

**Marking Scheme**  
**Strictly Confidential**  
**(For Internal and Restricted use only)**  
**Senior Secondary School Examination, 2026 (XII<sup>th</sup>)**  
**SUBJECT NAME: - CHEMISTRY (043), (Q.P. CODE 56/2/3)**

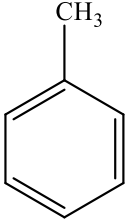
**General Instructions: -**

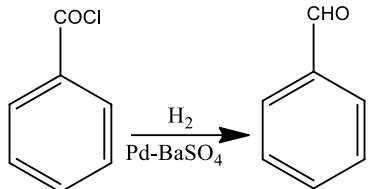
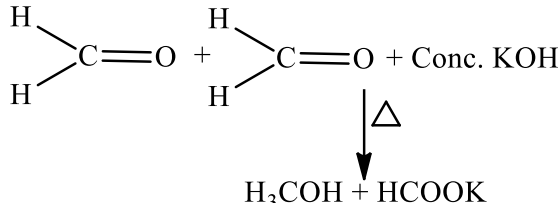
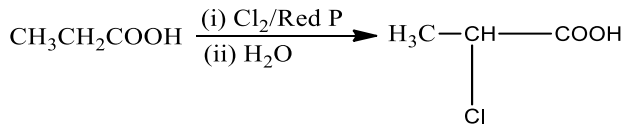
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|----------|--|
| <b>1</b> | The CBSE has decided to introduce On Screen Marking (OSM) for the evaluation of Class XII answer Book with the 2026 Examination.   |
| <b>2</b> | You are aware that evaluation is the most important process in the actual and correct assessment of the candidates. A small mistake in evaluation may lead to serious problems which may affect the future of the candidates, education system and teaching profession. To avoid mistakes, it is requested that before starting evaluation, you must read and understand the spot evaluation guidelines carefully.   |
| <b>3</b> | <b>“Evaluation policy is a confidential policy as it is related to the confidentiality of the examinations conducted, evaluation done and several other aspects. Its leakage to public in any manner could lead to derailment of the examination system and affect the life and future of millions of candidates. Sharing this policy/document to anyone, publishing in any magazine and printing in Newspaper/Website, etc. may invite action under various rules of the Board and IPC.”</b>  |
| <b>4</b> | Evaluation is to be done as per instructions provided in the Marking Scheme. It should not be done according to one's own interpretation or any other consideration. Marking Scheme should be strictly adhered to and religiously followed. <b>However, while evaluating, answers which are based on latest information or knowledge and/or are innovative, they may be assessed for their correctness otherwise and due marks be awarded to them. In Class-XII, while evaluating two competency-based questions, please try to understand given answer and even if reply is not from marking scheme but correct competency is enumerated by the candidate, due marks should be awarded.</b> |
| <b>5</b> | The Marking scheme carries only suggested value points for the answers. These are in the nature of Guidelines only and do not constitute the complete answer. The students can have their own expression and if the expression is correct, the due marks should be awarded accordingly.  |
| <b>6</b> | The Head-Examiner must go through the first five answer books evaluated by each evaluator on the first day, to ensure that evaluation has been carried out as per the instructions given in the Marking Scheme. If there is any variation, the same should be zero after deliberation and discussion. The remaining answer books meant for evaluation shall be given only after ensuring that there is no significant variation in the marking of individual evaluators.   |
| <b>7</b> | Evaluators will mark ( ✓ ) wherever answer is correct. For wrong answer CROSS 'X' be marked. Evaluators will not put right (✓) while evaluating which gives an impression that answer is correct and no marks are awarded. <b>This is most common mistake which evaluators are committing.</b>   |
| <b>8</b> | If a question has parts, please award marks on the right-hand side for each part in the OSM Portal. Marks awarded for different parts of the question will be totaled up by the OSM System.  |
| <b>9</b> | If a question does not have any parts, marks must be awarded in the left-hand margin in the OSM Portal. This may also be followed strictly.  |

