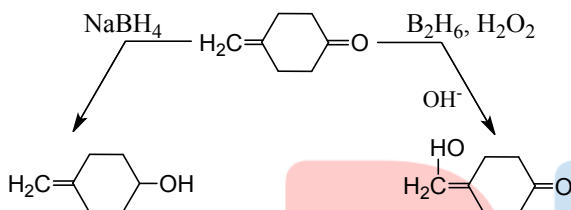


### Topic :- Aldehydes, Ketones & Carboxylic Acids

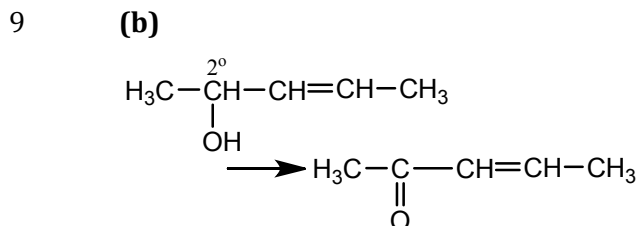
- 3 (b) In the given compound, carbonyl group is reduced to -OH group by NaBH<sub>4</sub> and it does not affect double bond. The another is hydroboration-oxidation reaction, in which one water molecule is added to double bond



- 6 (b)  $\text{CH}_3\text{CHO} \xrightarrow{\text{Na/C}_2\text{H}_5\text{OH}} \text{CH}_3\text{CH}_2\text{OH}$

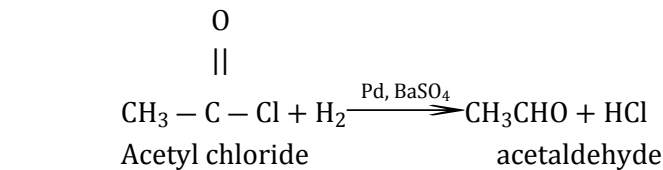
- 8 (c)
1. Acidity decreases with increase in number of carbon atoms in carboxylic acid.
  2. Solubility of carboxylic acid decrease with increase in number of carbon atoms. Higher acids are insoluble in H<sub>2</sub>O.
  3. Boiling points of acids are higher than corresponding alcohols due to greater extent of hydrogen bonding.

∴ (c) is correct answer.



Only suitable reagent is chromic anhydride in glacial acetic acid. Other will also effect (C=C) bond.

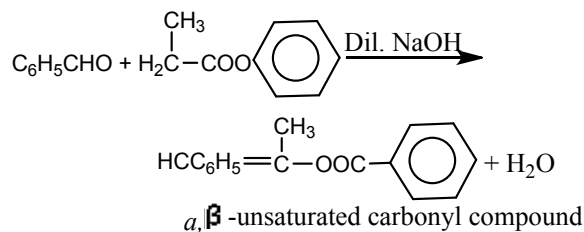
- 10 (b) In the Rosenmund's reaction the acid chlorides are converted to corresponding aldehydes by catalytic reaction. This reaction is carried in the presence of palladium deposited over barium, sulphate.



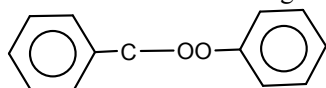
11

**(a)**

In Claisen condensation aromatic aldehydes having no  $\alpha$  – hydrogen atom react with aldehyde, ketones or esters having  $\alpha$  – hydrogen atom in presence of dilute alkali to form  $\alpha, \beta$  – unsaturated carbonyl compound. *e.g.*,



Claisen condensation is not given by



As it does not contain  $\alpha$  – hydrogen atom.

12

**(d)**

Methyl salicylate an ester has smell of oil of winter green and used as medicine in iodex; the pain reliever of strains in muscles.

13

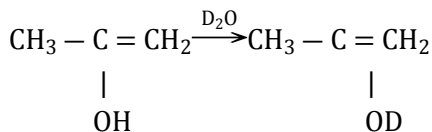
**(b)**

Rosenmund's reaction involves reduction of acid chlorides to aldehydes by the action of  $\text{H}_2$  in presence of  $\text{Pd/BaSO}_4$ .  $\text{BaSO}_4$  acts as poison for  $\text{Pd}$  and prevents further reduction of aldehydes to alcohol.

14

**(a)**

After treatment with  $\text{D}_2\text{O}$ , the  $\text{H}^+$  ion of  $-\text{OH}$  group is replaced by  $\text{D}^+$  ion, because of being more reactive than deuterium



15

**(d)**



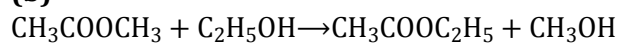
acetic acid    ammonium acetate    acetamide

The isomers of  $\text{CH}_3\text{CONH}_2$  is

4.  $\text{NH}_2\text{CH}_2\text{CHO}$
5.  $\text{CH}_3 - \text{CH} = \text{NOH}$
6.  $\text{H} - \text{CONH} - \text{CH}_3$

18

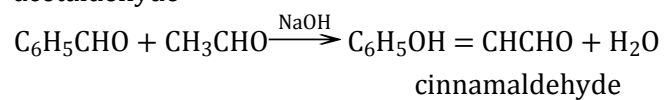
**(b)**



20

**(b)**

Cinnamaldehyde is prepared by the Claisen reaction between benzaldehyde and acetaldehyde



PE

<b>ANSWER-KEY</b>										
<b>Q.</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
<b>A.</b>	<b>D</b>	<b>D</b>	<b>B</b>	<b>C</b>	<b>C</b>	<b>B</b>	<b>C</b>	<b>C</b>	<b>B</b>	<b>D</b>
<b>Q.</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>18</b>	<b>19</b>	<b>20</b>
<b>A.</b>	<b>A</b>	<b>D</b>	<b>B</b>	<b>A</b>	<b>D</b>	<b>A</b>	<b>A</b>	<b>B</b>	<b>B</b>	<b>B</b>

**PE**