CHEMISTRY

BOOKS - GR BATHLA & SONS CHEMISTRY (HINGLISH)

PRACTICAL ORGANIC CHEMISTRY

Level 1

1. Carbon and hydrogen are normally detected by strongly heating the organic compound with

A. FeO

B. CaO

C. CuO

D. MnO

Answer: C

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2. Lassigne's test is not used for the detection of :

A. N

B. S

C. Cl

D. O

Answer: D

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3. When an organic compound is present in aqueous medium and is less soluble in any organic solvent, then it is separated by :

A. continous extraction

B. distillation

C. chromatography

D. sublimation

Answer: A

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4. Ammonium molybdate is used for detection of which element in organic compound :

A. C

B. N

C. P

D. S

Answer: C

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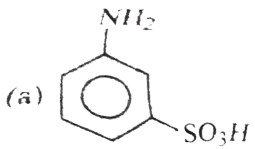
5. A white crystalline solid 'X' give following chemical test :

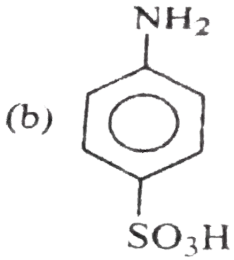
(i) it liberates CO_2 with $NaHCO_3$

(ii) it forms a coloured dye on diazotisation and coupling with β-naphthol

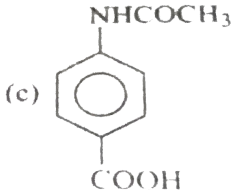
(iii) with Br_2 water it forms white precipitate fo 2 ,4 ,6 tribromo aniline .

'X' can be identified as :

A. 

B. 

C.



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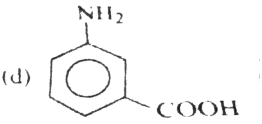

Answer: B

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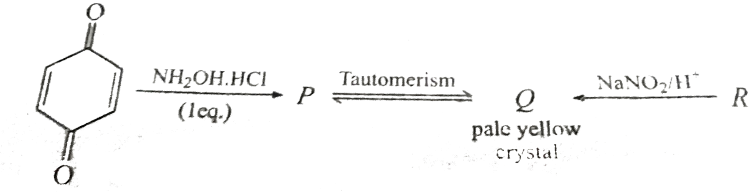
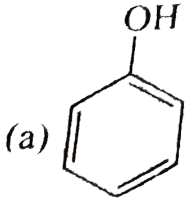
6. Identify the reactant 'R'



A.



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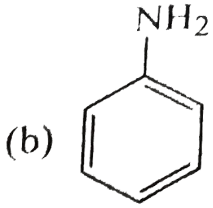

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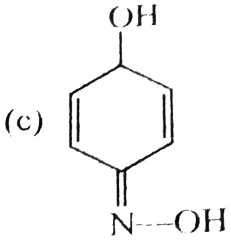
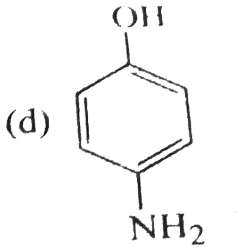


D.



Answer: A

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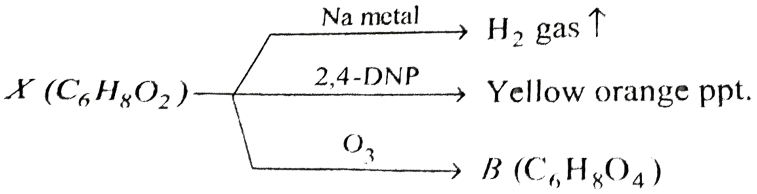
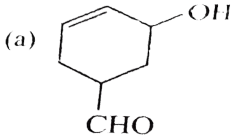
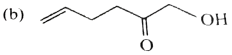
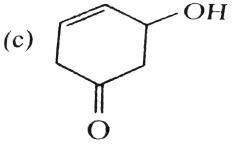
7. Compound 'X' give following reactions

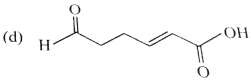


Its structure can be :

A. 

B. 

C. 

D. 