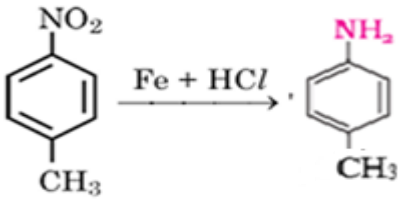
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| 10 | No marks to be deducted for the cumulative effect of an error. It should be penalized only once.   |
| 11 | A full scale of marks _____ (example 0 to 80/70/60/50/40/30 marks as given in Question Paper) has to be used. Please do not hesitate to award full marks if the answer deserves it.  |
| 12 | Every examiner has to necessarily do evaluation work for full working hours i.e., 8 hours every day and evaluate 20 answer books per day in main subjects and 25 answer books per day in other subjects (Details are given in Spot Guidelines). This is in view of the reduced syllabus and number of questions in question paper.   |
| 13 | Ensure that you do not make the following common types of errors committed by the Examiner in the past :- <ul style="list-style-type: none"> <li>• Answers marked as correct, but marks not awarded. (Ensure that the right tick mark is correctly and clearly indicated. It should merely be a line. Same is with the X for incorrect answer.)</li> <li>• Half or a part of answer marked correct and the rest as wrong, but no marks awarded.</li> </ul> |
| 14 | While evaluating the answer books if the answer is found to be totally incorrect, it should be marked as cross (X) and awarded zero (0) Marks.   |
| 15 | The Examiners should acquaint themselves with the guidelines given in the <b>“Guidelines for Spot Evaluation”</b> before starting the actual evaluation.   |
| 16 | The candidates are entitled to obtain photocopy of the Answer Book on request on payment of the prescribed processing fee. All Examiners/Additional Head Examiners/Head Examiners are once again reminded that they must ensure that evaluation is carried out strictly as per value points for each answer as given in the Marking Scheme.  |
| 17 | <b>If a candidate attempts both alternatives/options in a question where only one option/ alternative is required to be attempted, the Evaluator shall award marks in both the options. The system will take the higher of two scores and disregard the other response.</b>  |
| 18 | <b>In a question having two options/alternatives, if a candidate has attempted only one, then the evaluator shall mark “NA” (Not attempted) against the option that has not been attempted by the candidate.</b>   |

