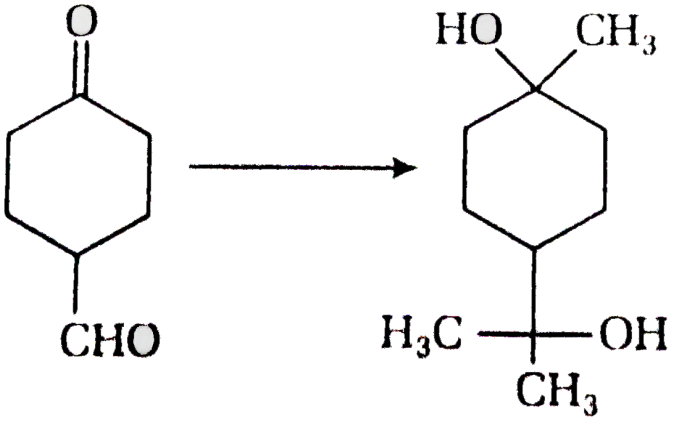
CHEMISTRY

BOOKS - IIT-JEE PREVIOUS YEAR (CHEMISTRY)

ALDEHYDES AND KETONES

Jee Main And Advanced

1. The correct sequence of reagents for the following conversion will be



A. $\left[Ag(NH_3)_2\right]^+ OH^-, H/Ch_3OH, CH_3MgBr$

B. $CH_3MgBr, H^+ CH_3OH, \left[Ag(NH_3)_2\right]^+ OH^-$

C. $CH_3MgBr, \left[Ag(NH_3)_2\right]^+ OH^-, H/CH_3OH$

D. $\left[Ag(NH_3)_2\right]^+ OH^-, CH_3MgBr, H^+/CH_3OH$

Answer: A

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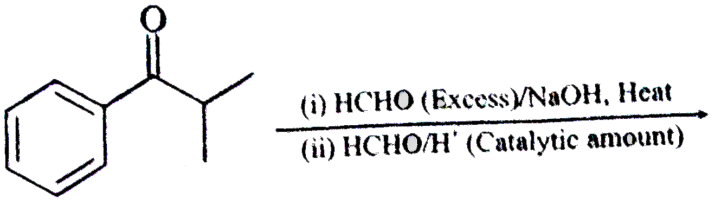
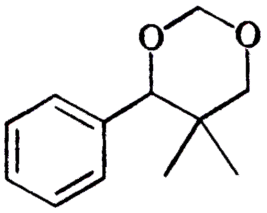
2. The major product of the following reaction sequence is



A.



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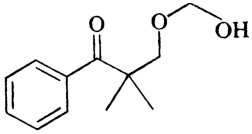

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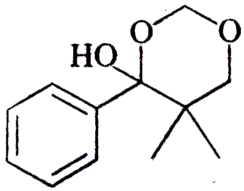

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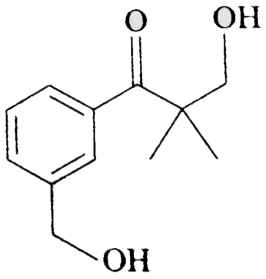

Answer: A

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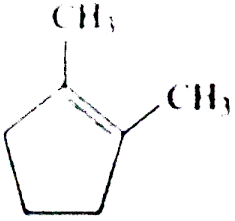
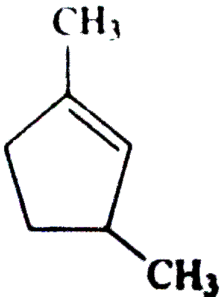
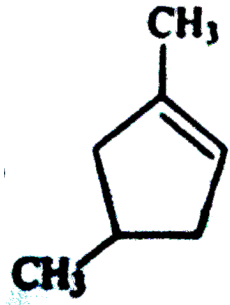
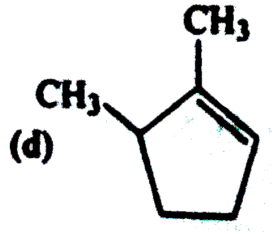
3. The compound which would yield $5-$ Oxo$-2-$ methylhexanal on reductive ozonolysis

A. 

B. 

C. 

D. 

Answer: B

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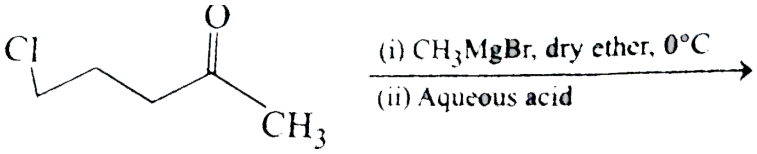
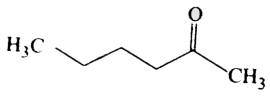
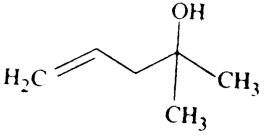
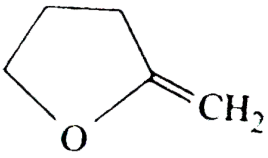
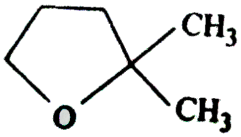
4. The major product in the following reaction is



A. 

B. 

C. 

D. 

Answer: D

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5. The most suitable reagent for the conversion of

$R - CH_2 - OH \rightarrow R - CHO$ is

A. $KMnO_4$

B. $K_2Cr_2O_7$

C. CrO_3

D. PC C (pyridinium chlorochoromate)

Answer: D

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6. The major product H of the given reaction sequence is

$$CH_3 - CH_2CO - CH_3 \xrightarrow{\Theta_{CN}} G - \xrightarrow[Heat]{95\% H_2SO_4} H$$

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

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

C. $CH_3 - CH_2 = \underset{\underset{CH_3}{|}}{C} - COOH$

D. $CH_3 - CH = \underset{\underset{CH_3}{|}}{C} - CO - NH_2$

Answer: A

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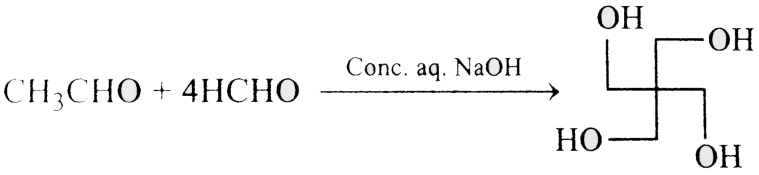
7. The number of adol reaction (s) that occurs in the given transformation is



A. 1

B. 2

C. 3

D. 4

Answer: C

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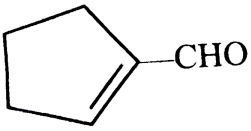
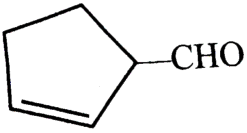
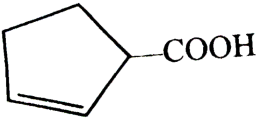
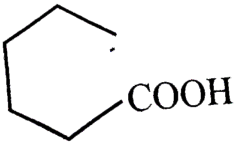
8. Cyclohexene on ozonolysis followed by reaction with zinc dust and water gives compound E. Compound E on furhter treatment with aqueous KOH yields compound F. Compound F is

A. 