Answer: C

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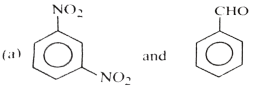
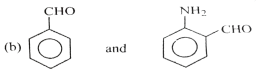
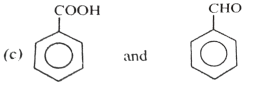
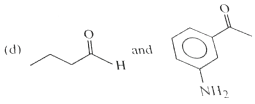
8. A mixture of two organic compound gives red coloured precipitate with cuprous chloride and silver mirror on heating with Zn and NH_4Cl followed by $AgNO_3 + NH_4OH$ solution . The mixture contains :

A. 

B. 

C. 

D. 

Answer: A

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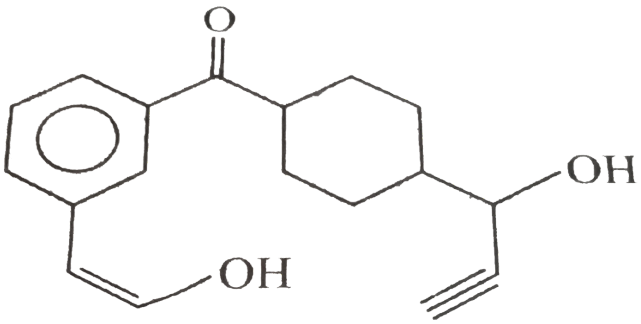

9.

which of the following reagents will not react with above compound?

A. Na metal

B. $AgNO_3 + NH_4OH$

C. $Cu_2Cl_2 + NH_4OH$

D. $NaHCO_3$

Answer: D

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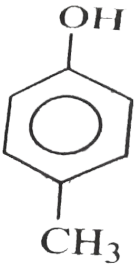
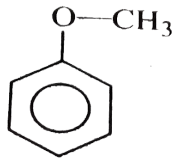
10. Compound 'P', C_7H_8O is insolution in water , dilute when HCI and $NaHCO_3$ it disolves in dilite $NaOH$ P is treated with $Br_2 - H_2O$ it converts rapidly into a compound of formula $C_7H_5OBr_3$ Idenity structure of P?

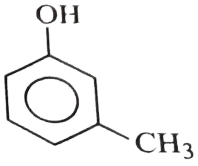
A. (a)

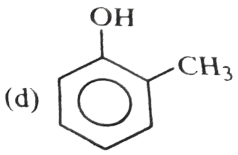


B. (b)



C. (c)



D. 

Answer: C

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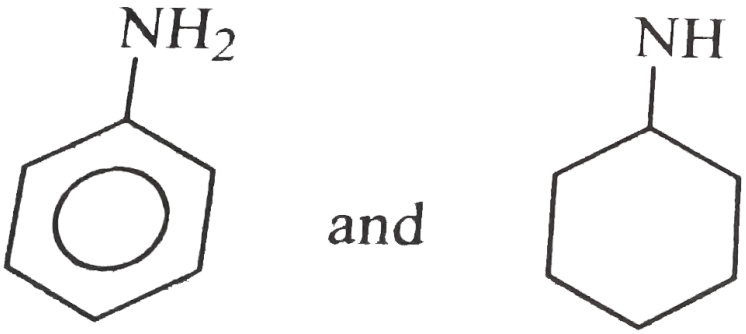
11. 

can be differentiated by :

A. carbylamine reaction

B. H_2SO_4

C. diazotisation followed by β-naphthol

D. mustard oil reaction

Answer: C

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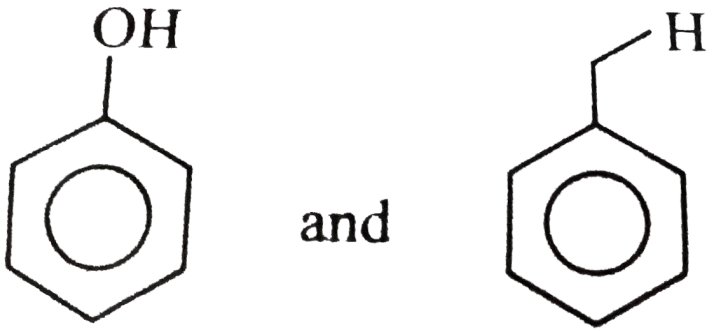
12.