**MARKING SCHEME**  
**CHEMISTRY (Subject Code-043)**  
**(PAPER CODE : 56/2/3) (26-02-43N)**

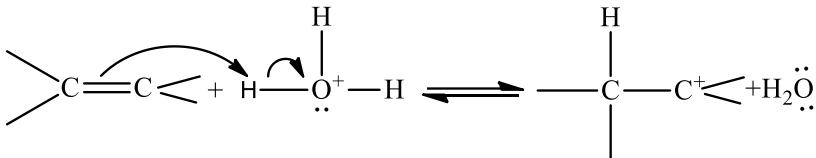
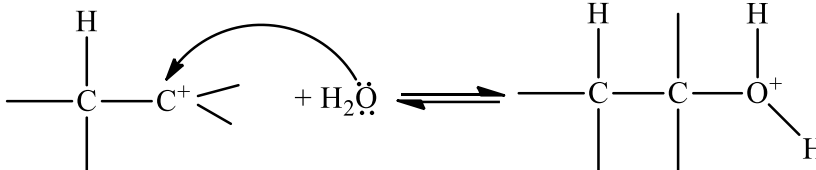
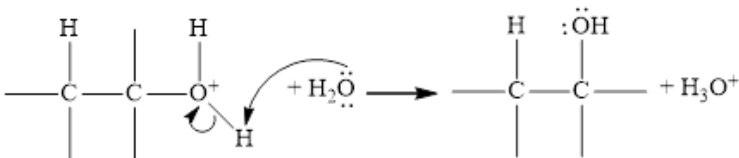
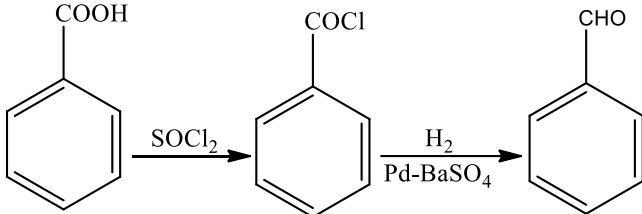
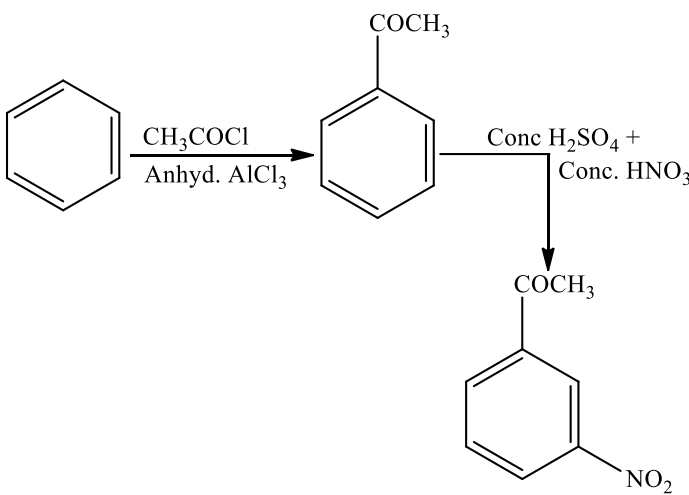
| Q.No.  | EXPECTED OUTCOMES/VALUE POINTS   | Marks                                       |
|--------|--|---|
|        | <b>SECTION - A</b>   |   |
| 1.     | B  | 1   |
| 2.     | A  | 1   |
| 3.     | C  | 1   |
| 4.     | A  | 1   |
| 5.     | D  | 1   |
| 6.     | B  | 1   |
| 7.     | C  | 1   |
| 8.     | B  | 1   |
| 9.     | C  | 1   |
| 10.    | A  | 1   |
| 11.    | D  | 1   |
| 12.    | B  | 1   |
| 13.    | A / B  | 1   |
| 14.    | A  | 1   |
| 15.    | C  | 1   |
| 16.    | D  | 1   |
|        | <b>SECTION - B</b>   |   |
| 17.    | (a) The coordination number of a metal ion in a complex can be defined as the number of ligand donor atoms to which the metal is directly bonded.<br>(b) Optical isomerism.  | 1<br>1                                      |
| 18.    | (a) The collisions among the reacting species which results in the formation of products.<br>(b) (i) mol <sup>-1</sup> L s <sup>-1</sup> / mol L <sup>-1</sup> s <sup>-1</sup> (ii) mol L <sup>-1</sup> s <sup>-1</sup>  | 1<br>$\frac{1}{2} + \frac{1}{2}$            |
| 19.    | (a) Because of stable half-filled d <sup>5</sup> in Cr <sup>+</sup> and completely filled d-orbitals in Cu <sup>+</sup> . Removal of electron is difficult so ionisation enthalpies are higher.<br>(b) Small atoms like H,C etc fit into the voids of transition metals in their crystal lattice resulting in the formation of interstitial compounds. | 1<br>1                                      |
| 20(A). | $k = \frac{2.303}{t} \log \frac{[R]_0}{[R]}$<br>$k = \frac{2.303}{5 \text{ min}} \log \frac{0.6}{0.2}$<br>or $k = \frac{2.303}{5} \log 3$<br>$k = \frac{2.303}{5} \times 0.48$<br>$= 0.22 \text{ min}^{-1}$  | $\frac{1}{2}$<br><br>$\frac{1}{2}$<br><br>1 |
|        | <b>OR</b>  |   |
| 20(B). | $k = \frac{2.303}{t} \log \frac{[R]_0}{[R]}$   | $\frac{1}{2}$                               |

