : glycol

III : 1, 3-propenediol IV : methoxy - 2 - propanol

A. Glycerol

B. Glycol

C. 1,3-propandiol

D. 1-mrthoxy-2-propanol

Answer: c,d

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30. $C_2H_5NH_2 \xrightarrow[\text{reagent}]{\text{Tilden}} (i) \xrightarrow{NH_3} (ii) \xrightarrow[HCl]{NaNO_2} (iii)$

A. alcohol

B. ether

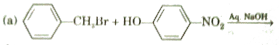
C. alkyl chloride

D. alkyl nitrite

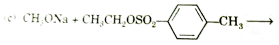
Answer: a,b,c,d

View Text Solution

31. Which method is useful for the synthesis of ether?

A. 

B. $C_2H_5Ona + (CH_3)_2SO_4 \rightarrow$

C. 

D. $(CH_3)_3CBr + CH_3CH_2ONa \rightarrow$

Answer: a,b,c

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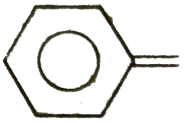
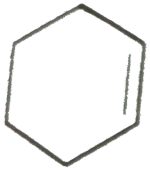
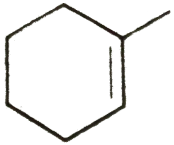
32. HBO, oxymercuration-demercuration and acid catalysed hydration will not give not give same product in :

A. (a) 

B. (b) 

C. (c) 

D. (d) 

Answer: a.b.d

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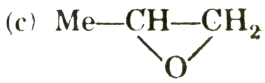
33. Compound which gives alcohol on reduction with $NaBH_4$is/are

A. $Me - \underset{\underset{O}{||}}{C} - Cl$

B. $Me - \underset{\underset{O}{||}}{C} - NH_2$

C. 

D. $Me - \overset{\overset{O}{||}}{C} - O - \overset{\overset{O}{||}}{C} - Me$

Answer: a

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34. Compound which gives alcohol on reduction with $LiAlH_4$ is/are :

A. $Me - \underset{\underset{O}{||}}{C} - Cl$

B. $Me - \underset{\underset{O}{||}}{C} - NH_2$

C. 

D. $Me - \overset{\overset{O}{||}}{C} - O - \overset{\overset{O}{||}}{C} - Me$

Answer: a,c,d

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35. Methanol can be distinguished from athanol by :

A. heating with $I_2$and alkali

B. treating with Schiff's reagent

C. treating with CrO_3 solution in dil.H_2SO_4

D. treating with Lucas reagent

Answer: a

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36. Lucas test is usedto make distinction between$1^\circ 2^\circ$ and3° alcohols

$$ROH + \underset{\text{conc.}}{Hcl} \xrightarrow{\text{Anhydrous}\,ZnCl_2} \underset{\text{White turbidity}}{RCI\downarrow} + H_2O$$

This shows that :

A. ROH behaves as a base

B. greater the value pK_a(alcohol), greater the reactivity with conc.HCLand thus sooner the formation white turbidity

C. alcohol which reacts fastest with Na metal, will give turbidity at fastest rate

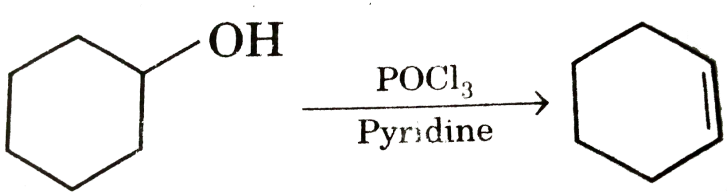
D. alcohol which gives red colour during Victor meyer test, will always give turbidity at slower rate than those giving blue or white colour during Victor Meyer test

Answer: a,b

View Text Solution

37. Dehydration of alcohol take place more rapidlywith $POCL_3$then with H_2SO_4. Select the correct statements about the following

dehydration reaction :



A. It does not involve carbocation .

B. It involves R-$OPOCl_2$ with $-OPOCl_2$as a better leaving group.

C. It involves E2 mechanism as pyridine base abstracts proton from the adjacent carbon as the same time at which -$OPOCl_2$ is leaving .

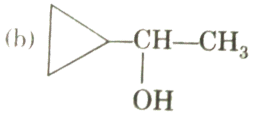
D. It is E1 reaction without formation of carboction.

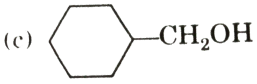
Answer: a,b,c

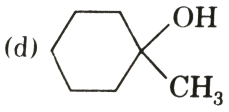
View Text Solution

38. Which of the following will get oxidised by Be_2 / Koh into carboxylic acid ?

A. $CH_3 - CH_2 - OH$

B. 

C. 

D. 

Answer: a,b

View Text Solution

39. Diethyl ether reacts with PCI_5 to from

A. ethyl choride

B. phosphorous oxy trichloride

C. 1,2-dichloro ethane

D. ethene

Answer: a,b

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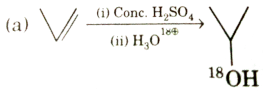
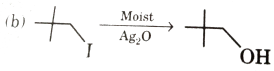
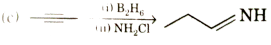
40. Select correct option having majoor product:

A. 

B. 

C. 

D. $Me_3C - O - Me \xrightarrow{HI} Me_3C - I + MeOH$

Answer: c,d

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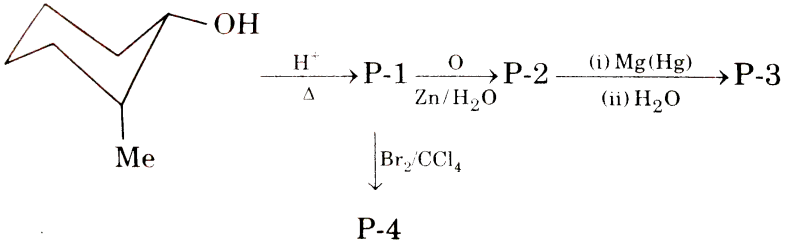
COMPREHENSION TYPE



1.

If methyl group is on axial possition in product (P-4),then what is the possition of Br-atoms on C_1 and C_2 respectively?

A. Axial-equatrial

B. Equatorial-axial

C. Axial-axial

D. Equatorial-equatorial

Answer: d

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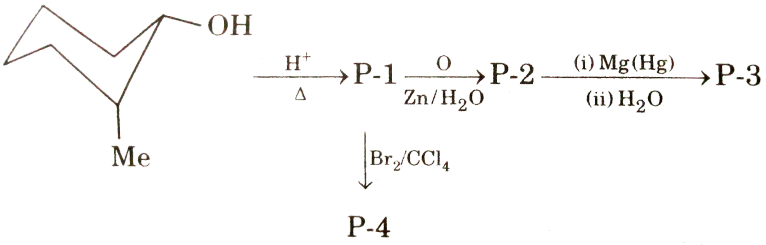


2.

correct sequence of reagents to convert P-4 into P-3:

A. (i) Zn , (ii) dil. H_2SO_4

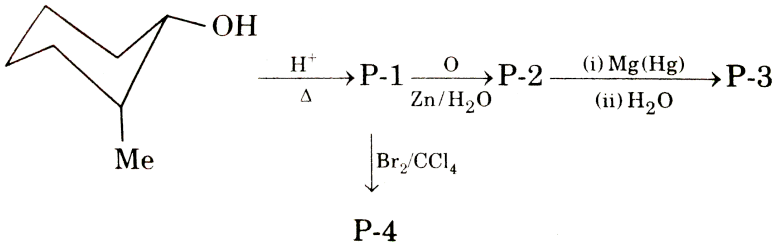
B. (i) Na/Et_2O, (ii)B_2H_6, (iii) NaOH,H_2O_2

C. (i)Mg(excess)/Et_2O, $(ii)O_2$(excess), (iii)$NHBH_4Cl$(excess)

D. (i) Mg(1 eq.),(ii)$Hg(OAc)_2 + H_2O$, (iii)$NaBH_4$

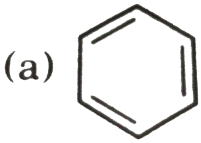
Answer: c

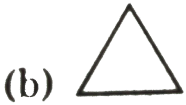
View Text Solution

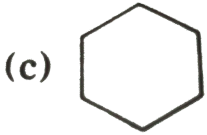


3.

Which of the following will produce same visual change as p-1 with Br_2 water?

A. 

B. 

C. 

D. None of these

Answer: b

View Text Solution

4. An organic compound A containing C = 70% and H =11.6% gave the following results :

(P) 0.384 gm of the compound A displaced 100 ml of air at 1 atm and 273 K.

(Q) On treatment with PCl_3A gave another compound, which contained 33.97%(34%)chlorine.