can be differentiated by :

A. $FeCl_3$

B. NaOH

C. $NaNO_2 + HCl$

D. Fehling's solution

Answer: A

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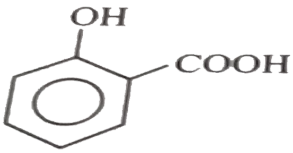
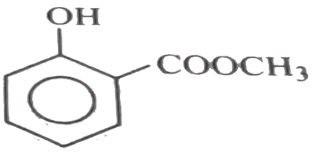
13.  and  can be differentiated by :

A. NaOH

B. Na metal

C. $NaHCO_3$

D. $FeCl_3$

Answer: C

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14.

can be differentiated by :

A. carbylamine reaction

B. iodoform test

C. cold $KMnO_4$

D. $Br_2 - H_2O$

Answer: A

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15. $CH_3 - \overset{\overset{O}{||}}{C} - H$ and $Ph - \overset{\overset{O}{||}}{C} - H$ can be differentiated by :

A. Tollen's reagent

B. Fehling's solution

C. Lucas reagent

D. Victor meyer's test

Answer: B

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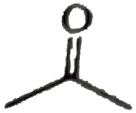
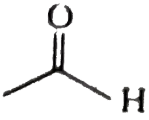
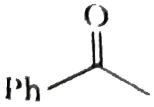
16. Compound 'X' give positive test with 2,4- DNP and with $I_2 / NaOH$ compound (X) may be :

A. (a) 

B. (b) 

C. (c) 

D. all of these

Answer: D

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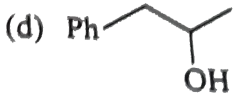
17. An organic compound containing one oxygen gives red colour with cerric ammonium nitrate solution , decolourise alkaline $KMnO_4$, respond iodoform test and show geometrical isomerism . It should be :

A. $Ph - CH = CH - CH_2OH$

B. $Ph - CH = CH - \overset{\overset{OH}{|}}{C}H - CH_3$

C. $Ph - CH = CH - \underset{\underset{O}{||}}{O} - CH_3$

D. 

Answer: B

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18. Which of the following is true ?

A. Alcohol give red colour with cerric ammonium nitrate

B. Aldehyde and ketone give orange red colour with 2,4-DNP

C. RCOOH give CO_2 with $NaHCO_3$

D. All are true

Answer: D

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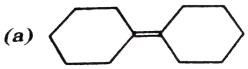
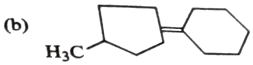
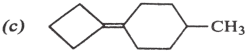
19. Compound (A) $C_{12}H_{20}$ discharges the colour of $Br_2 - H_2O$ and cold $KMnO_4$. On reduction with H_2/Pt it gives compound (B) $C_{12}H_{22}$. A on ozonolysis give cyclohexanone . Find structure of A :

A. 

B. 

C. 

D. None of these

Answer: A

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20. Which of the following is true?

A. Tollen's reagent gives a positive test with all aldehyde

B. Fehling's solution gives a positive test with all

C. Tollen's reagent gives a positive test with all caroxylic acid

D. Tollen's reagent gives a positive test with α-methyl keto

Answer: A

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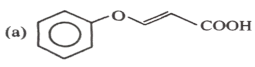
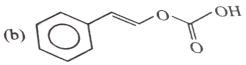
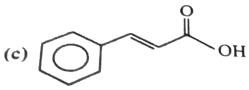
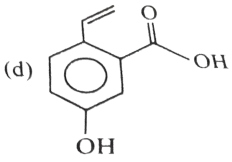
21. A monocarboxylic acid decolourise $Br_2 - H_2O$, on heating with soda lime derivate of styrene is formed , with neutral $FeCl_3$, a buff coloured precipitate is formed . Acid could be :

A. 

B. 

C. 

D. 