|                    |  |  |
|--------------------|--|--|
|                    | $t = \frac{2.303}{k} \frac{[R]_0}{\frac{1}{4}[R]_0}$ $t = \frac{2.303}{2.54 \times 10^{-3}} \log 4$ $t = \frac{2.303}{2.54 \times 10^{-3}} \times 0.60$ $= 5.44 \times 10^2 \text{ s} / 544 \text{ s}$   | <p>½</p><br><br><p>1</p>                                     |
| 21.                | <p>(a)</p>  <p>(b)</p> $\begin{array}{c} \text{CH}_3 - \underset{\text{Br}}{\text{CH}} - \text{CH}_2 - \text{CH}_3 + \text{KOH(alc.)} \\ \downarrow \\ \text{CH}_3 - \text{CH} = \text{CH} - \text{CH}_3 + \text{KCl} + \text{H}_2\text{O} / \text{But-2-ene is formed} \\ \text{Or } \text{CH}_2 = \text{CH} - \text{CH}_2 - \text{CH}_3 + \text{KCl} + \text{H}_2\text{O} / \text{But-1-ene is formed} \end{array}$ | <p>1</p>   |
| <b>SECTION - C</b> |  |  |
| 22.                | $\Delta T_f = K_f \frac{W_B}{M_B} \times \frac{1000}{W_A}$ $\Delta T_f = 1.86 \times \frac{60}{180} \times \frac{1000}{250}$ $= \frac{7.44}{3} = 2.48\text{K}$ $\Delta T_f = 2.48\text{K}$ <p>Freezing point of solution = <math>T_f^0 - \Delta T_f</math></p> $= 273.15 \text{ K} - 2.48 \text{ K} / 273 \text{ K} - 2.48 \text{ K}$ $= 270.67\text{K} / 270.52 \text{ K or } -2.48 ^\circ\text{C}$   | <p>½</p><br><p>½</p><br><br><p>½</p><br><p>½</p><br><p>1</p> |
| 23.                | $\text{Sn(s)}   \text{Sn}^{2+}(0.001\text{M})    \text{H}^+(0.01\text{M})   \text{H}_{2(\text{g})}(1 \text{ bar})   \text{Pt(s)}$ $E^\circ_{\text{cell}} = 0 - (-0.14 \text{ V}) = 0.14 \text{ V}$ $E_{\text{cell}} = E^\circ_{\text{cell}} - \frac{0.059}{2} \log \frac{[\text{Sn}^{2+}]}{[\text{H}^+]^2}$ $= 0.14 \text{ V} - \frac{0.059}{2} \log \frac{(0.001)}{(0.01)^2}$ $= 0.14 \text{ V} - \frac{0.059}{2} \log 10$ $= 0.14 \text{ V} - 0.0295 \text{ V}$ $= 0.1105 \text{ V}$                 | <p>½</p><br><p>½</p><br><p>1</p><br><br><p>1</p>             |
| 24.                | <p>(a) (i) <math>2 \text{Na}_2\text{CrO}_4 + 2\text{H}^+ \rightarrow \text{Na}_2\text{Cr}_2\text{O}_7 + 2\text{Na}^+ + \text{H}_2\text{O}</math></p>   | <p>1</p>   |