B. 

C. 

D. 

Answer: A

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9. The smallest ketone and its next homologue are reacted with NH_2OH to form oxime.

A. two different oximes are formed

B. three different oximes are formed

C. two oximes are optically active

D. all oxime are optically active

Answer: B

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10. Butan-2-one can be converted to propanoic acid by which of the following ?

A. $NaOH, NaI / H^+$

B. Fehling's solution

C. $NaOH, I_2 / H^+$

D. Tollen's reagent

Answer: C

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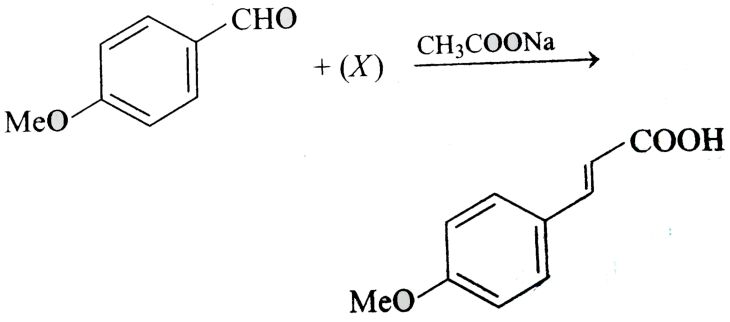
11.



What is X?

A. CH_3COOH

B. $BrCH_2COOH$

C. $(CH_3CO)_2O$

D. $HOC - COOH$

Answer: C

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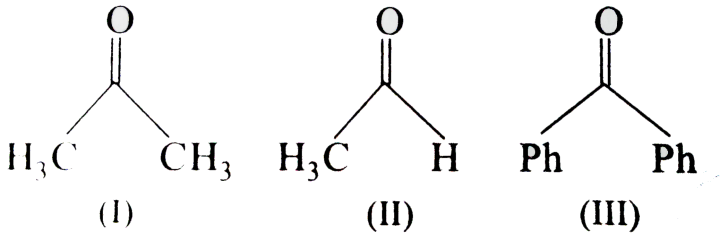
12. The order of reactivity of pheny1 magnesium bromide with the following compounds is



A. $(II) > (III) > (I)$

B. $(I) > (III) > (II)$

C. $(II) > (I) > (III)$

D. All of the above

Answer: C

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13. A mixture of benzaldehyde and formaldehyde on heating with aqueous NaOH solution gives

A. benzyl alcohol and sodium formate

B. sodium benzoate and methyl alcohol

C. sodium benzoate and sodium formate

D. benzyl alcohol and methyl alcohol

Answer: A

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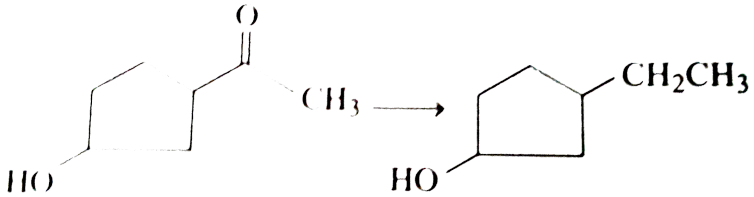
14. The appropriate reagent for the following transfromation:



A. Zn(Hg),HCl

B. NH_2NH_2, OH^-

C. H_2 / Ni

D. $NaBH_4$

Answer: B

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15. which of the following has the most acidic hydrogen?

A. $3-\text{hexanonoe}$

B. $2,4-\text{hoxanedione}$

C. $2,5-\text{heaxnedione}$

D. $2,3-\text{hoxanedione}$

Answer: B

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16. The enol form of acetone after treatment with D_2O gives:

A. $H_3C-\overset{OD}{\overset{|}{C}}=CH_2$

B. $D_3C-\overset{O}{\overset{||}{C}}-CD_3$

C. $H_2C = \overset{OH}{\overset{|}{C}} - CH_2D$

D. $D_2C = \overset{OD}{\overset{|}{C}} - CD_3$

Answer: B

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17. Which of the following will reacts with water ?

A. $CHCI_3$

B. CI_3CCHO

C. CCI_4

D. $CICH_2CH_2CI$

Answer: B

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18. Which of the following compounds is oxidised to prepare methyl ethyl ketone?

A. $2-$ propanol

B. $1-$ butanol

C. $2-$ butanol

D. $t-$ buty alcohol

Answer: C

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19. The compound that will not give indoform on treatment with alkali and iodine is

A. acetone

B. ethanol

C. diethyl ketone

D. isopropyl alcohol

Answer: C

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20. The Cannizzaro's reaction is not given by

A. trimethyl acctaldehyde

B. acctaldehyde

C. benzaldehyde

D. formaldehyde

Answer: B

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21. When acetaldehyde is treated with Fehling's soluion , it gives a precipitate of

A. Cu

B. CuO

C. Cu_2O

D. $Cu + Cu_2O + CuO$

Answer: C

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22. A compound that gives a psitive idoform test is

A. 1-pentanol

B. 3-pentanone

C. 2-pentanone

D. pentanal

Answer: C

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23. The reagent with which both acetaldehyde and acetone react easily is

A. Tollen's reagent

B. Schiff's reagent

C. Grignard's reagent

D. Fehling's reagent

Answer: C

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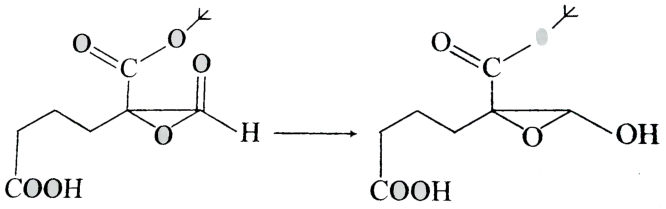
24. Reagent (s) which can be used to bring about the following transformation is (are)



A. $LiAlH_4$ in $(C_2H_5)_2O$

B. BH_3 in THF

C. $NaBH_4$ "in"C_2H_5OH

D. Raney Ni / H_2 in THF

Answer: C

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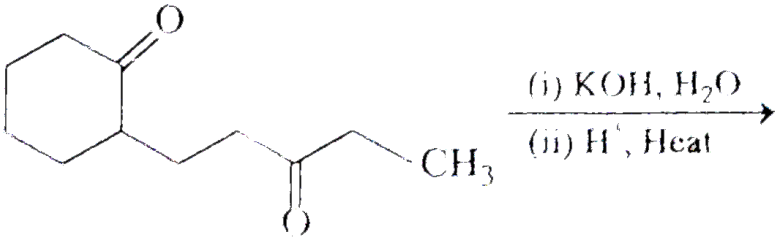
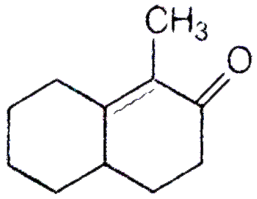
25. The major product of the following reaction is



A.