IUPAC anme of the compound A is :

A. pentanal

B. 2- pentanone

C. cyclopentanol

D. 1,3-epoxypentane

Answer: c

View Text Solution

5. An organic compound A containing C = 70% and H =11.6% gave the following results :

(P) 0.384 gm of the compound A displaced 100 ml of air at 1 atm and 273 K.

(Q) On treatment with PCl_3A gave another compound, which contained 33.97%(34%)chlorine.

An ismor of it B gave compound C containing 50.35% chlorine with PCl_5.C gives back B with aq. KOH correct structure of B is:

A. pent-4-en-1-ol

B. cyclopentanone

C. 1,3-epoxypentane

D. 3-pentanone

Answer: d

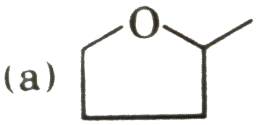
View Text Solution

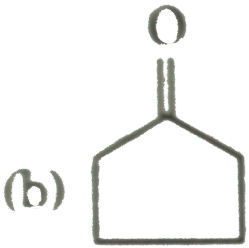
6. An organic compound A containing C = 70% and H =11.6% gave the following results :

(P) 0.384 gm of the compound A displaced 100 ml of air at 1 atm and 273 K.

(Q) On treatment with PCl_3A gave another compound, which contained 33.97%(34%)chlorine.

An ismor of A and B which gives two organic product with PCl_5 is :

A. 

B. 

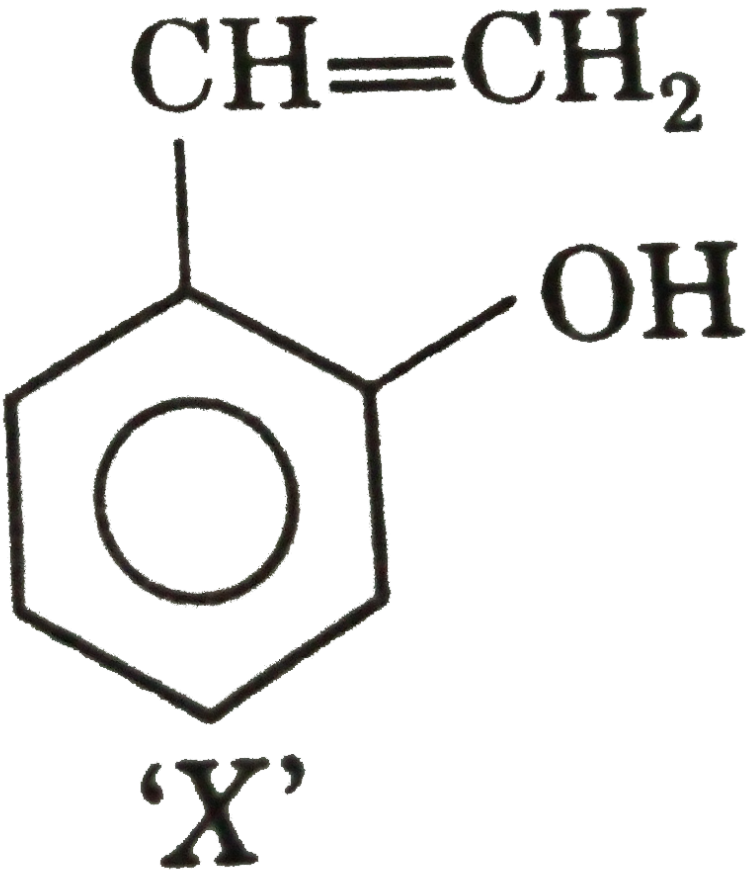
C. $CH_2 = CH - CH_2 - O - CH_2 - CH_3$

D. $CH_2 = CH - CH_2 - \underset{\underset{OH}{|}}{C}H - CH_3$`

Answer: c

View Text Solution

7. For a gives compound



'X'

There are 3 benzenoid isomer of 'X' P, Q and R for which following

observation are made :

(a) P is a monosubstituted benzene derivative which can give

observation are made :

(b) Q give position iodoform test.

(c) R gives silver mirror with Tollen's reagent.

Number of possible P :

A. 1

B. 2

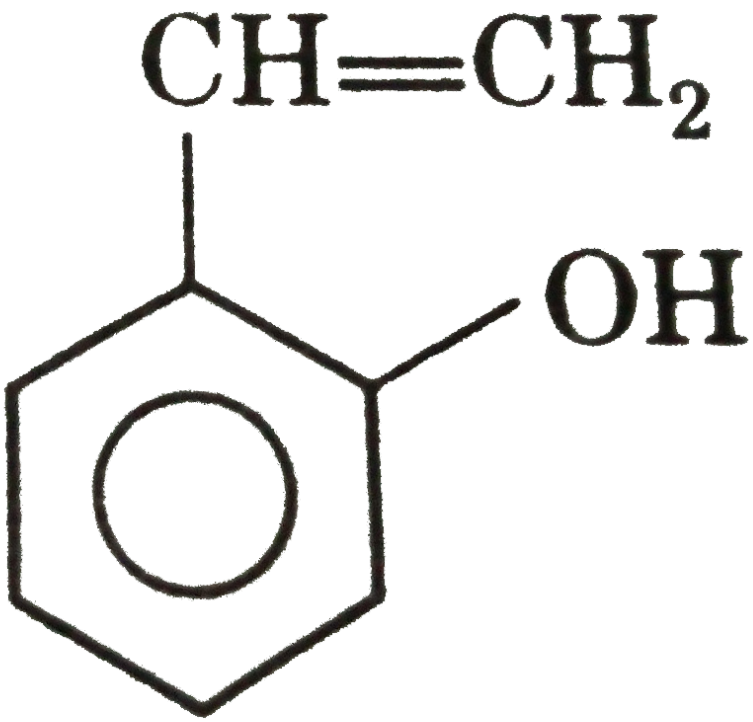
C. 3

D. 4

Answer: b

View Text Solution

8. For a gives compound



'X'

There are 3 benzenoid isomer of 'X' P, Q and R for which following observation are made :

(a) P is a monosubstituted benzene derivative which can give

observation are made :

(b) Q give position iodoform test.

(c) R gives silver mirror with Tollen's reagent.

Numberof positive Q :

A. 1

B. 2

C. 3

D. 4

Answer: a

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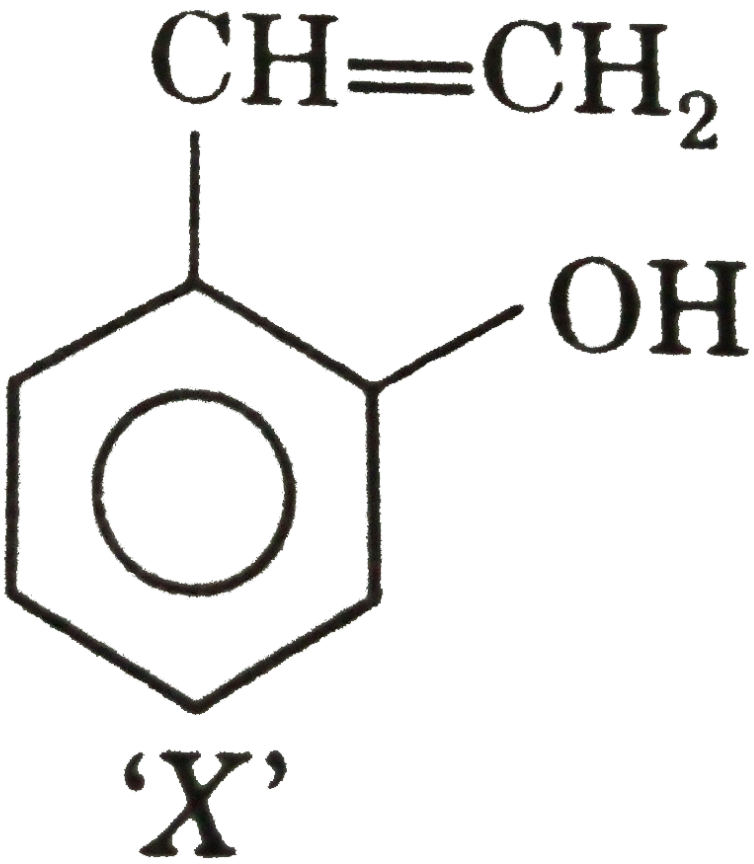
9. For a gives compound



'X'

There are 3 benzenoid isomer of 'X' P, Q and R for which following observation are made :

(a) P is a monosubstituted benzene derivative which can give

observation are made :

(b) Q give position iodoform test.

(c) R gives silver mirror with Tollen's reagent.