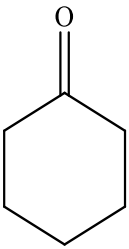
|  | (ii) $5\text{S}^{2-} + 2\text{MnO}_4^- + 16\text{H}^+ \rightarrow 2\text{Mn}^{2+} + 8\text{H}_2\text{O} + 5\text{S}$   | 1                |                   |  |  |   |
|--|--|------------------|-------------------|--|--|---|
|  | (b) Because of their radioactive nature and their existence in wide range of oxidation states.   | 1                |                   |  |  |   |
| 25.  | (a) In $[\text{Fe}(\text{H}_2\text{O})_6]^{3+}$ , $\text{H}_2\text{O}$ is a weak field ligand, 3d electrons do not pair up. Hence it is strongly paramagnetic.<br>Whereas in $[\text{Fe}(\text{CN})_6]^{3-}$ , cyanide ion is a strong field ligand, 3d electrons pair up leaving only one unpaired electron. So it is weakly paramagnetic.  | 1<br>1           |                   |  |  |   |
|  | (b) $t_2g^3e_g^2$  | 1                |                   |  |  |   |
| 26.  | (a) 2-Bromo-3-methylbutane   | 1                |                   |  |  |   |
|  | (b) The process of conversion of enantiomer into a racemic mixture is known as racemisation.   | 1                |                   |  |  |   |
|  | (c) It is because with the decrease in size and mass of halogen atom, the magnitude of van der Waal forces decreases.  | 1                |                   |  |  |   |
| 27.  | (a) <div></div>   | 1                |                   |  |  |   |
|  | (b) <div></div>   | 1                |                   |  |  |   |
|  | (c) <div></div> <div>(Or any other correct reaction)</div>  | 1                |                   |  |  |   |
| 28(A).   | (a)(i) Sucrose is dextrorotatory and its hydrolysis gives dextrorotatory glucose and laevorotatory fructose where laevo rotation is more than dextro resulting in net rotation as laevorotatory, the product is known as invert sugar .<br>(ii) Carbohydrates which give large number of monosaccharides units on hydrolysis are called polysaccharides.   | 1<br>1           |                   |  |  |   |
|  | (b) <table border="1"><thead><tr><th>Fibrous proteins</th><th>Globular proteins</th></tr></thead><tbody><tr><td>When polypeptide chains run parallel and are held together by hydrogen and disulphide bonds then fibre-like structure is formed.</td><td>When the chains of polypeptides coil around to give a spherical shape.</td></tr></tbody></table> <div>(or any other suitable structural difference)</div> | Fibrous proteins | Globular proteins | When polypeptide chains run parallel and are held together by hydrogen and disulphide bonds then fibre-like structure is formed. | When the chains of polypeptides coil around to give a spherical shape. | 1 |
| Fibrous proteins   | Globular proteins  |                  |                   |  |  |   |
| When polypeptide chains run parallel and are held together by hydrogen and disulphide bonds then fibre-like structure is formed. | When the chains of polypeptides coil around to give a spherical shape.   |                  |                   |  |  |   |

|               |   |   |
|---------------|---|---|
|               |   |   |
|               | <b>OR</b>   |   |
| <b>28(B).</b> | <p>(a) The glycogen is stored in animal body and its structure is similar to amylopectin. <span style="float: right;">1</span></p> <p>(b) The amino acids which cannot be synthesised in the body and must be obtained through diet are essential amino acids whereas amino acids which can be synthesised in our body are known as non-essential amino acids. <span style="float: right;">1</span></p> <p>(c) During denaturation secondary and tertiary structures are destroyed but primary structure remains intact. <span style="float: right;">1</span></p>   |   |
|               | <b>SECTION - D</b>  |   |
| <b>29.</b>    | <p>(a)</p> $\Pi = i C R T = i \times \frac{W_B}{M_B} \times \frac{1}{V} R T$ $0.70 \text{ atm} = 2.59 \times \frac{W_B}{111 \text{ g mol}^{-1}} \times \frac{1}{2.46 \text{ L}} \times 0.082 \text{ L atm K}^{-1} \text{ mol}^{-1} \times 300 \text{ K}$ $W_B = \frac{0.70 \times 111 \times 2.46}{2.59 \times 0.082 \times 300}$ $W_B = 3 \text{ g}$ <p>(b) Osmosis <span style="float: right;">1</span></p> <p style="text-align: center;"><b>OR</b></p> <p>(b) Unlike other colligative properties, its magnitude is large even for very dilute solutions / It is measured at room temperature. / Molarity is used instead of molality. <span style="float: right;">1</span></p> <p>(c) Reverse osmosis <span style="float: right;">1</span></p> | <p><math>\frac{1}{2}</math></p> <p><math>\frac{1}{2}</math></p> <p><b>1</b></p> <p><b>1</b></p> <p><b>1</b></p> <p><b>1</b></p> |
| <b>30.</b>    | <p>(a) (i) <math>\text{CH}_3\text{CONH}_2 \xrightarrow[\text{(ii) H}_2\text{O}]{\text{(i) Li Al H}_4} \text{CH}_3\text{CH}_2\text{NH}_2</math></p> <p>(ii) </p> <p>(b) Because primary amines are associated due to hydrogen bonding and there is no hydrogen bonding in tertiary amines. <span style="float: right;">1</span></p> <p>(c)</p> <p>(i) Tertiary amine <span style="float: right;"><math>\frac{1}{2}</math></span></p> <p>(ii) Primary amine <span style="float: right;"><math>\frac{1}{2}</math></span></p> <p style="text-align: center;"><b>OR</b></p> <p>(c) Butan-1-ol <span style="float: right;">1</span></p>                                | <p><b>1</b></p> <p><b>1</b></p> <p><b>1</b></p> <p><math>\frac{1}{2}</math></p> <p><math>\frac{1}{2}</math></p> <p><b>1</b></p> |
|               | <b>SECTION - E</b>  |   |
| <b>31(A).</b> | <p>(a) <math>\lambda^\circ_{\text{NaCl}} = 50.1 + 76.5 = 126.6 \text{ Scm}^2 \text{ mol}^{-1}</math></p> $\Lambda_m = \frac{k \times 1000}{M}$ $= \frac{1.06 \times 10^{-2} \times 1000}{0.1}$  | <p><math>\frac{1}{2}</math></p> <p><math>\frac{1}{2}</math></p> <p><math>\frac{1}{2}</math></p>                                 |