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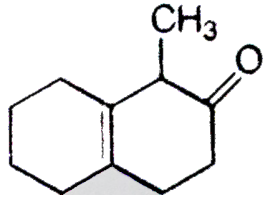
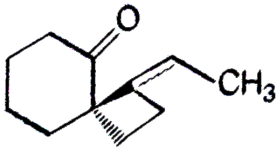
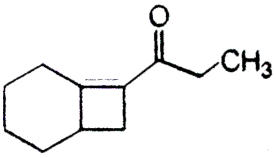


C.



D.



Answer: A

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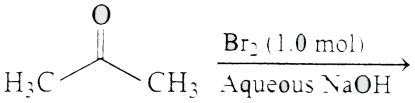
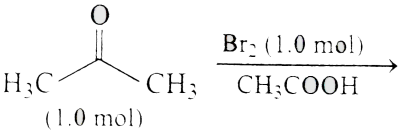
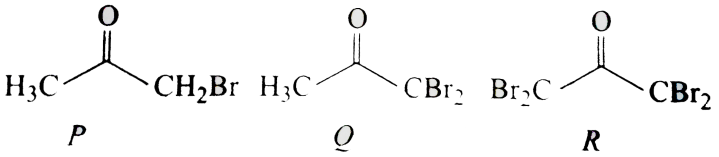
26. After completion of the reactions (I and II) , the organic compound (s) in the reaction is/are

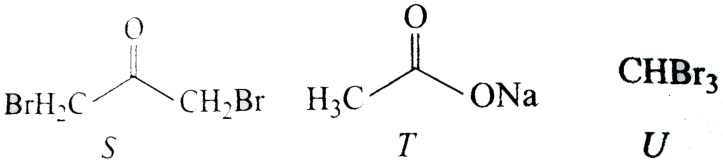
Reaction I



Reaction II







A. reaction $I: P$ and reaction $II: P$

B. reaction$I: U,$ acetone and reaction $II: Q,$ acetone

C. reaction $I: T,$ U acetone and reaction $II: P$

D. reaction $I: R,$ acetone and reaction $II: S,$ acetone

Answer: C

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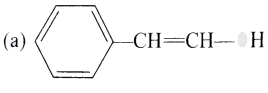
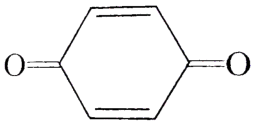
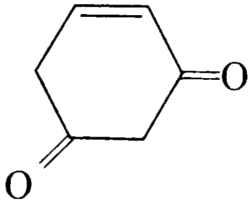
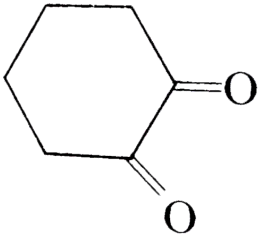
27. Tautomerism is exhibited by

A. 

B. 

C. 

D. 

Answer: A::C::D

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28. A new carbon-carbon bond formation is possible in

A. Cannizzaro's reaction

B. Friedel-Crafts's reaction

C. Clemmensen's reduction

D. Remier-Tiemann reaction

Answer: B::D

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29. Which of the following will undergo aldol condensation?

A. Acetaldehyde

B. Propanaldehyde

C. Benzaldehyde

D. Trideutero acetaldehyde

Answer: A::B::D

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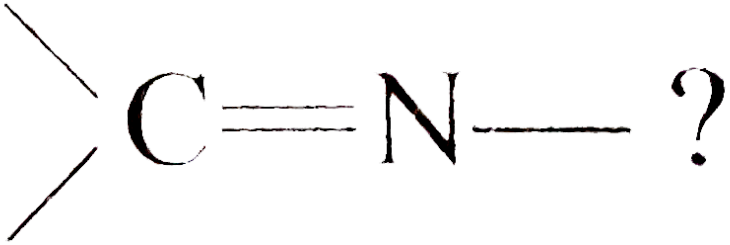
30. Among the following compounds , which will react with acetone to give a product containing



A. $C_6H_5NH_2$

B. $(CH_3)_3N$

C. $C_6H_5NHNH_5$

D. $C_6H_5NHNH_2$

Answer: A::D

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31. Which of the following is an example of aldol condensation?

A. $2CH_3CHO \xrightarrow{dil.NaOH} CH_3CH(OH)CH_2CHO$

B. $2CH_3COCH_3 \xrightarrow{dil.NaOH} H_3C - \underset{CH_3}{\overset{OH}{\underset{|}{\overset{|}{C}}}} - CH_2COOH_3$

C. $2HCHO \xrightarrow{dil,NaOH} CH_3OH + HCOONa$

D.

$$C_6H_5CHO + HCHO \xrightarrow{dil,NaOH} C_6H_5CH_2OH + HCOONa$$

Answer: A::B

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32. Which of the following compounds will recact with ethanolic KCN?

A. Ethyl chloride

B. Acetyl chloride

C. Chlorobenzene

D. Benzaldehyde

Answer: A::B::D

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33. Which of the following compounds will give a yellow precipitate with iodine alkali?

A. 2-hydroxy propane

B. Acetophenone

C. Methy1 acetate

D. Acetamide

Answer: A::B

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34. Base catalysed aldol condensation occurs with

A. propionaldehyde

B. benzaldehyde

C. 2-methyl propionaldehyde

D. 2,2-dimeth1 propioaldehyde

Answer: A::C

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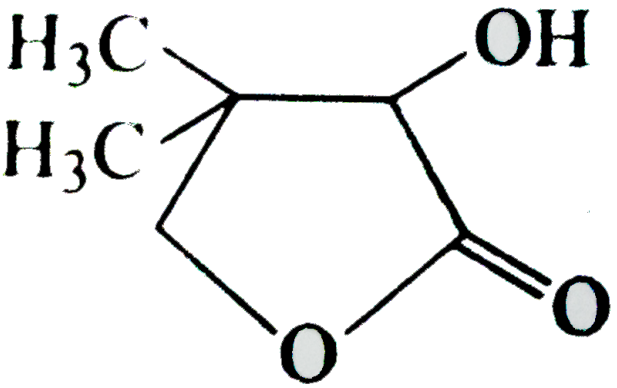
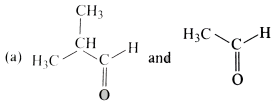
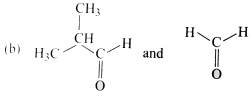
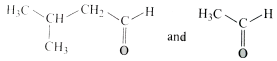
35. Two aliphatic aldehydes P and Q react in th presence of aqueous K_2CO_3 to give compound R, which upon treatment with HCN provides compound S. On acidification and heatingm,S gives the product shown below:

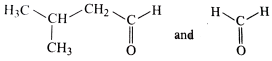


The compounds P and Q respectively are

A. 

B. 

C. 

D. 