Number of possible R :

A. 2

B. 3

C. 4

D. 5

Answer: c

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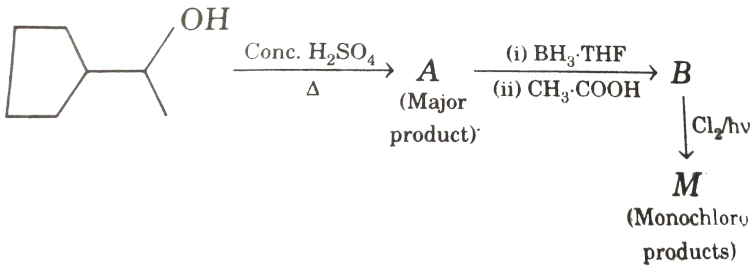

10.

Number of fractions obtained during fraction distillation of aM :

A. 5

B. 6

C. 7

D. 8

Answer: d

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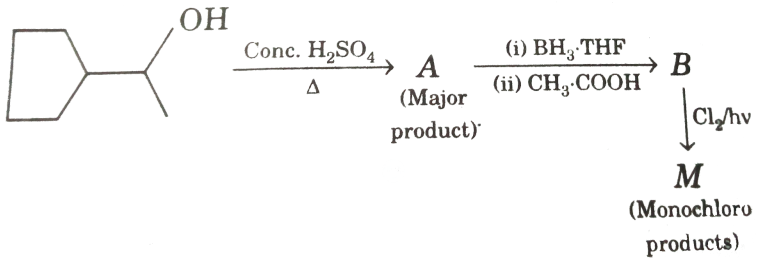
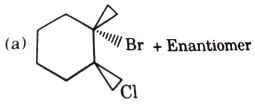
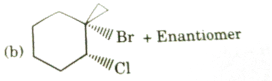
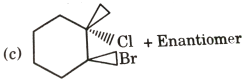


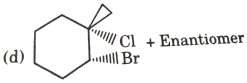
11.

A on reaction with Br-Cl gives :

A. 

B. 

C. 

D. 

Answer: c

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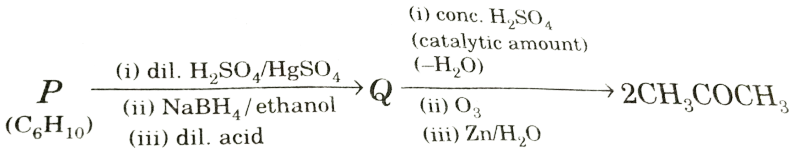
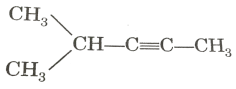
12. An acyclic hydrocarbon P,having molecular formula C_6H_{10}' gave acetone as the only organic product through the following sequence of reactions, in which Q is an intermediate organic compound



The structure of the compound P is :

A. $CH_3CH_2CH_2CH_2 - C \equiv CH$

B. $CH_3CH_2 - C \equiv C - CH_2CH_3$

C. (c) 

D. 

Answer: d

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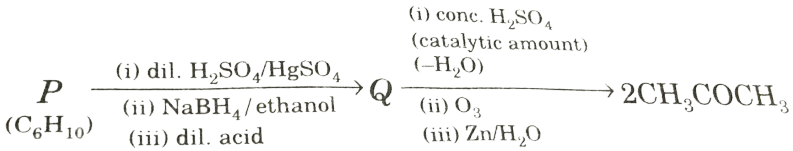
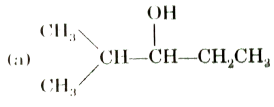
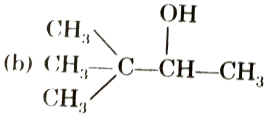
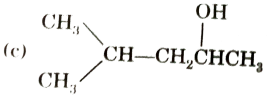
13. An acyclic hydrocarbon P,having molecular formula C_6H_{10}' gave acetone as the only organic product through the following sequence of reactions, in which Q is an intermediate organic compound



The structure of the compound Q is :

A. 

B. 

C. 

D. $CH_3CH_2CH_2\overset{\overset{OH}{|}}{C}HCH_2CH_3$

Answer: b

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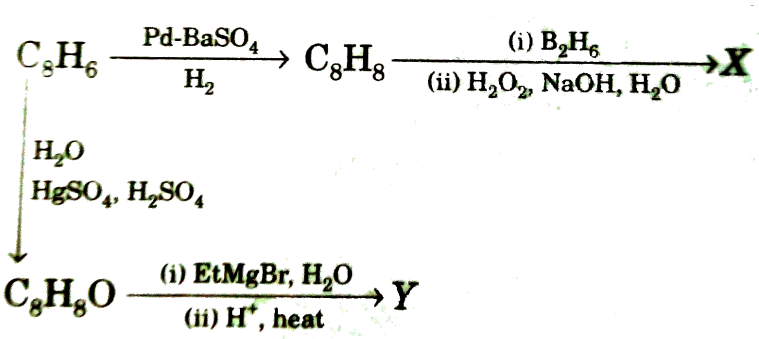
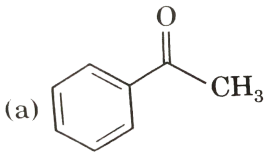
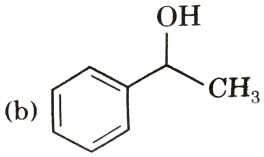
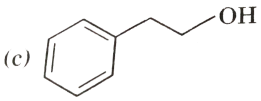
14. In the following reaction :

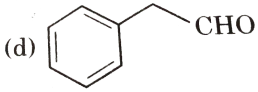


Compound X is :

A. 

B. 

C. 

D. 

Answer: c

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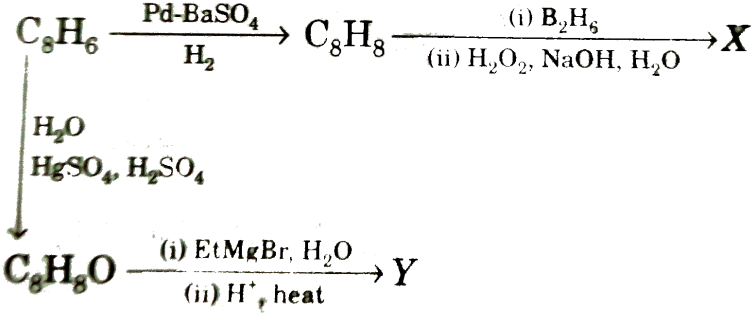
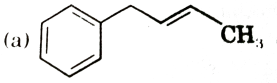
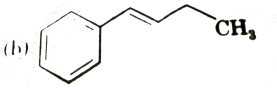
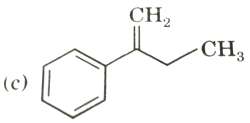
15. In the following reaction :

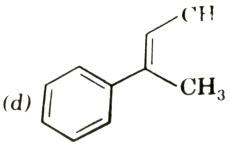


The major compound Y is :

A. 

B. 

C. 

D. 

Answer: d

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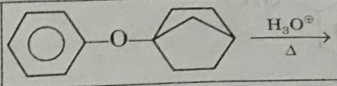
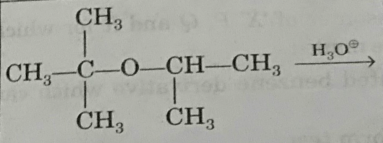
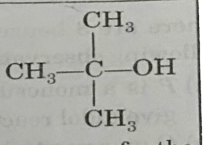
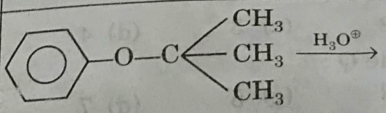
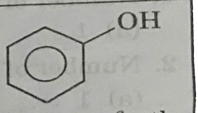
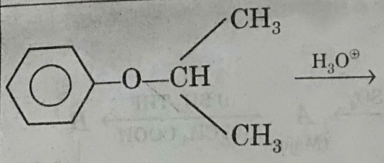
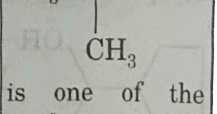
MATCH THE COLUMN TYPE

1. Match the following colums :

Column-I		Column-II	
(a)		(p)	No reaction
(b)		(q)	 is one of the product of the reaction
(c)		(r)	 is one of the product of the reaction
(d)		(s)	 is one of the product of the reaction

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2. Column -Iand Column -II contains four entries each. Entry of column-I are to be uniquely matched with only one entry of column-II

Column-I (Compound)		Column-II (B.P.)	
(a)	$H_3C—CH_2—CH_2—CH_2—CH_2—OH$	(p)	290° C
(b)	$H_3C—\underset{\displaystyle OH}{\underset{\vert}{CH}}—CH_3$	(q)	138° C
(c)	$H_2C(OH)—CH(OH)—CH_2(OH)$	(r)	105° C
(d)	$H_3C—\underset{\displaystyle OH}{\underset{\vert}{\overset{\displaystyle CH_3}{\overset{\vert}{C}}}}—CH_2—CH_3$	(s)	82.4° C

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3. Column -Iand Column -II contains four entries each. Entry of column-I are to be uniquely matched with only one entry of column-II

Column-I (Compound)		Column-II (Solubility in gm/100 g H_2O)	
(a)	CH_3CH_2—OH	(p)	0.05
(b)	$(C_6H_5)_2CH$—OH	(q)	12.5
(c)	$CH_3(CH_2)_5CH_2OH$	(r)	∞
(d)	H_3C—CH(OH)—CH_2—CH_3	(s)	0.2

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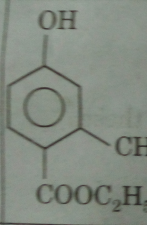
4. For substrates in column- I match the number of mol of CH_3MgX required per mol.

