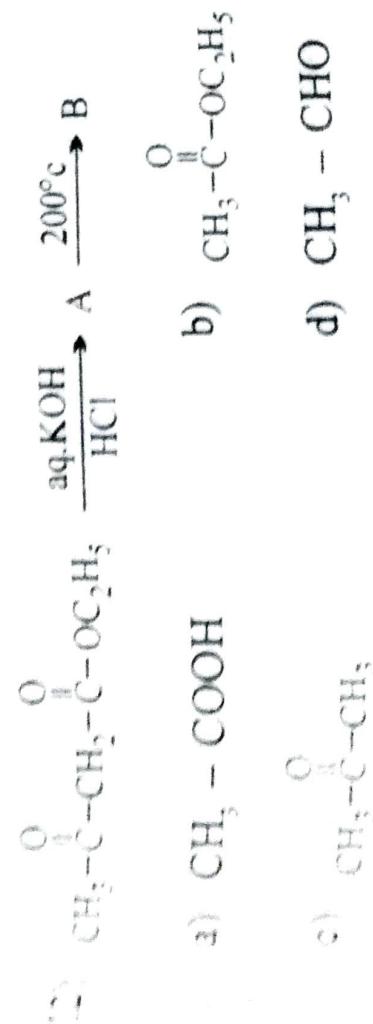


MCQ's

- 1) Ethyl acetoacetate is an .....
  - a)  $\alpha$ -halo ester
  - b)  $\beta$ -keto ester
  - c)  $\alpha$ -keto ester
  - d)  $\beta$ -hydroxy ester
  
- 2) Structural formula of ethylacetoacetate is ...
  - a)  $\text{C}_2\text{H}_5-\text{O}-\overset{\text{O}}{\underset{\parallel}{\text{C}}}-\text{CH}_3$
  - b)  $\text{C}_2\text{H}_5-\text{O}-\overset{\text{O}}{\underset{\parallel}{\text{C}}}-\text{CH}_2-\overset{\text{O}}{\underset{\parallel}{\text{C}}}-\text{CH}_3$
  - c)  $\text{CH}_3-\overset{\text{OH}}{\underset{|}{\text{CH}}}-\overset{\text{O}}{\underset{\parallel}{\text{C}}}-\text{OC}_2\text{H}_5$
  - d)  $\text{CH}_3-\overset{\text{O}}{\underset{\parallel}{\text{C}}}-\overset{\text{O}}{\underset{\parallel}{\text{C}}}-\text{OC}_2\text{H}_5$
  
- 3) Ethyl acetoacetate can be prepared from ...
  - a) Acetyl chloride
  - b) Acetic anhydride

# Q&A - Synthesis V, α-Enolone

- 5) Ethyl acetate      d) All of these  
 6) Ethyl acetoacetate is prepared by .... reaction.  
 a) Aldol condensation      b) Cannizzaro  
 c) Perkin condensation      d) Claisen condensation  
 Esters which undergo Claisen condensation should have atleast ...α hydrogen.
- a) One      b) Two  
 c) Three      d) Any of these
- 7) Keto-Enol tautomerism is observed in .....  
 a) Benzaldehyde      b) Benzophenone  
 c) Acetic acid      d) Ethyl acetoacetate
- 8) -C=OH group can be confirmed by reaction with ...  
 a) HCN      b) NH<sub>2</sub>-NH<sub>2</sub>  
 c) Ph-NH-NH<sub>2</sub>      d) FeCl<sub>3</sub>
- 9) Keto group in ethyl acetoacetate can be confirmed by reaction with...  
 a) HCN      b) NH<sub>2</sub>-NH<sub>2</sub>  
 c) Ph-NH-NH<sub>2</sub>      d) All of these
- 10) Ethyl acetoacetate reacts with acetyl chloride to give acetyl derivative due to ..... functional group.  
 a) Alcohol      b) Acid  
 c) Ester      d) Ketone
- 11) ..... group in ethyl acetoacetate reacts with HCN to give cyanohydrin  
 a) Alcohol      b) Acid  
 c) Ester      d) Ketone
- 12) Ethyl acetoacetate reacts with phenyl hydrazine to give phenyl hydrazone derivative indicates presence of ..... group.  
 a) Alcohol      b) Acid  
 c) Ester      d) None of these