Answer: B

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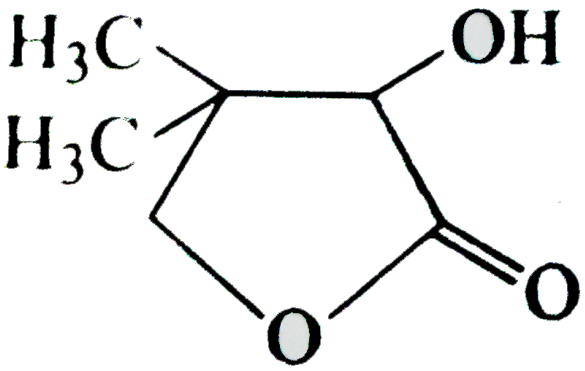
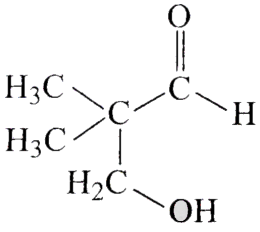
36. Two aliphatic aldehydes P and Q react in th presence of aqueous k_2CO_3 to give compound R, which upon treatment with HCN provides compound S. On acidification and heatingm,S gives the product shown below:

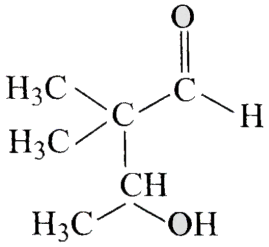


The compound R is

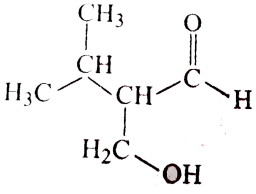
A.

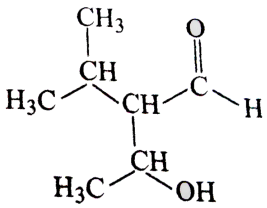


B.



C.

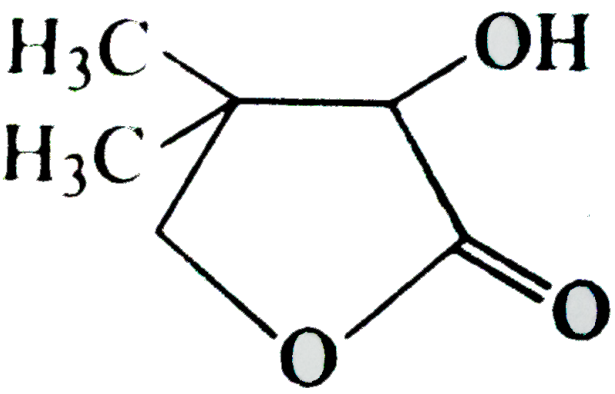


D. 

Answer: A

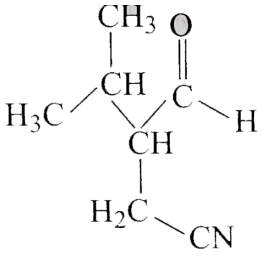
Watch Video Solution

37. Two aliphatic aldehydes P and Q react in th presence of aqueous k_2CO_3 to give compound R, which upon treatment with HCN provides compound S. On acidification and heatingm,S gives the product shown below:

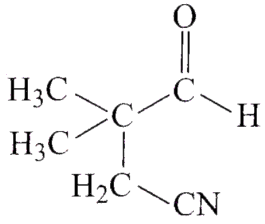


The compound S is

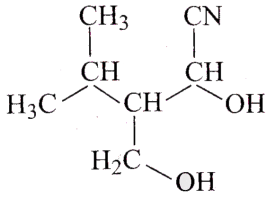
A.

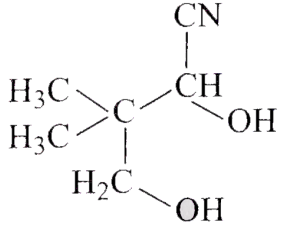


B.



C.



D. 

Answer: D

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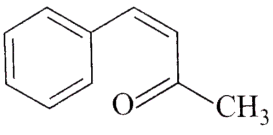
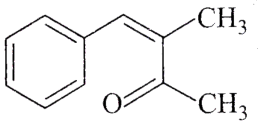
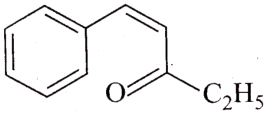
38. A carbon1 compoundj P, which gives positive idofrom test, undergoes reacrtion with MeMgBr followed by dehydration to give olefin Q Ozonolysis of Q leads to a dicarbony1 compound R, which undergoes intramolecular aldol reaaction to give predominantly S.

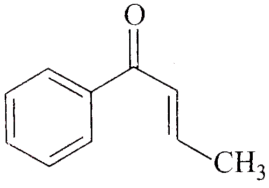
$$P \xrightarrow[2.H^+, H_2o \\ 3.H_2SO_4/\text{heat}]{1.MeMgBr} Q \xrightarrow{O_3/Zn-H_2O} R \xrightarrow[\text{heat}]{oh^-} S$$

The structure of the carbony 1 compound P,is

A. 

B. 

C. 

D. 

Answer: B

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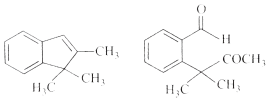
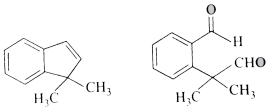
39. A carbon1 compoundj P, which gives positive idofrom test, undergoes reacrtion with MeMgBr followed by dehydration to give olefin Q Ozonolysis of Q leads to a dicarbony1 compound R,

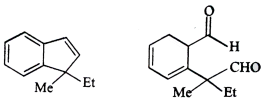
which undergoes intramolecular aldol reaaction to give predominantly S.

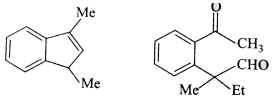
$$P \xrightarrow[\substack{2.H^+, H_2o \\ 3.H_2SO_4 / \text{heat}}]{1.MeMgBr} Q \xrightarrow{O_3 / Zn - H_2O} R \xrightarrow[\text{heat}]{oh^-} S$$

The structures of products Q and R respectivley, are

A. 

B. 

C. 

D. 

Answer: A

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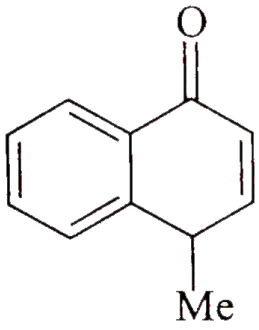
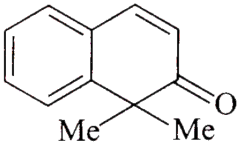
40. A carbon1 compoundj P, which gives positive idofrom test, undergoes reacrtion with MeMgBr followed by dehydration to give olefin Q Ozonolysis of Q leads to a dicarbony1 compound R, which undergoes intramolecular aldol reaaction to give predominantly S.