Column-I		Column-II	
(a)	$CH_3COOC_2H_5$	(p)	1
(b)	CH_3COCl	(q)	2
(c)		(r)	3
(d)	$HOCH_2COOC_2H_5$	(s)	4

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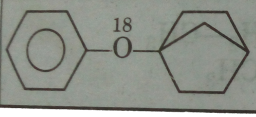
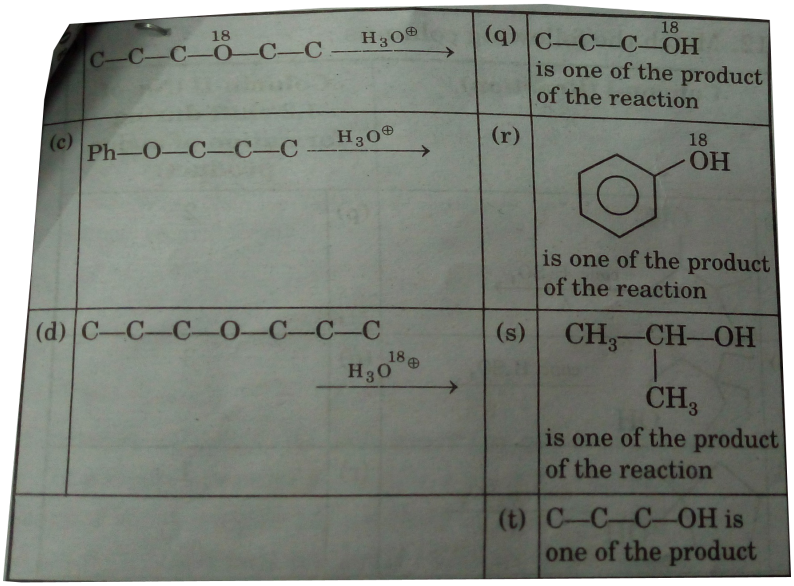
5. Match the following columns :

Column-I (Organic compounds oxidised by HIO_4)	Column-II (Products of HIO_4 oxidation)
(a) $CH_3CH_2CH(OH)-CH(OH)-CH_2CH_3 \xrightarrow{HIO_4}$	(p) $2H_2C=O + HCOOH$
(b) $PhCH_2CH(OH)-CH(OH)-CH_3 \xrightarrow{HIO_4}$	(q) $2CH_3CH_2CH=O$
(c) $CH_2(OH)-CH_2(OH) \xrightarrow{HIO_4}$	(r) $2H_2C=O$
(d) $CH_2(OH)-CH_2(OH)-CH_2(OH) \xrightarrow{HIO_4}$	(s) $PhCH_2CH=O + CH_3CH=O$

View Text Solution

6. Match the following columns :

Column-I	Column-II
(a) 	(p) No reaction



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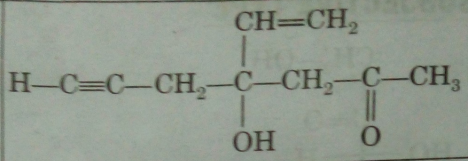
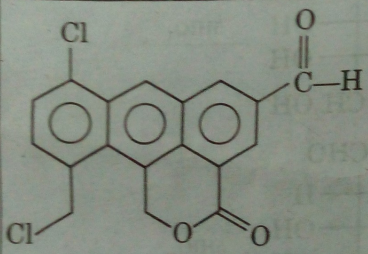
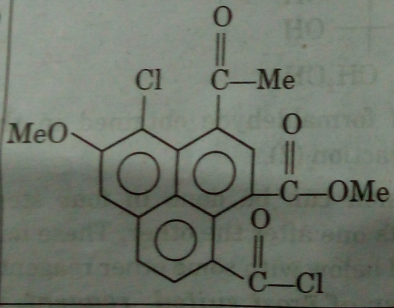
7. Match the maximum number of CH_3MgX consumed, per molecule given in Column -II, when the substrates given in Column -I reacts with

Column-I		Column-II	
(a)		(p)	3
(b)		(q)	4
(c)		(r)	5
		(s)	6

it.

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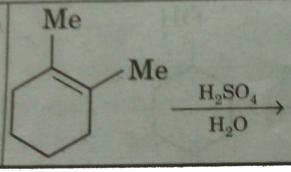
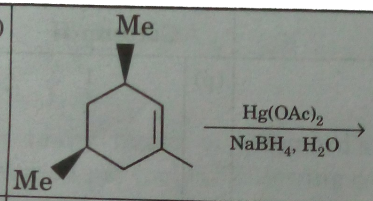
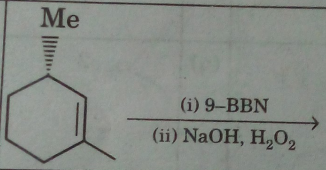
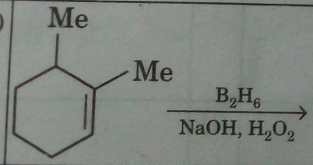
8. Match the folowing columns :

Column-I		Column-II	
(a)		(p)	Optically active product.
(b)		(q)	One of the product (major) contain plane of symmetry (POS).
(c)		(r)	Optically active molecules only.
(d)		(s)	Number of product that can show optically activity = 4
		(t)	No reaction.

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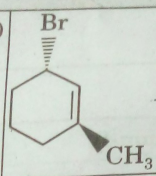
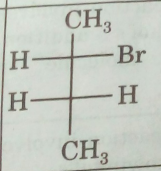
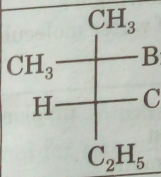
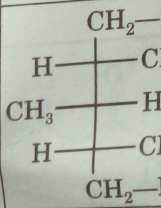
9. Match the folowing columns :

Column-I		Column-II	
(a)		(p)	Racemic mixture
(b)		(q)	Diastereomers
(c)		(r)	Optically inactive product
(d)		(s)	Optically active product
		(t)	Most reactive Grignard's reagent

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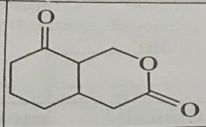
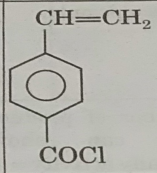
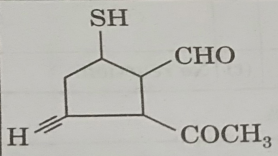
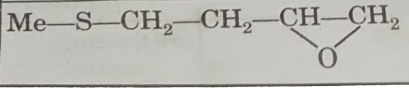
10. Match the maximum number of CH_3MgX consumed, per mole, given in Column -II, when the substrates given in Column -I reacts with

it.

Column-I		Column-II	
(a)		(p)	1
(b)		(q)	2
(c)		(r)	3
(d)		(s)	4

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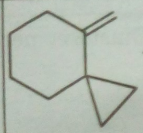
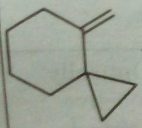
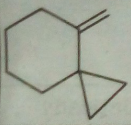
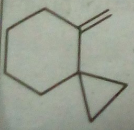
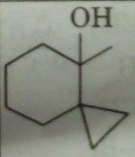
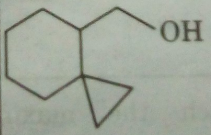
11. Match the folowing columns :

Column-I		Column-II	
(a)	 dilute H_2SO_4	(p)	Over all reaction involves Markowinkof's addition of water molecule on alkene.
(b)	 B_2H_6 / H_2O_2/NaOH	(q)	Over all reaction involves Anti-Markowinkof's addition of water molecule on alkene.
(c)	 OMDM	(r)	Reaction involves carbocation rearrangement.
(d)	 (i) HBr peroxide (ii) aq. KOH	(s)	 is major product.
		(t)	 is major product.