Answer: D

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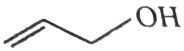
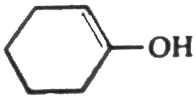
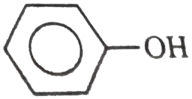
22. Which of the following compounds decolourise $Br_2 - H_2O$ and also give positive test with neutral $FeCl_3$:

A. (a) 

B. (b) 

C. (c) 

D. (d) 

Answer: D

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23. Lassaigne's test for the detection of N fails in :

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

B. $NH_2 - NH_2$

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

D. $C_6H_5 - NH - NH_2$

Answer: B

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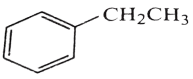
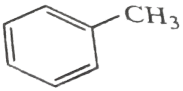
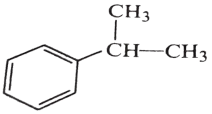
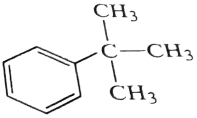
More Than One Correct

1. Which of the following aromatic compounds will react with $KMnO_4$?

A. (a) 

B. (b) 

C. (c) 

D. (d) 

Answer: A::B::C

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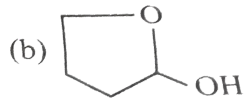
2. Which of the following compounds give positive test with Tollen's reagent ?

A. $H-\overset{\overset{O}{\|}}{C}-OH$

B. (b)



C. $CH_3-\underset{\underset{OH}{|}}{CH}-OC_2H_5$

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

Answer: A::B::C::D

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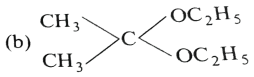
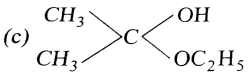
3. Which of the following compound give negative test with Tollen's reagent ?

A. $Ph - \overset{\overset{O}{||}}{C} - H$

B. 

C. 

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

Answer: B::C::D

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4. Which of the following reagents cannot be used for differentiation between glucose and fructose ?

A. Lucas reagent

B. $Br_2 - H_2O$

C. Tollen's reagent

D. 2,4- DNP

Answer: A::C

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5. Which of the following reagents can be used to differentiate between $Ph - \underset{\underset{O}{||}}{C} - H$ and CH_3CH_2OH?

A. NaOI

B. Fehling's solution

C. Tollen's reagent

D. $ZnCl_2 / H$

Answer: A::B

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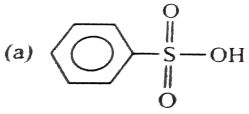
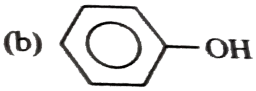
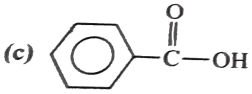
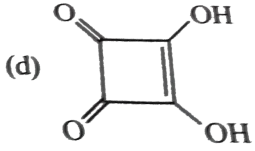
6. Which of the following compounds produce CO_2 on reaction with $NaHCO_3$?

A. 

B. 

C. 

D. 

Answer: A::C::D

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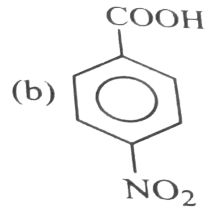
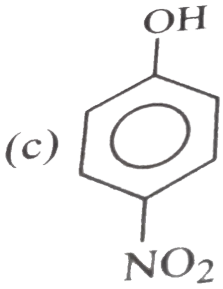
7. Which of the following compounds will react with $NaNH_2$?

A. $CH_3 - \equiv CH$

B.



C.

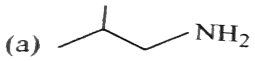


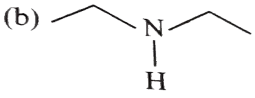
D. $Ph - \overset{\overset{O}{||}}{\underset{\underset{O}{||}}{S}} - OH$

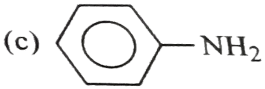
Answer: A::B::C::D

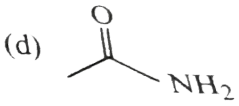
Watch Video Solution

8. Which of the following compounds will give isocyanide on reaction with $CHCl_3 + KOH$?

A. 

B. 

C. 

D. 

Answer: A::C

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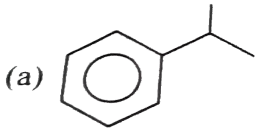
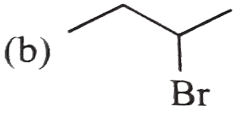
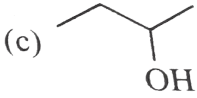
9. Which of the following compounds may give reaction with acidic $KMnO_4$?