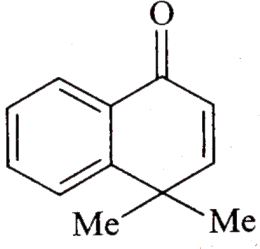
$$P \xrightarrow[\substack{2.H^+, H_2o \\ 3.H_2SO_4 / \text{heat}}]{1.MeMgBr} Q \xrightarrow{O_3 / Zn - H_2O} R \xrightarrow[\text{heat}]{oh^-} S$$

The structure of the product S , is

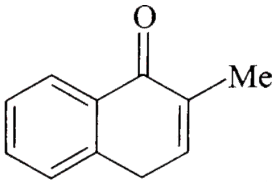
A. 

B. 

C.



D.



Answer: B

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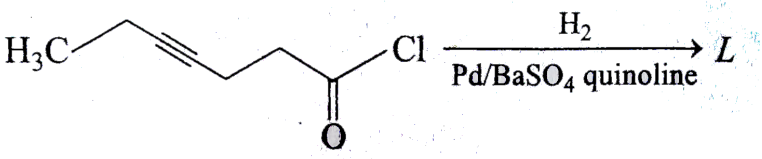
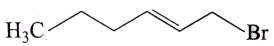
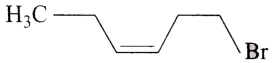
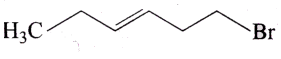
41. In the following sequence, product I,J and L are formedK represents a reagent.

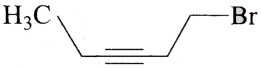


The structure of the product I is

A. 

B. 

C. 

D. 

Answer: D

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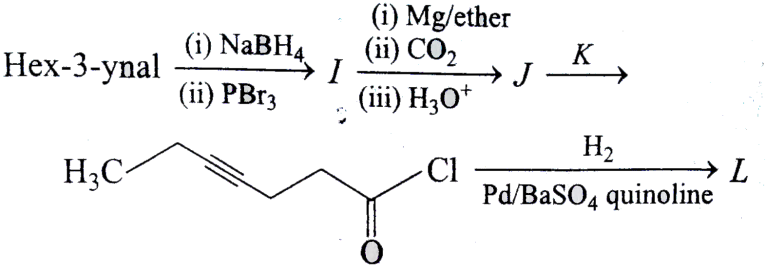
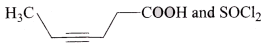
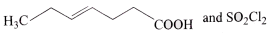
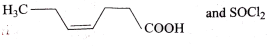
42. In the following sequence, product I,J and L are formedK represents a reagent.

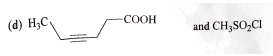


The structure of compound J and K, respectively are

A. 

B. 

C. 

D. 

Answer: A

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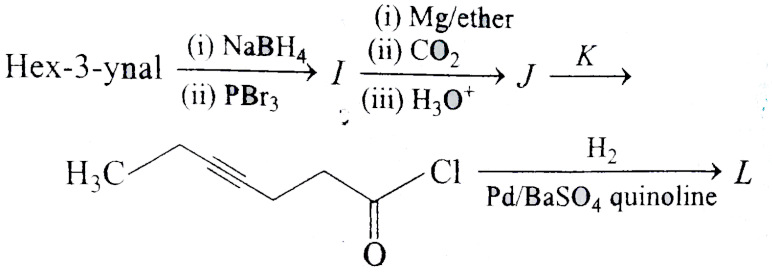
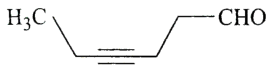
43. n the following sequence, product I,J and L are formedK represents a reagent.

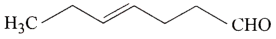


The structure of products L is

A. 

B. 

C. 

D. 

Answer: C

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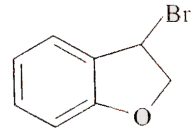
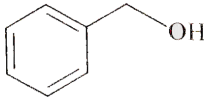
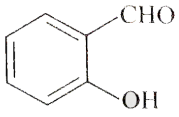
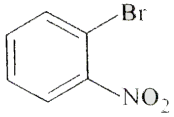
44. Match each of the compounds given in ColumnI with reaction (s) that they can undergo, given in Column II.

Column I		Column II	
A.		p.	Nucleophilic substitution
B.		q.	Elimination
C.		r.	Nucleophilic addition
D.		s.	Esterification with acetic anhydride
		t.	Dehydrogenation

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45. Match the compouns $/ions$ Column I with their properties $/reactions$ in Column II.

	Column I		Column II
A.	C_6H_5CHO	p.	gives precipitate with 2, 4-dinitrophenylhydrazine
B.	$CH_3C\equiv CH$	q.	gives precipitate with $AgNO_3$
C.	CN^-	r.	is a nucleophile
D.	I^-	s.	is involved in cyanohydrin formation

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46. Fehling's solution A consists of an aqueous solution of copper sulphate while Fehling's B consist of an alkaline solution....

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47. The reaction of methyl magnesium iodide with acetone followed by hydrolysis give secondery butanol.

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48. Benzaldehyde undergoes aldol condensation in an alkaline medium.

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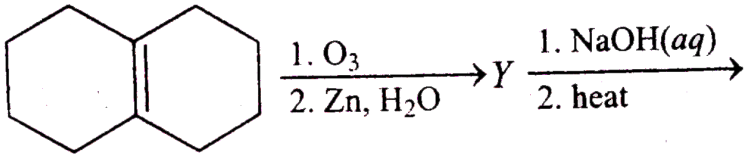
49. In the scheme given below. The total number of intramolecular aldol condensation products formed form Y is



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50. $(C_6H_{12}) \xrightarrow{HCl} \underset{(C_6H_{13}Cl)}{B} + (C)$

$(B) \xrightarrow{Alc.KOH} (D)$ [isomer of (A)]

$(D) \xrightarrow{\text{Ozonolysis}} (E)$ (It gives negative test with Fehling's solution but responds to iodoform test)

$(A) \xrightarrow{Ozonolysis} (F) + (G)$ (Both give positive Tollens test but do not give iodoform test)

$(F) + (G) \xrightarrow{Conc.NaOH} HCOONa$ + A primary alcohol .

Identify A to G.

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51. A compound $C_9H_7O_2CI$ exists predominanthly in enol from (A) and also in keto from (B) On oxideation with $KMnO_4$ it gives m-chlorobenzoic acid as one of the products. Identify the compounds (A) and (B).

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52. An alkane (A) $C_{16}H_{16}$ on ozonolysisi gives only one products (B) C_8H_8O. Compound (B) or reaction with $NaOH/I_2$ yields sodium benzoate. Comopund (B) reacts with KOH/NH_2NH_2 yielding a hydrogen (C) $C_8H(10)$. Write the structures of compounds (B) and (C). Based on this infromation two their structures and identify the isomer which on catalytic hydrpgenation $(H_2/Pd-C)$ gives a racemic mixture.