- 13) Crotonic acid is prepared from ethyl acetoacetate and ...  
a) Acetone                          b) Acetaldehyde  
c) Formaldehyde                    d) Acetic acid
- 14) Cinnamic acid is prepared by action of ethyl acetoacetate with ...  
a) Acetone                            b) Acetaldehyde  
c) Benzaldehyde                    d) Benzophenone
- 15) Ethyl acetoacetate reacts with ethanal in presence of base and then upon acid hydrolysis yields ...  
a) Crotonic acid                    b) Benzoic acid  
c) Cinnamic acid                    d) Citric acid
- 16) Ethyl acetoacetate is hydrolysed with dilute HCl, to give ...  
a) Acetic acid                      b) Acetone  
c) Acetoacetic acid                d) Acetaldehyde
- 17) Ethyl acetoacetate reacts with ethyl chloroacetate and hydrolysed by conc NaOH to give ...  
a) Succinic acid                    b) Crotonic acid  
c) Citric acid                      d) Acetoacetic acid
- 18) 2, 4 pentanedione can be prepared from ethyl acetoacetate and ...  
a) Acetaldehyde                    b) Acetone  
c) Acetyl chloride                 d) Acetamide
- 19) Two molecules of sodium ethyl acetoacetate reacts with iodine followed by ketonic hydrolysis yields ...  
a) 2,4-hexanedione                b) 2,5-hexanedione  
c) Adipic acid                     d) Succinic acid
- 20) Ethyl acetate on heating with sodium ethoxide gives ...  
a) Ethyl acetoacetate             b) Sodium acetate  
c) Ethyl alcohol                    d) Acetic acid
- 21) Ethylaceto acetate reacts with phenyl hydrazine to give ...  
a) Antipyrine                      b) Asprin  
c) 4-methyl uracil                d) DDT
- 22) Ethyl acetoacetate reacts with urea to give ...  
a) Antipyrine                      b) Aspirin  
c) 4-methyl uracil                d) DDT
- 23) Base-catalysed condensation of two ester molecule to form an alcohol and  $\beta$ -Keto ester is called

a) Claisen condensation  
b) Corey-house reaction

c) Aldol condensation  
d) Trans-esterification

24) Which of the following statement is false ?

- a) Keto form didn't show coloration with  $\text{FeCl}_3$
- b) Enol form shows coloration with  $\text{FeCl}_3$
- c) Keto form show coloration with  $\text{FeCl}_3$
- d) Ethyl acetoacetate shows keto-enol tautomerism

25) Enamines are ...

- a)  $\alpha, \beta$  unsaturated amines  
b)  $\beta$ -keto amine
- c)  $\beta$ -hydroxy amine  
d)  $\alpha$ -hydroxy amine

26) Enamine consist of ..... group.

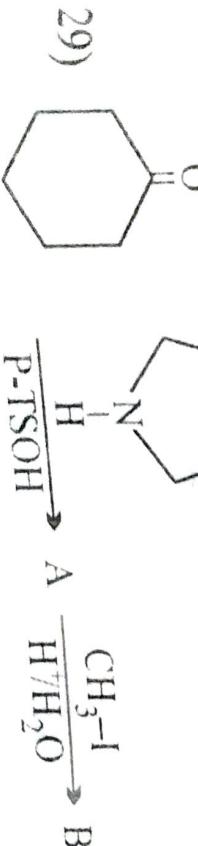
- a) Alkene  
b) Amine
- c) both a & b  
d) Amide

27) Enamines are obtained by action of ketone with ...