A. 

B. 

C. 

D. 

Answer: A::C::D

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10. Which of the following reagents can be used to differentiate 1° and 3° alcohols ?

A. pcc

B. $K_2Cr_2O_7 / H^{\oplus}$

C. Jones reagent

D. $Br_2 - H_2O$

Answer: A::B::C

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11. Which of the following reagents cannot be used for differentiation between CH_3CHO and $CH_3 - \underset{\underset{O}{||}}{C} - Ph$?

A. NaOI

B. Tollen's agent

C. $H_2N - OH$

D. $Ph - NH - NH_2$

Answer: A::C::D

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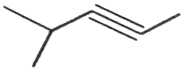
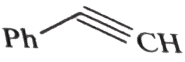
12. Which of the following will not give white precipitate with ammoniacal silver nitrate solution ?

A. $CH_3 - C \equiv C - CH_3$

B. (b) 

C. (c) 

D. (d) 

Answer: A::B::C

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13. Which of the following tests can be used for differentiation among , 1°, 2° and 3° alcohol?

A. Lucas test

B. Victor meyer's test

C. Cu/$300^\circ C$

D. Haloform reaction

Answer: A::B::C

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14. Which of the following test can be used for identification of 1° amine ?

A. Carbylamine test

B. Hofmann mustard oil reaction

C. $NaNO_2 / HCl$

D. Fehling's solution

Answer: A::B::C

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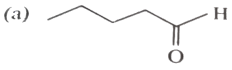
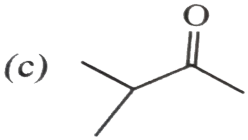
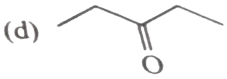
15. Unknown compound (A) $C_5H_{10}O$ gives positive test with 2,4-DNP but negative test with Tollen's reagent . It

also give yellow precipitate with $I_2 / NaOH$. (A) is :

A. 

B. 

C. 

D. 

Answer: B::C

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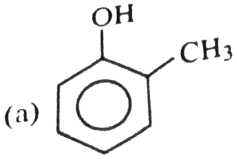
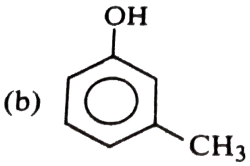
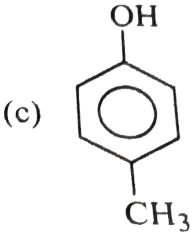
Linked Comprehension Type

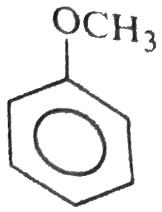
1. Compound (A)C_7H_8O is insoluble in aqueous $NaHCO_3$ and dissolves in aqueous NaOH and gives a characteristic colour with neutral $FeCl_3$. When treated with Br_2(A) forms compound $(B)C_7H_5OBr_3$.

The most probable structure of compound A is :

A. 

B. 

C. 

D. (d) 

Answer: B

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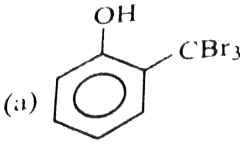
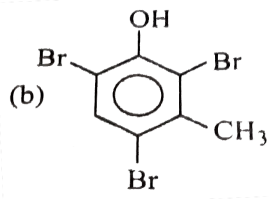
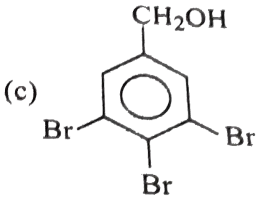
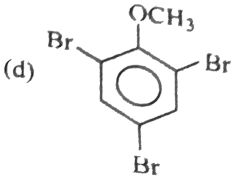
2. Compound (A)C_7H_8O is insoluble in aqueous $NaHCO_3$ and dissolves in aqueous NaOH and gives a characteristic colour with neutral $FeCl_3$. When treated with Br_2(A) forms compound $(B)C_7H_5OBr_3$.

The structure of compound (B) would be :

A. (a) 

B. 

C. 

D. 