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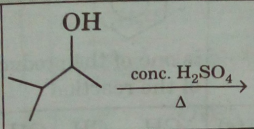
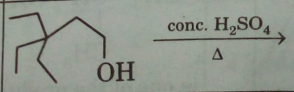
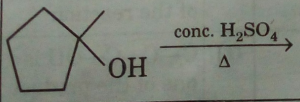
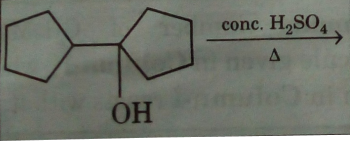
12. Match the foolwing columns :

Column-I (Reaction)		Column-II (No. of 1,2-shift during formation of major product)	
(a)		(p)	2
(b)		(q)	3
(c)		(r)	1
(d)		(s)	0

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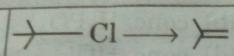
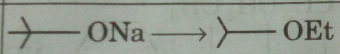
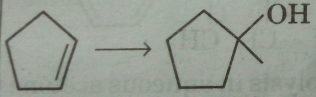
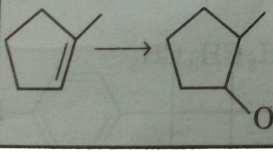
13. Match the chemical conversions in List -I with the appropriate reagents in List-II and select the correct answer using the code given

below and lists.

List-I		List-II	
(a)		(p)	(i) $Hg(OAc)_2$; (ii) $NaBH_4$
(b)		(q)	NaOEt
(c)		(r)	Et—Br
(d)		(s)	(i) B_2H_6 (ii) $H_2O_2/NaOH$

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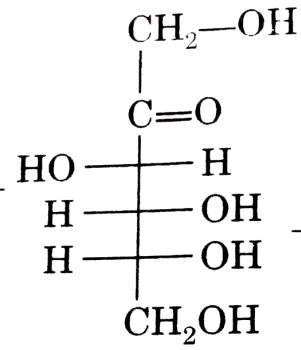
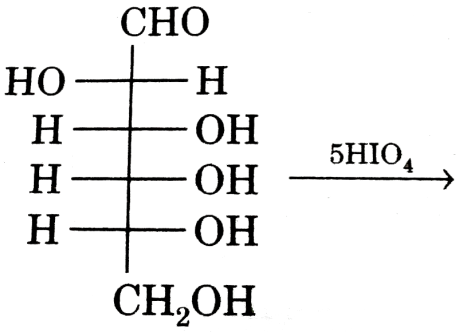
SUBJECTIVE TYPE

1. Reaction 1—



Reaction 2—



1.

Ratio of moles of foraldehyde obtained in the reaction (1) and reaction(2).

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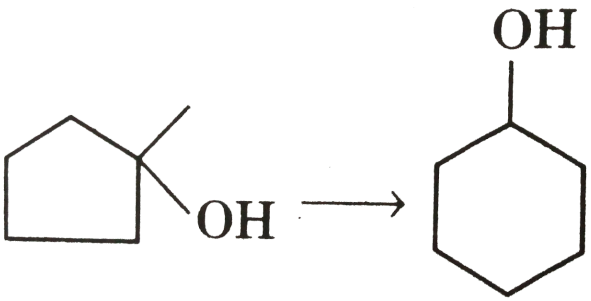
2. Following conversion can be done in four steps using four reagents one after the other. These four reagents are listed below with some other reagents.

Write the number of must suited reagent, in order you want to use them and present the four digit number in OMR sheet.For example if you want to use (1) than (2) than (3) than (4) fill 1234 in OMR sheet.



(1) $O_3 / Zn / H_2O$ (2) O_3 / H_2O

(3)$conc.\ H_2SO_4 / \Delta$ (4) $aq.\ KOH / \Delta$

(5) H_2 / Ni (6)Zn-Hg//HCl

(7) $NH_2 - NH_2 / EtOK$ (8)$H_3O^{\oplus}$

(9) $NaOH / CaO / \triangle$

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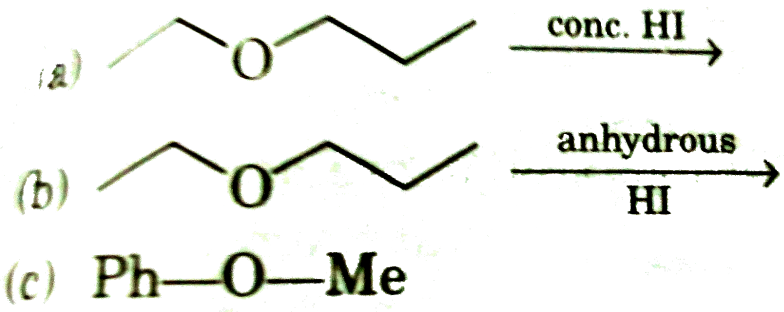
3. Sum of molecular mass of iodides produced in following reaction is :



If answer of part (a) is x, part (b) is y and part (c) is z then present sum of x+y+z in the OMR sheet. For example : if answer of (a) is 12, (b) is 13 and (c) is 3 you will fill 0028 in OMR sheet.

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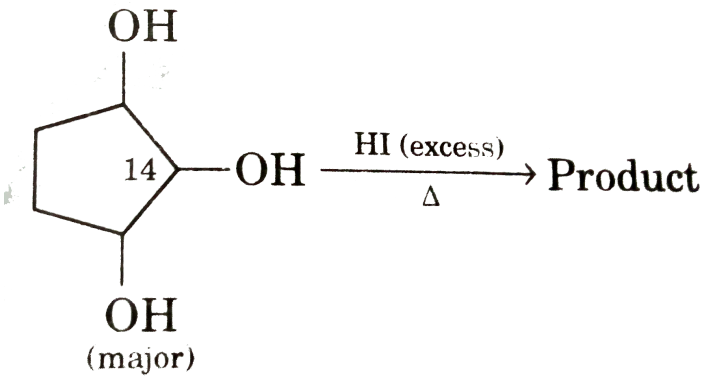
4.



(a) Number of orgsnic products obtained in more than 5% yield.

(b)Number of moles of HI consumed.

(c)Number of moles of I_2 generated.

(d) Number of fraction which can be obtained on fractional distillation of organic product from mizture of products.

Write answer of part a, b, c and d in the same order and present the four digit number as answer in OMR sheet. For example : If all these answers are 9 then fill 9999 in OMR sheet.

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5. Among various alkyl halide which one is the most reaction towards S_N1 reaction.

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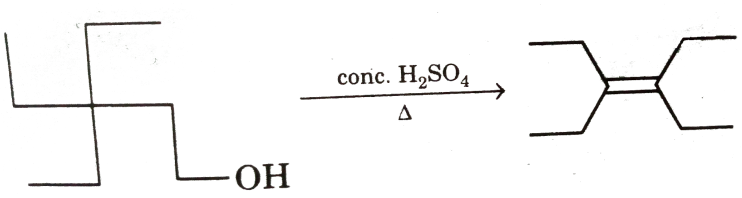
6. Find out the number of 1-2 shifts during the conversion of



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7. How many out of the following reagents will change 1- propanol into propanaldehyde?

(a) $H^+ / KMnO_4 / (\triangle)$

(b)TsCl / DMSO + $NaHCO_3$

(c) P.C.C(pyridinium chloro chromate)

(d) Bendict solution

(e)Red hot Cu tube

(f) $H^+ / K_2Cr_2O_7 / (\triangle)$

(g) $NBS / (\triangle)$

(h)$SeO_2 / (\triangle)$

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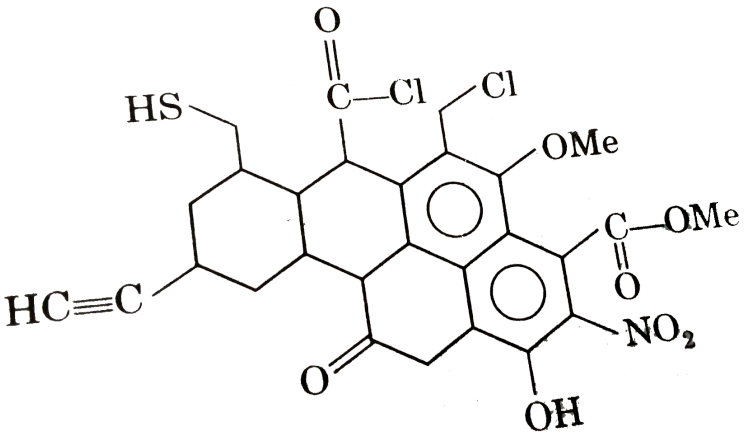
8. How many moles of Grignard's reagent will be consumed per mole of following compound?