|               |  |   |
|---------------|--|---|
|               | $= 106 \text{ Scm}^2 \text{ mol}^{-1}$<br><br>$\alpha = \frac{\Lambda_m}{\Lambda_m^0}$<br>$\alpha = \frac{106}{126.6} = 0.8372 \text{ or } 83.72 \%$<br>(b)<br>(i) Current will flow from Silver to Zinc /cathode to anode<br>(ii) Primary battery – the reaction occurs only once, it cannot be reused again.<br>Secondary battery – It can be recharged and can be used again.   | $\frac{1}{2}$<br><br><br>$\frac{1}{2}$<br><br>$\frac{1}{2}$<br><br><b>1</b><br><b>1</b>   |
|               | <b>OR</b>  |   |
| <b>31(B).</b> | (a) $k = \frac{1}{R} \left( \frac{l}{A} \right)$<br>$\left( \frac{l}{A} \right) = k R$<br>$= 1.29 \times 10^{-2} \times 100$<br>$= 1.29 \text{ cm}^{-1}$<br>$k = \frac{1 \times 1.29}{300}$<br>$= 0.0043 \text{ Scm}^{-1}$<br>$\Lambda_m = \frac{k \times 1000}{M}$<br>$= \frac{0.0043 \times 1000}{0.01}$<br>$= 430 \text{ Scm}^2 \text{ mol}^{-1}$<br><br>(b) (i) 1. Fuel cells are pollution free.<br>2. High efficiency. (Or any other correct advantage)<br>(ii) The cell potential remains constant during its life as the overall reaction does not involve any ion in solution whose concentration can change in its life time.  | $\frac{1}{2}$<br><br><br><br><br>$\frac{1}{2}$<br>$\frac{1}{2}$<br>$\frac{1}{2}$<br><br>$\frac{1}{2}$<br><br>$\frac{1}{2}$<br><br>$\frac{1}{2} + \frac{1}{2}$<br><br><b>1</b> |
| <b>32(A).</b> | $  \begin{array}{ccccc}  \text{CHI}_3 & \xleftarrow[\text{NaOH}]{\text{I}_2, \Delta} & \text{CH}_3\text{CH}_2\text{OH} & \xrightarrow{\text{Na}} & \text{CH}_3\text{CH}_2\text{ONa} + \text{H}_2 \\  \text{(C)} & & \text{(A)} & & \text{(B)} \\  & & \downarrow \text{H}_2\text{SO}_4 & & \\  & & 413 \text{ K} & & \\  & & \downarrow & & \\  & & \text{CH}_3\text{CH}_2\text{OCH}_2\text{CH}_3 & & \text{(D)} \\  & & \downarrow \text{HI} & & \\  & & \text{CH}_3\text{CH}_2\text{I} & & \text{(E)}  \end{array}  $ <p>(1 + <math>\frac{1}{2}</math> + <math>\frac{1}{2}</math> + <math>\frac{1}{2}</math> + <math>\frac{1}{2}</math> mark for identification and <math>\frac{1}{2}</math> mark each for reaction)</p> | <b>(3+2)</b>  |
|               | <b>OR</b>  |   |
| <b>32(B).</b> | (a) (i) Aqueous $\text{Br}_2$<br>(ii) $\text{HBr}$ , Peroxide followed by hydrolysis / $\text{B}_2\text{H}_6$ , $\text{H}_2\text{O}_2/\text{OH}^-$<br>(iii) $\text{H}_2$ , $\text{Ni/Pd/Pt}$ / $\text{LiAlH}_4$ / $\text{NaBH}_4$  | <b>1</b><br><b>1</b><br><b>1</b>  |