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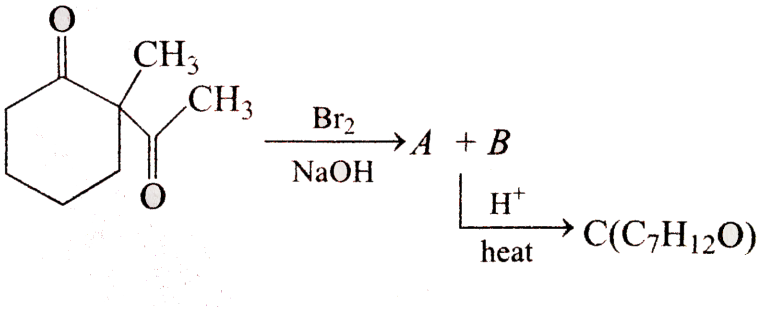
53. Identify A, B and C, and give their structures.



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54. An organic compound (A) $(C_6H_{10}O)$ on reaction with CH_3MgBr followed by acid treatment gives compound (B). The compound (B) on ozonolysis gives compound (C), which in the presence of a base gives 1-acetyl cyclopentene (D). The compound (B) on reaction with HBr gives compound (E). Write the structures of (A), (B), (C), (D), and (E). Show how (D) is formed from (C).

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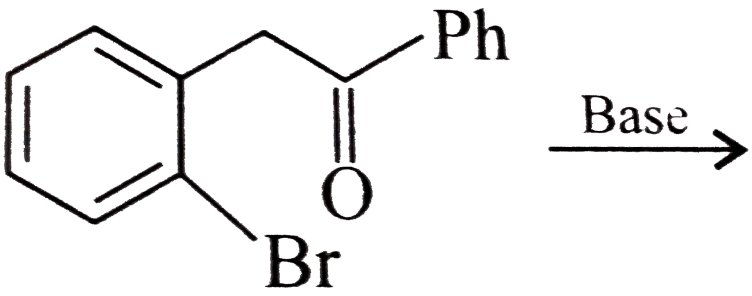
55. What would be the major product in the following reaction ?



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56. (a) Compound A (C_8H_8O)on treatment with NH_2OH. HCI gives B and C. B and C rearrange to give D and E, respectively on treatement with acid. B, C, D and E are all isomers of moleculare formula (C_8H_9N) When D is boiled with alcohol KOH an oil F (C_6H_7N) separates out F, reacts rapidly with CH_3 COOI to give back D. On the other hand. E on boiling with alkali followed by acidification gives a white solid G$(C_7H_6O_2)$. Identify $A-G$

(b) Carry out the following transformation in not more than three steps. 1-butyne "to" 2-pentanone

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57. An ester $A(C_4H_8O_2)$, on treatement with excess of methyl magnesium bormide followed by acidification, gives an alcohol B as the sole organic product. Alcohol B on oxidation with $NaOCl$ followed by acidification gives acetice acid. Deduce the structures of A and B. Show the reactions involved.

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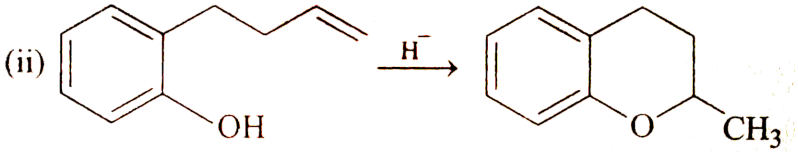
58. Write the intermediate steps for each of the following reactions

(i) $C_6H_5CH(OH) \equiv \xrightarrow{H_3O^+} C_6H_5CH \equiv CHCHO$

(ii)



(ii)

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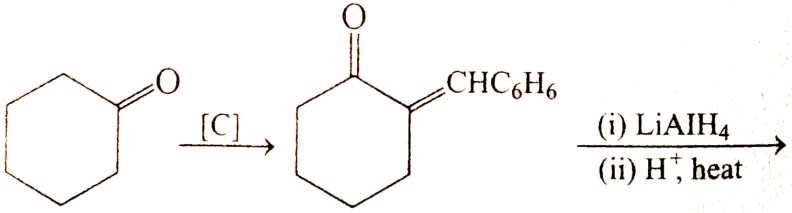
59. Complete the following reactions with appropriate structures of products //reagents.



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60. An aldehyde (A) $(C_{11}H_8O)$, which does not undergo self aldol condensation, gives benzaldehyde and 2 mol of (B) on

ozonolysis. Compound (B) on oxidation with silver ion gives oxalic acid. Identify the compounds (A) and (B).

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61. Acetophenone on reaction with hudroxylamine lamine bydrochloride can produce two isomeric oximes. Write structures of the oxime.

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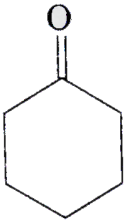
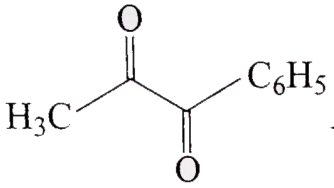
62. Complete the following, gives the structures of the principal organic prodcuts.

(i)  $+ Ph_3P = CH_2 \longrightarrow A$

(ii) $ClCH_2CH_2CH_2COPh + KOH + MeOH \longrightarrow B$

(iii)  $+ NaOH \xrightarrow{H_3O^+} C$

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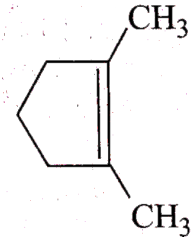
63. Suggest appropriate structurs for the missing compounds. (the number of carbon atoms remains the same throughout the reaction)

 $\xrightarrow{\text{Dil. } KMnO_4} A \xrightarrow{HIO_4} B \xrightarrow{HO^-} C$

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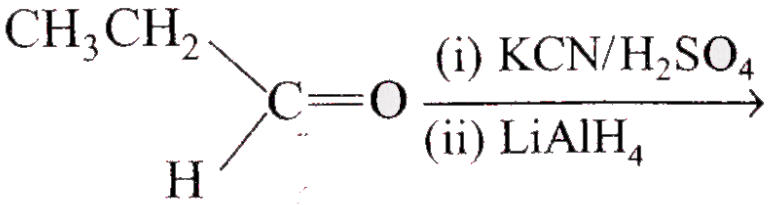
64. Complete the following reaction with apprpropriate structure:



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65. Complete the following reaction with appropriate structure.

$$C_6H_5 - CHO + CH_3 - COOC_2H_5 \xrightarrow[C_2H_5OH\text{and heat}]{NaOC_2H_5\text{in absolute}} \text{(A)}$$

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66. Write the structure of major organic product expected from the following reaction.

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67. Arrange the following in the increasing order of expected enol content.

i. CH_3COCH_2CHO

ii. CH_3COCH_3

iii. CH_3CHO

iv. $CH_3COCH_2COCH_3$

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68. Give reason in one or two sentence:

Idoform is obtained by the reaction of aceton with hydpoiodite but not with iodide

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69. A ketone A, which undergoes halform reaction, gives compound B on reduction B on heating with sulphuric acid gives compounds C, which forms mono-ozonide D.D on hydrolysis in the presence of zinc dust gives only acetaldehyde. Identify A, B and C. Write down the reaction involved.