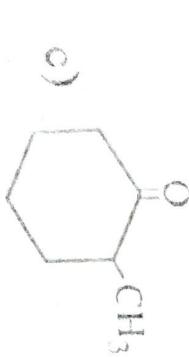
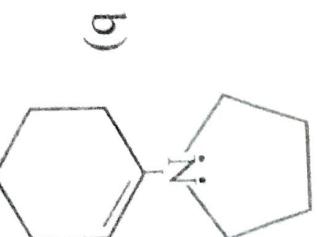
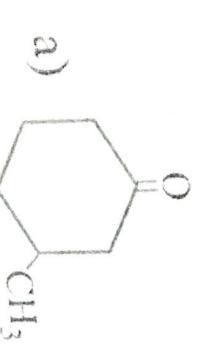
- a) Ammonia  
b) Primary amine
- c) Secondary amine  
d) Tertiary amine

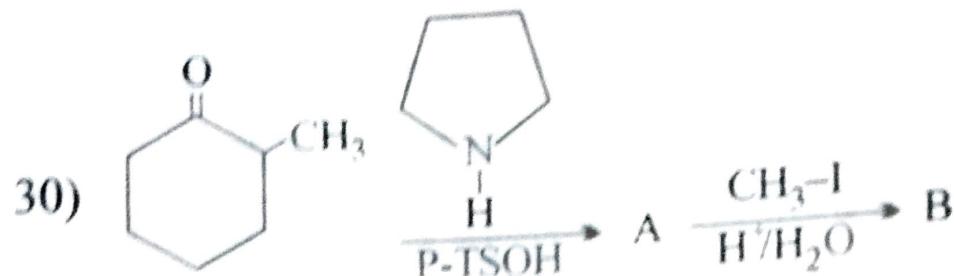
28) Enamines are useful intermediate in the synthesis of ....product

- a)  $\alpha$ -alkylated  
b)  $\beta$ -alkylated
- c)  $\gamma$ -alkylated  
d)  $\delta$ -alkylated

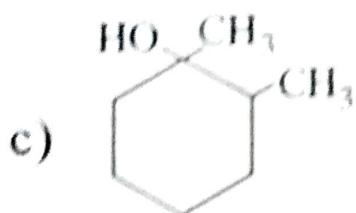
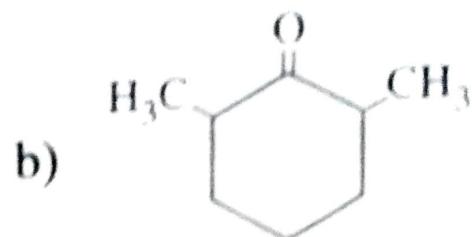
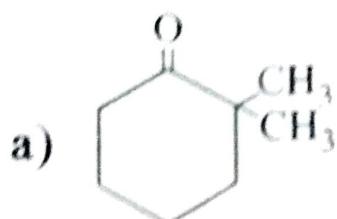


B is ....





B is ....



d) None of these

**Answer Key**

- |     |          |     |          |     |          |     |          |     |          |     |          |
|-----|----------|-----|----------|-----|----------|-----|----------|-----|----------|-----|----------|
| 1)  | <b>b</b> | 2)  | <b>b</b> | 3)  | <b>c</b> | 4)  | <b>d</b> | 5)  | <b>b</b> | 6)  | <b>d</b> |
| 7)  | <b>d</b> | 8)  | <b>d</b> | 9)  | <b>a</b> | 10) | <b>d</b> | 11) | <b>d</b> | 12) | <b>c</b> |
| 13) | <b>b</b> | 14) | <b>c</b> | 15) | <b>a</b> | 16) | <b>c</b> | 17) | <b>a</b> | 18) | <b>c</b> |
| 19) | <b>b</b> | 20) | <b>a</b> | 21) | <b>a</b> | 22) | <b>c</b> | 23) | <b>a</b> | 24) | <b>c</b> |
| 25) | <b>a</b> | 26) | <b>c</b> | 27) | <b>c</b> | 28) | <b>a</b> | 29) | <b>c</b> | 30) | <b>b</b> |