|               |   |                            |
|---------------|---|----------------------------|
|               | <p>(b) 1. Protonation of alkene</p>  <p>2. Nucleophilic attack of water on carbocation</p>  <p>3. Deprotonation to form an alcohol</p>    | <p>1</p> <p>½</p> <p>½</p> |
| <p>33(A).</p> | <p>(a) (i)</p> $\text{CH}_3\text{COCH}_3 + 4[\text{H}] \xrightarrow[-\text{H}_2\text{O}]{\text{LiAlH}_4} \text{CH}_3-\underset{\text{OH}}{\text{CH}}-\text{CH}_3$ <p style="text-align: center;"> <math>\text{CH}_3-\text{CH}=\text{CH}_2 \xleftarrow[\text{H}_2\text{SO}_4 \text{ Conc.}]{\text{heat}}</math> </p> <p>(ii)</p>  <p>(iii)</p>  <p style="text-align: center;">(or any other suitable method)</p> | <p>1</p> <p>1</p> <p>1</p> |



|               |  |   |
|---------------|--|---|
| <b>(b)</b>    | <p>(i)</p> $(\text{CH}_3)_3\text{C}-\text{C}(=\text{O})-\text{C}(\text{CH}_3)_3 < (\text{CH}_3)_2\text{C}(\text{CH}_3)-\text{C}(=\text{O})-\text{H} < \text{CH}_3-\text{C}(=\text{O})-\text{H}$ <p>(ii)</p> <p>CH<sub>3</sub>CHO, </p>  | <p><b>1</b></p> <p><b>½+½</b></p>   |
|               | <b>OR</b>  |   |
| <b>33(B).</b> | <p>(a)</p> <p>(i) Acetophenone on heating with NaOH and I<sub>2</sub>, gives yellow precipitate of iodoform whereas benzophenone does not give iodoform test.</p> <p>(ii) Propanal reduces Tollens' reagent to silver whereas propanone does not.</p> <p>(iii) Pentan-2-one on heating with NaOH and I<sub>2</sub>, gives yellow precipitate of iodoform whereas Pentan-3-one does not.</p> <p style="text-align: right;">(or any other suitable chemical test)</p> <p>(b)</p> <p>(i) FCH<sub>2</sub>COOH is a stronger acid than CH<sub>3</sub>COOH.<br/>Due to – I effect of F atom</p> <p>(ii) CH<sub>3</sub>CH<sub>2</sub>CH<sub>3</sub> &lt; CH<sub>3</sub>OCH<sub>3</sub> &lt; CH<sub>3</sub>CHO &lt; CH<sub>3</sub>CH<sub>2</sub>OH</p> | <p><b>1</b></p> <p><b>1</b></p> <p><b>1</b></p> <p><b>½</b></p> <p><b>½</b></p> <p><b>1</b></p> |

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