Answer: B

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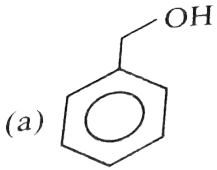
3. Compound (A)C_7H_8O is insoluble in aqueous $NaHCO_3$ and dissolves in aqueous NaOH and gives a

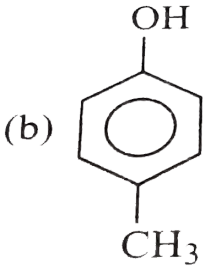
characteristic colour with neutral $FeCl_3$. When treated with Br_2(A) forms compound $(B)C_7H_5OBr_3$.

What could be the structure of compound (A) if neither dissolves in aq. $NaHCO_3$ nor gives a characteristic colour with $FeCl_3$?

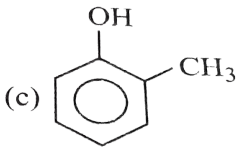
A.

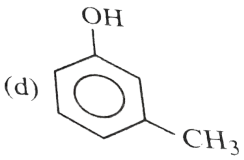


B.



C.



D. 

Answer: A::B

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4. From the following sequence of reactions ,

[A] $(C_6H_{12}) \xrightarrow{HCl} (B)(C_6H_{13}Cl) + (C)(C_6H_{13}Cl)$ react with $AgNO_3$ to give white ppt.

[B] $\xrightarrow{\text{Alc.}KOH}$ (D) (An isomer of A) gives positive test with Br_2 / CCl_4

[D] $\xrightarrow{\text{Ozonelysis}}$ (E) gives positive iodoform test and negative Fehling's test .

[A] $\xrightarrow{\text{Ozonolysis}}$ (F) + (G) , both F and G give positive Tollen's

test .

[F] + [G] $\xrightarrow[\Delta]{\text{Conc.}NaOH}$ HCOONa + alcohol

The structure A and B respectively are :

A. (a)  and 

B. (b) 

and 

C. (c)  and 

D. (d)  and 

Answer: A

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5. From the following sequence of reactions ,

[A] $(C_6H_{12}) \xrightarrow{HCl} (B)(C_6H_{13}Cl) + (C)(C_6H_{13}Cl)$ react

with $AgNO_3$ to give white ppt.

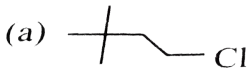
[B] $\xrightarrow{\text{Alc.}KOH}$ (D) (An isomer of A) gives positive test with Br_2/CCl_4

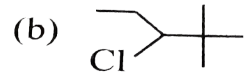
[D] $\xrightarrow{\text{Ozonelysis}}$ (E) gives positive iodoform test and negative Fehling's test .

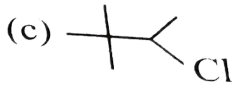
[A] $\xrightarrow{\text{Ozonolysis}}$ (F) + (G) , both F and G give positive Tollen's test .

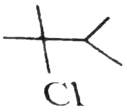
[F] + [G] $\xrightarrow[\Delta]{\text{Conc.}NaOH}$ HCOONa + alcohol

The structure of C is :

A. 

B. 

C. 

(d) 

D.

Answer: C

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6. From the following sequence of reactions ,

[A] $(C_6H_{12}) \xrightarrow{HCl} (B)(C_6H_{13}Cl) + (C)(C_6H_{13}Cl)$ react with $AgNO_3$ to give white ppt.

[B] $\xrightarrow{\text{Alc.}KOH}$ (D) (An isomer of A) gives positive test with Br_2/CCl_4

[D] $\xrightarrow{\text{Ozonelysis}}$ (E) gives positive iodoform test and negative Fehling's test .

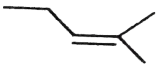
[A] $\xrightarrow{\text{Ozonolysis}}$ (F) + (G) , both F and G give positive Tollen's

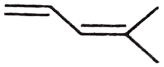
test .

$$[F] + [G] \xrightarrow[\Delta]{\text{Conc.}NaOH} HCOONa + \text{alcohol}$$

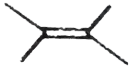
The reaction involve in F and G with the NaOH is :

The structure of compound D is :

A. (a) 

B. (b) 

C. (c) 

D. (d) 

Answer: D

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7. From the following sequence of reactions ,

[A] $(C_6H_{12}) \xrightarrow{HCl} (B)(C_6H_{13}Cl) + (C)(C_6H_{13}Cl)$ react with $AgNO_3$ to give white ppt.