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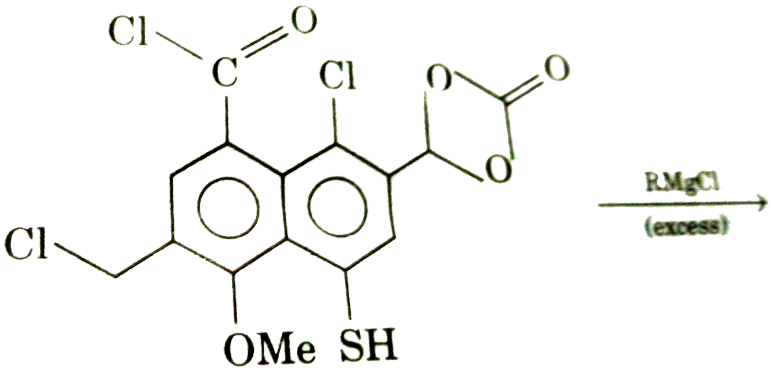
9.



Number of moles of Grignard reagent consumed per mol.

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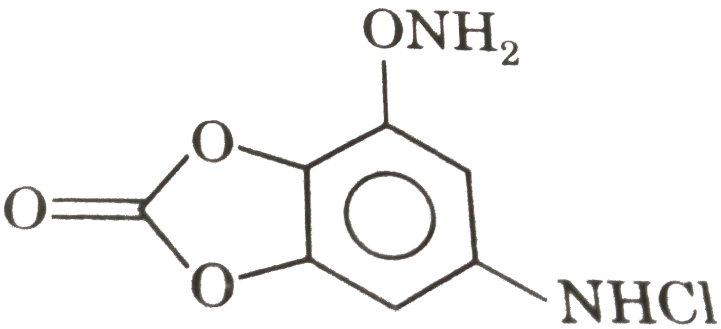
10. Number of mole of Grignard comsumed per mol in given molecule.

(When grignard reagent is in excess)



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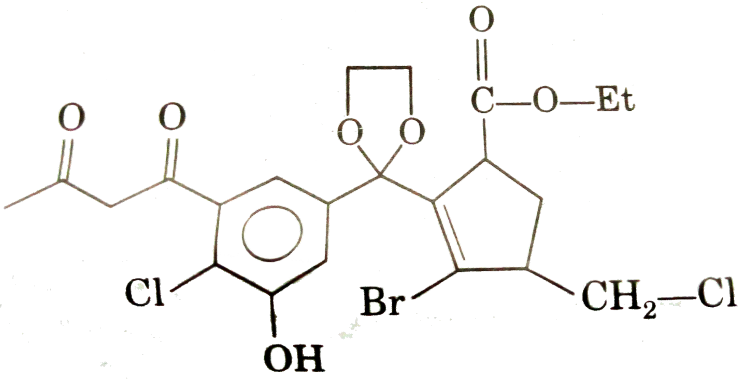
11. How many number of moles of R-MgX consumed per mol for one mole of following compound ?



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12. How many alkyl chlorides would yield 3-methyl -pentane on conversion into the absolute ethanol?

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13. How many alkyl chlorides (without considering steroisomers) would yield 2-methyl-butane on conversion into the Grignard reagent followed by treatment with absolute ethanol ?

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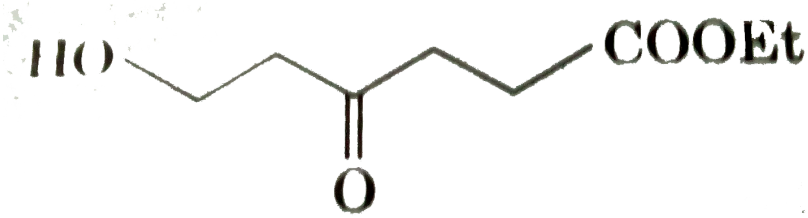
14. The number of moles of Grignard reagent comsumed per mol of the compound



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15. If 'X' liters of ethene would be produced when 2.62 gm of vinyl magenesium bromide is treated with 224 ml of ethyne at STP. Then what is the value of "1000X" ?

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16. How many monochloro compounds will give 1-butene on treatment with Mg/ether followed by H_2O?

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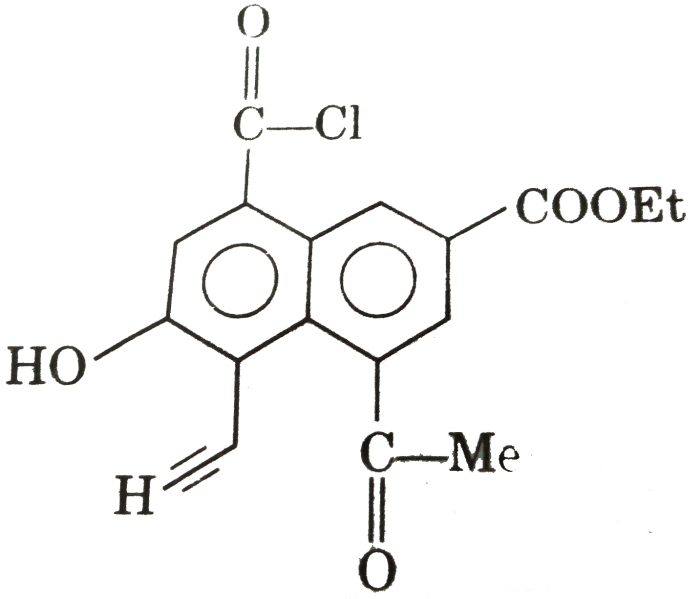
17. How many moles of Grignard readent can react with one mole of following compound?



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18. 4.6 g of a polydric alcohol was treated with an excess of methyl magnesium bromide to produce 3.36 liter of CH_4 at STP. Calculate number of -OH(molecular weight of alcohol = 92)

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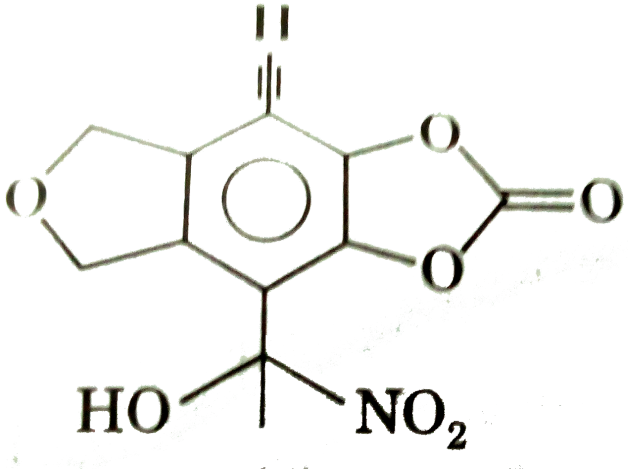
19. Calculate number of molecules of Grignard reagent consumed by 1 molecular of following compound.



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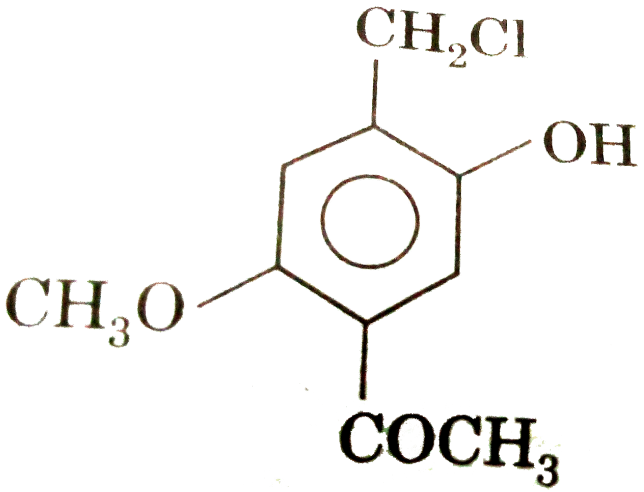
20. Number of RMgX consumed per molecule with the following reactant :

(a) PhCHO (b) $Cl-\overset{O}{\overset{||}{C}}-\overset{O}{\overset{||}{C}}-OEt$

(c)



(c)

(d) $PbCl_2$

Wright answer of part a, b, c, and d in the same order and present the four digit number as answer in OMR sheet. For example : If all these answer are 9 then fill 9999 in OMR sheet.

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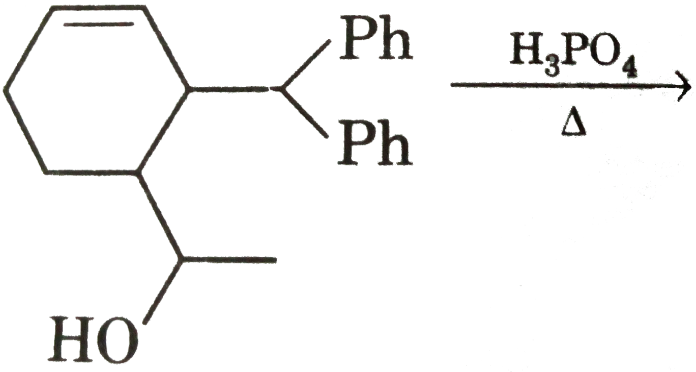
21.