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70. Answere the following with suitable equation wherever necessary

(i) suggest a reagent to distinguish acetaldegyde from acetone.

(ii) what happens when excess chlorine is hpassed through boling toluene in the presence of sublight?

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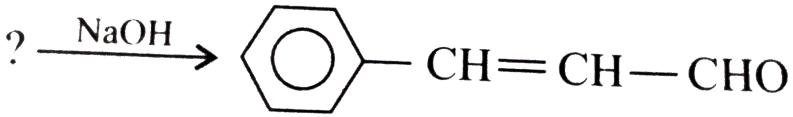
71. Complete the following with appropriate structures.



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72. In what manner the following transformation might be carried out (in not more than six steps) ? 'Benzaldehyde to cyanobenzene'

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73. Give reasons in one or two sentances for the following: 'Hydrazones of aldehydes and ketones are not prepared in highly acidic medium'.

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74. Write down the main product of the following reaction. Propanal $\xrightarrow[heat]{NaOH}$

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75. Arrange the following in the order of their incresing reactivity towards HCN:

$CH_3CHO, CH_3COCH_3, HCHO, C_2H_5COCH_3$

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76. Arrange the following in the order of their incresing reactivity towards HCN:

$CH_3CHO, CH_3COCH_3, HCHO, C_2H_5COCH_3$

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77. Show with balanced equation what happens when the following are mixed: 'Chloral is heated with aqueous hydroxide.'

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78. An alkane A on ozobolysis yields acetone and an aldeyde. The aldehyde is easily oxidised to an acid B. When B is treated with bromine in presence of yields a compound C which on hydrolysis gives a hydroxyle acid D. This acid can also be obatined from acetone by the reaction with hydrogen cyanide followed by hydrolysis. Identify the compounds A, B C and D.

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79. Outline the reaction sequence for the conversion of methanal to ethanal (the number of steps should not be more than three).

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80. Write the structural formula of the main organic product formed when methanal reacts with ammonia.

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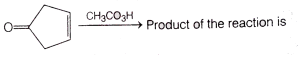
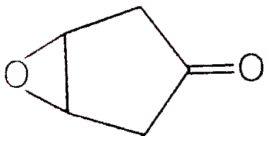
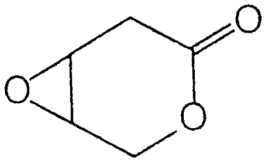
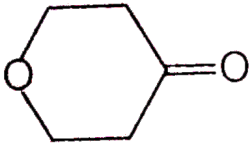
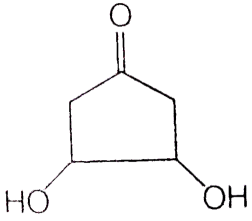
81. 

$\xrightarrow{CH_3CO_3H}$ Product of the reaction is

A. 

B. 

C. 

D. 

Answer: B

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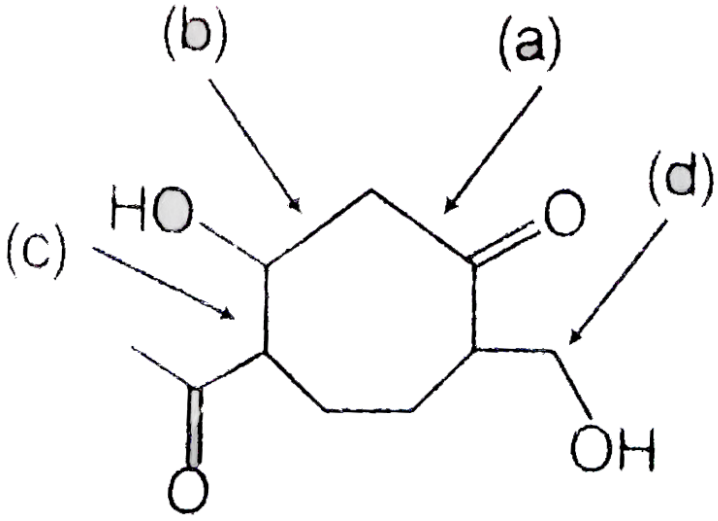
82. Which carbon-racbon bond could not be formed by an aldol condesation reaction?



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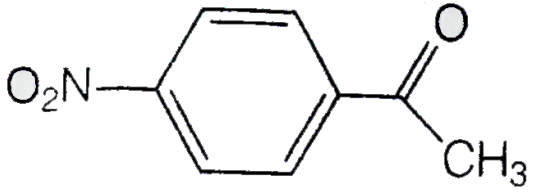
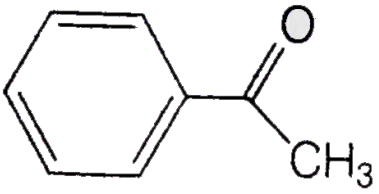
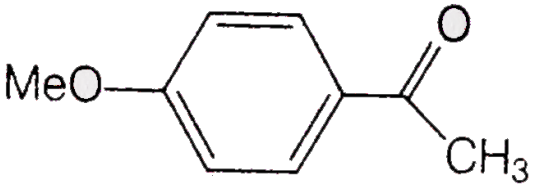
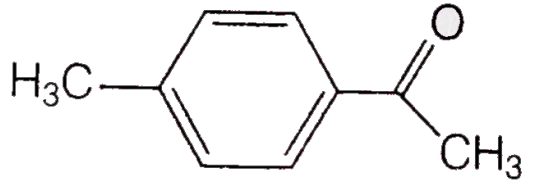
83. Arrange the following in the increasing order of reactivity towards aldol condensation reaction

(i) 

(ii) 

(iii) 

(iv) 

A. $(i) < (ii) < (iii) < (iv)$

B. $(iv) < (iii) < (ii) < (i)$

C. $(iii) < (ii) < (iv) < (i)$

D. $(iii) < (iv) < (ii) < (i)$

Answer: D

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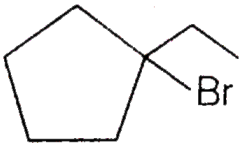
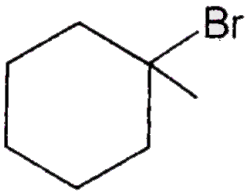
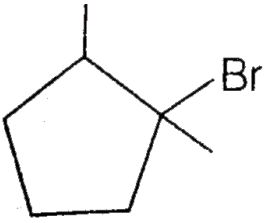
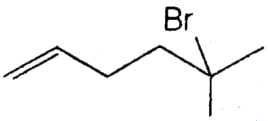
84. Compound $A(C_7H_{13}Br)$ is a tertiary bromide. On treatement with sodium ethoxide in ethanol. A is treatement to a hydrocarbon B. Ozonolysis of B followed up by work up with $Zn - H_2O$ gives 6-oxoheptanal as the only product The most likely structure of A is

A. 

B. 

C. 

D. 