[B] $\xrightarrow{\text{Alc.}KOH}$ (D) (An isomer of A) gives positive test with Br_2 / CCl_4

[D] $\xrightarrow{\text{Ozonelysis}}$ (E) gives positive iodoform test and negative Fehling's test .

[A] $\xrightarrow{\text{Ozonolysis}}$ (F) + (G) , both F and G give positive Tollen's test .

[F] + [G] $\xrightarrow[\Delta]{\text{Conc.}NaOH}$ HCOONa + alcohol

The reaction involve in F and G with the NaOH is :

The reaction involve in the F and G with NaOH is :

A. Reimer- Tiemann reaction

B. Aldol condensation

C. Cannizzaro reaction

D. Perkin reaction

Answer: C

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Match The Column

1.

Column(I)	Column(II)
$(a)\,Ph-\overset{\overset{O}{\|\|}}{C}-CH_3$	P. Aldol condensation
$(b)\,CH_3-\overset{\overset{O}{\|\|}}{C}-H$	Q. Positive iodoform test
$(c)\,Ph-\overset{\overset{O}{\|\|}}{C}-H$	R. Negative test of Fehling's solution
$(d)\,CH_3CH_2OH$	S. Oxidation with $Cu\,/\,\Delta$

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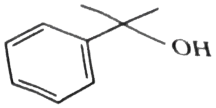
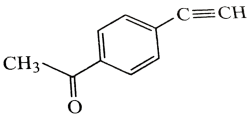
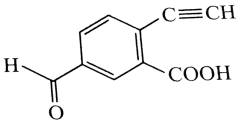
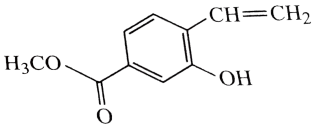
2.

Column (I)	Column (II)
(a) $NaHCO_3$	P. 
(b) Na metal	Q. 
(c) 2,4,-Dinitrophenyl hydrazine	R. 
(d) Lucas reagent	S. 

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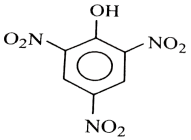
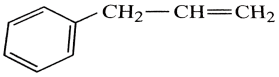
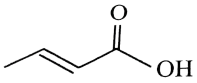
3. Match the following columns

3. Column (I)	Column (II)
(a) 	*P.* Decolourise Br_2 water
(b) 	*Q.* Effervescence of CO_2 on reaction with $NaHCO_3$
(c) 	*R.* Oxidation with alkaline $KMnO_4$
(d) 	*S.* React with Na metal

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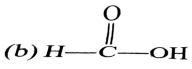
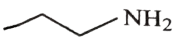
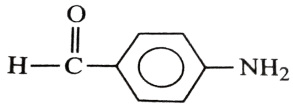
4.

4. Column (I)	Column (II)
(a) $CH_3—C\equiv CH$	*P.* Positive test with Fehling's solution
(b) 	*Q.* Positive test with Tollen's reagent
(c) 	*R.* Decolourise $Br_2—H_2O$
(d) 	*S.* Isocyanide test

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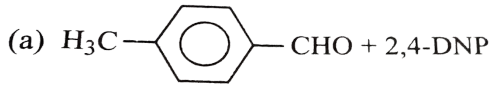
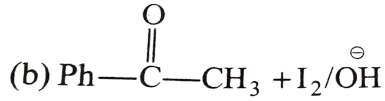
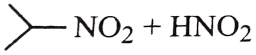
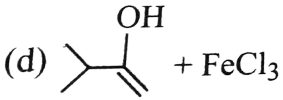
5. Match the following columns

Column (I)	Column (II)
(a) 	P. Yellow
(b) 	Q. Orange
(c) 	R. Violet
(d) 	S. Blue

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6.

Column(I)	Column(II)
(a)Presence of halogen	$P.\ HNO_3 / AgNO_3$
(b)Presence of sulphur	$Q.\ Na_2\left[Fe(CN)_5NO\right]$
(c)Presence of nitrogen	$R.\ Co(NO_3)_2$
(d)Presence of P and S	$S.\ FeCl_3$

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