How many transition states are formed during formation of major product in above reaction ?

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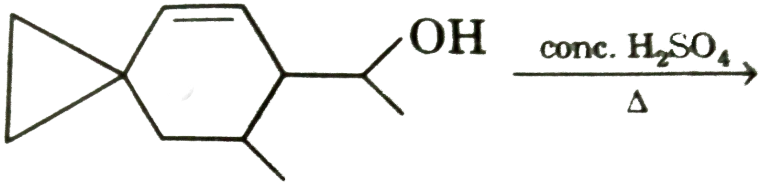
22. Total number of 1,2-shift's during formation of major product is :



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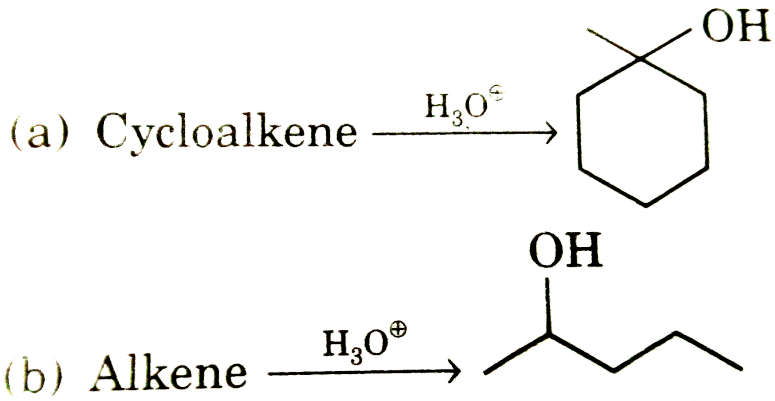
23.



Total possible (a) -Total possible (b) is ?

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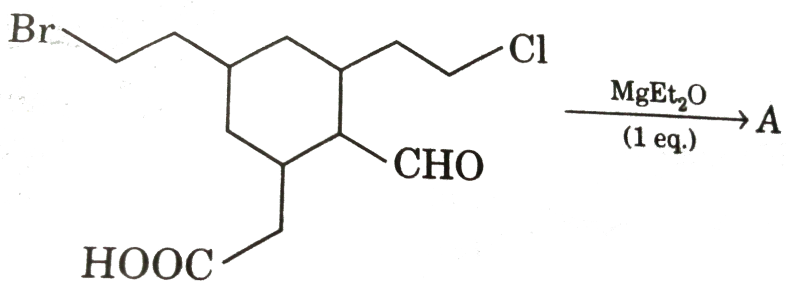
24.



Degree of unsaturation of A is :

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25. Total how many organic product (s) will be formed when 4-methylcyclohexoxy-3-methylcyclohexane is hydrolysed ?

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26. How many ketones having molecular weight = 100 will react with $LiAlH_4$ to given a product with significant optical activity ?

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27. How many chiral compounds of formula $C_5H_{12}O$ will give optically inactive compound of formula $C_5H_{10}O$ on heaing with $H^{\oplus}KMnO_4$?

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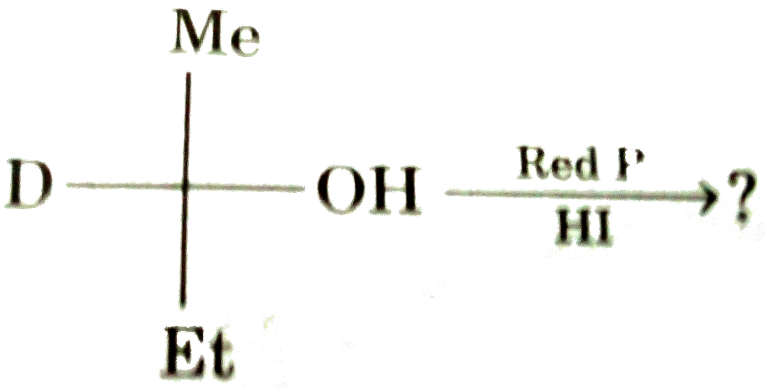

28.

(Number of organic product formed.)

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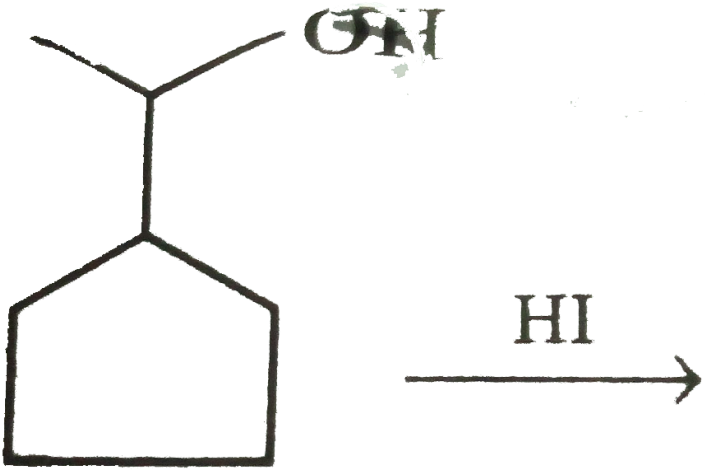

29.

Number of chiral carbon formed in the major product.

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30. Write sequence of reagents used to convert pentane into3-pentanol.

(1) $F_2Hv(N_2)$

(2) Me_3COK

(3) alc. KOH

(4) dil.$H_{2_{SO_4}}$

(5) Cl_2hv

(6) $Hg(OAc)_2 + H_2O$

(7)B_2H_6

(8) $NaBH_4$

(9) $NaOH + H_2O_2$

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31. Consider all possible isomeric ketones including stereoisomers of relative molar mass of 100. All these isomers are independently reacted with $NaBH_4$.(Note : stereoisomers are also reacted separately).The total number of ketones that give a racemic products is / are ..... .

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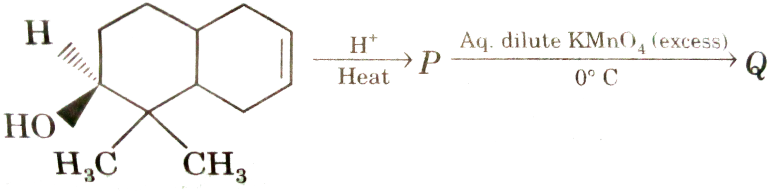
32. The number of hydroxy groups in Q is :



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STRAIGHT OBJECTIVE TYPE

1. The compound which reacts fastest with Lucas reagent at room temperature is

A. butan-1-ol

B. butan-2-ol

C. 2-methylpropan-1-ol

D. 2-methylpropan-2-ol

Answer: d

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2. The compound which gives positive iodoform test is :

A. 1-pentanol

B. 2-pentanone

C. 3-pentanone

D. pentanal

Answer: b

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3. Diethyl ether on heating with concentrated HI gives two moles of :

A. ethanol

B. iodoform

C. ethyl iodide

D. methyl iodide

Answer: c

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4. An industrial method of preparation of methanol is :

A. catalytic reduction of carbon monoxide in pressure of ZnO-Cr_2O_3

B. by reducing methane with steam at $900^\circ C$ with a nickel catalyst

C. by reducing formaldehyde with lithium aluminium hydride

D. by reducing formaldehyde with aqueous sodium hydroxide solution

Answer: a

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5. HBr reacts fastest with :

A. 2-methylpropan-2-ol

B. propan-1-ol

C. propan-2-ol

D. 2-methhylpropan-1-ol

Answer: a

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6. Which of the following compounds is oxidized to prepare methylethyl ketone ?

A. 2-propanol

B. 1-butanol

C. 2-butanol

D. t-butyl alcohol

Answer: c

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7. In CH_3CH_2OH, the bond that undergoes hyteroytic cleavage most readily id :

A. C-C

B. C-O

C. C-H

D. O-H

Answer: d

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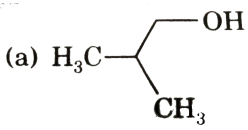
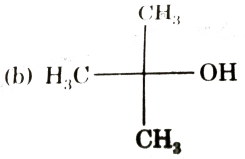
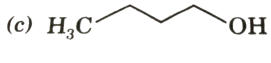
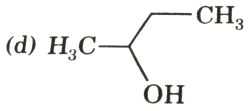
8. The compound which gives the most stable carbonium on de

A. 

B. 

C. 

D. 