Answer: B

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85. you have tow $C_6H_{10}O$ ketones , I and II. Both are optically active , but is recemised by treatement with bass nanII is bot. Wolff- Kischner reduction of both ketones gives the same

achiral gudrocarbon, formula $C_6H_{\dot{1}2}$ What reasonable structures may be assigned to I and II?

A. I si 3-methely-4- pentaen-2-one, II is 4-methyl-1-penten-3-one

B. I is 2-methylcyclopentanone,II is 3-methyl-cyclopentanone

C. I is 3-methylcyclopentanone,II is 2-methyl- cyclopentanone

D. I is 2-ethylcyclobutanone ,II 3-ethyl-cyclobutanone

Answer: B

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86. Treatment of $(C_5H_{12}O)$ with concemtrated sulphuric acid results in the formarion of threee alkenes inn differing yields Also. A forms a yellow precipitate on treatment with $NaOH/12$

. A turn colour of acidified dichromate solution to blue green forming a new organic compound B which aslo foms yellows precipitate on treatement with $NaOH/12$ The most likely name of A is/are

A. 3-methyl-2-butanol

B. 3-methylbutanol

C. 2-pentanol

D. either $\mathrm{b}$or c

Answer: A::C

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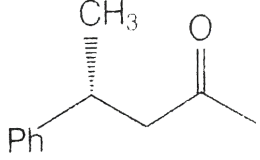
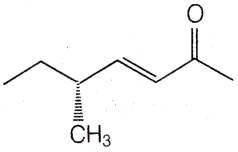
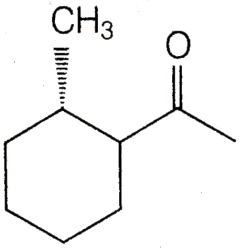
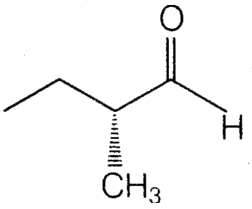
87. The carbonyl compoun(s) that will undergo recemisaion on treatment with aqueous KOH is/are

A. 

B. 

C. 

D. 

Answer: B::D

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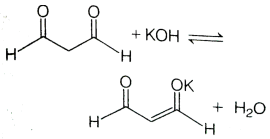
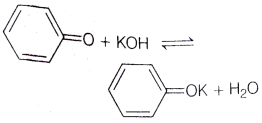
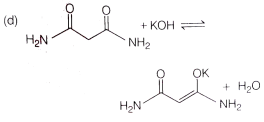
88. Which of he following reactions $has/have$ equilbrium constant (k_C) greater that one?

A. $CH_3CHO + KOH \Leftrightarrow CH_2CH - OK + H_2O$

B. 

C. 

D. 

Answer: B::C

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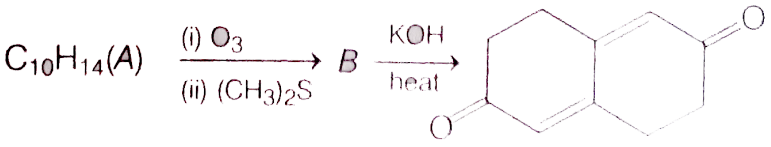
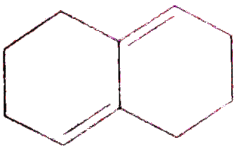
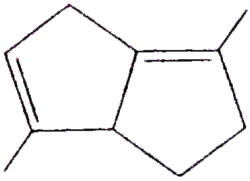
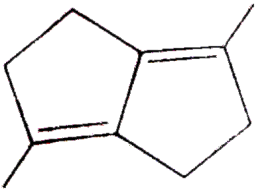
89. Consider the following reaction to answer the next three question:

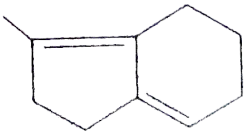


The most likely structure of A is

A. 

B. 

C. 

D. 

Answer: C

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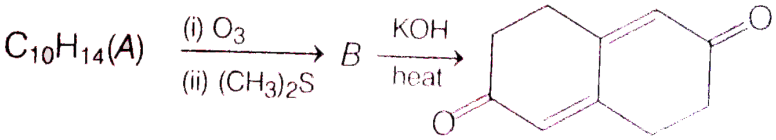
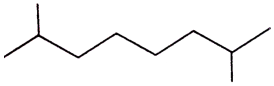
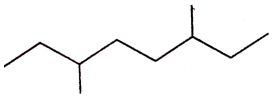
90. Consider the following reaction to answer the next three question:

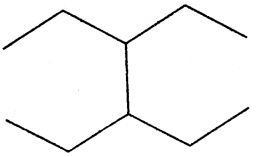


if B is heated with $Zn(Hg)$ in concentrated HCI solution the product formed is

A. Dance

B. 

C. 

D. 

Answer: A

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91. Assertion When pure $d-1(+)-2$ methlylbutanal is treated with diute H_2SO_4 it is racemised completely.

Reason It' s α carbon is chiral which undergo keto-enool tautomerism in the presence of acid catalyst.

A. Both assertion and reason are correct and reason is the correct explanation of the assertion.

B. Both assertion and reason are correct butn reason in not the correct explanation of assertion.

C. Assertion is correct but reasn is incorrect.

D. Assertion is incorrect but reason is correct.

Answer: A

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92. Assertion When benzaldgyde (C_6H_5CHO) is treated with concentrated NaOD solution in D_2O Cannizzaro reaction occur but no C-D(bonds with deuterium) is formed .

Reason Cannizzaro reaction involes hydride transfer mechanism.

A. Both assertion and reason are correct and reason is the correct explanation of the assertion.

B. Both assertion and reason are correct butn reason in not the correct explanation of assertion.

C. Assertion is correct but reasn is incorrect.

D. Assertion is incorrect but reason is correct.

Answer: A

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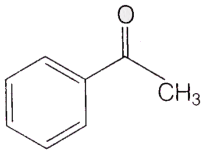
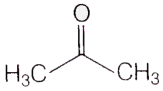
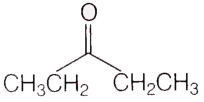
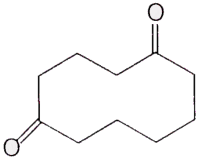
93. Match the carbonyls from left column with their characteristics from right column :

Reaction type		Halides
A. 	p.	Gives just one aldol only
B. 	q.	Gives yellow precipitate with I_2/NaOH
C. 	r.	Produces isomeric oximes with $HONH_2$
D. 	s.	Gains more than 4 u in molar mass on treatment with NaOD/D_2O
	t.	Gives more than one aldol

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94. if ethanedial (HOC-COH) is teated with excess of HCN (aq) followed by hydrolysis of product results in diacids. How many different diacids would be formed ?

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95. If $CH_2D - CHO$ is treated with dilute alkaline solution how many different aldols (excluding steroisomers) are expected ?

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Integer Answere Type Questions

1. Consider all possible isomeric ketons including stereoisomers of MW $= 100$ All these isomers are independently reacted with $NaBH_4$ The total of number of ketones that gives a recemic product (S) is/are

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