Answer: b

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9. The products of combustion of an aliphatic thiol (RSH) at 298 K are :

A. $CO_2(g), H_2O(g)$ and $So_4(g)$

B. $CO_2(g), H_2O(l)$ and $So_4(g)$

C. $CO_2(l), H_2O(l)$ and $So_4(g)$

D. $CO_2(g), H_2O(l)$ and $So_4(l)$

Answer: d

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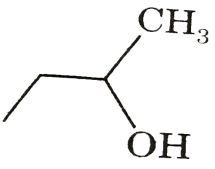
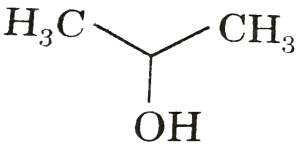
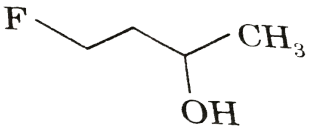
10. The order of reactivety of the following alcohols towards conc. HCl is



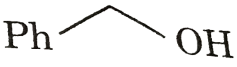
(I)



(III)



(II)



(IV)

:

A. I gt II gt III gt IV

B. I gt III gt II gtIV

C. IV gt III gt II gt I

D. IV gt III gt I gt II

Answer: c

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11. The reaction product of $C_6H_5OCH_3 + Hi \xrightarrow{\triangle}$ .... Is :

A. $C_6H_5OH + CH_3I$

B. $C_6H_5I + CH_3OH$

C. $C_6H_5CH_3 + HOI$

D. $C_6H_6 + CH_3OH$

Answer: a

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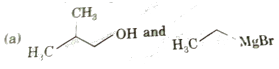
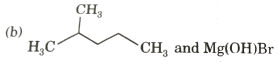
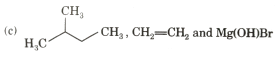
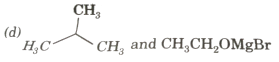
12. Isobytyl magesium bromide with dry ether and absolute alcohol gives :

A. 

B. 

C. 

D. 

Answer: d

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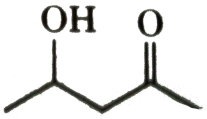
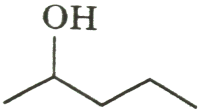
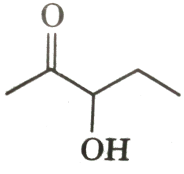
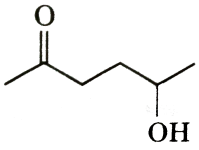
13. Which one of the following will most readily be dehydraed in acidic condition ?

A. (a) 

B. (b) 

C. (c) 

D. (d) 

Answer: a

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14. The compound that will react most readily with NaOH to form methanol is :

A. $(CH_3)_4N^+I^-$

B. CH_3OCH_3

C. $(CH_3)_3S^+I^-$

D. $(CH_3)_3CCl$

Answer: a

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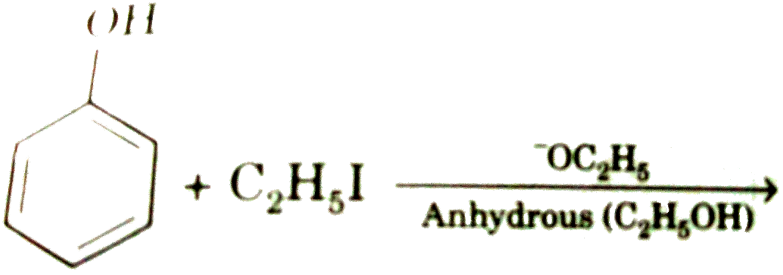
15.



A. $C_6H_5OC_2H_5$

B. $C_6H_5OC_2H_6$

C. $C_6H_5OC_6H_5$

D. C_6H_5I

Answer: d

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16. The product of acid catalyzed hydration of $2-$ pheny1propene is

A. 3-phenyl-2-propanol

B. 1-phenyl-2-propanol

C. 2-phenyl-2-propanol

D. 2-phenyl-1-propanol

Answer: c

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17. The best method to prepare cuclohexane from cyclohexanol is by using :

A. conc. HCl + $ZnCl_2$

B. conc. H_3PO_4

C. HBr

D. conc.HCl

Answer: b

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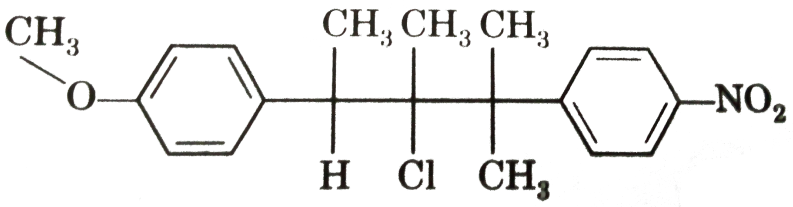
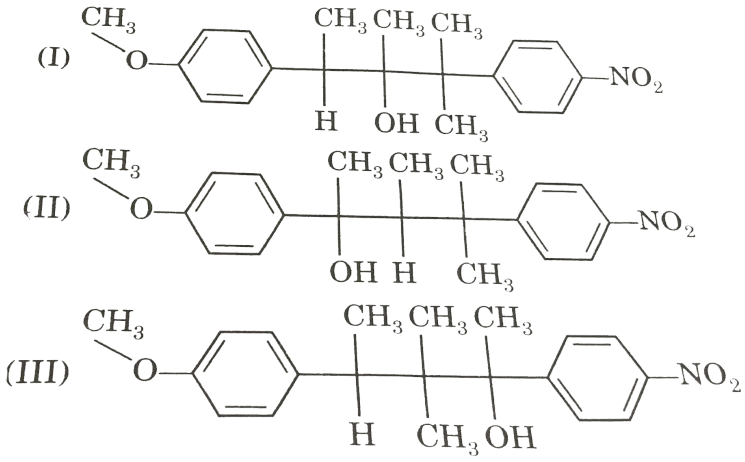
18.



Compound on hydrolysis in aqueous acetone will be :



A. Mixture of (I) and (II)

B. Mixture of (I) and(III)

C. only(III)

D. only(I)

Answer: a

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19. When phenyl magnesium bromide reacts with $t-butanol$ the product would be :

A. benzene

B. phenol

C. t-butyl benzene

D. t-butyl phenyl ether

Answer: a

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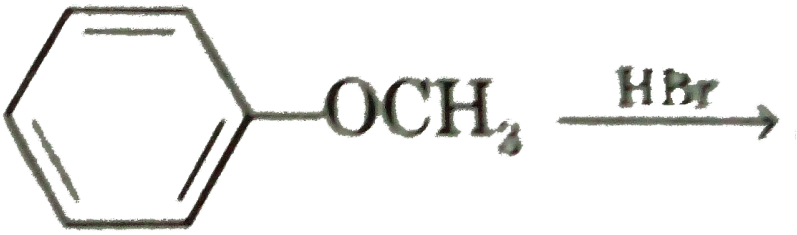
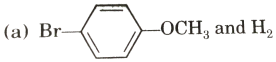
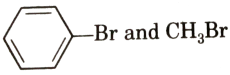
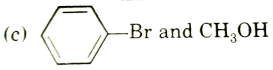
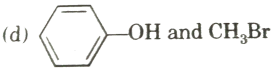
20. In the reaction



A. (a) 

B. (b) 

C. 

D. 

Answer: d

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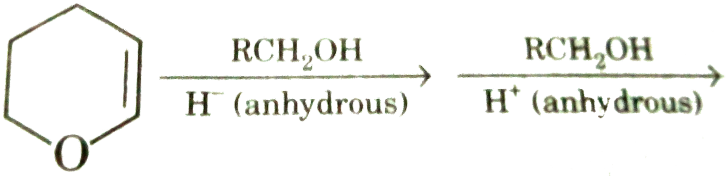
21. The major product in the reaction :



A. a hemiacetal

B. an acetal

C. an ether

D. an ester

Answer: b

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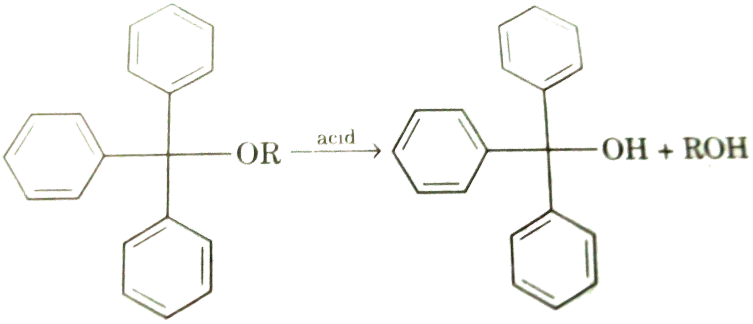
22. The acidic hydroysis of ether (X)shown below is fastest when :



A. one phenyl group is replaced by a methyl group

B. one phenyl group is replaced by a paramethoxyphenyl group

C. two phenyl groups are replaced by two paramethoxyphyenyl groups

D. no structural change is made to X

Answer: c

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