

Marking Scheme
Strictly Confidential
(For Internal and Restricted use only)
Senior Secondary School Examination, 2026 (XIIth)
SUBJECT NAME: - CHEMISTRY (043), (Q.P. CODE 56/2/1)

General Instructions: -

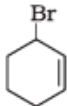
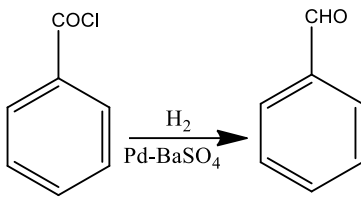
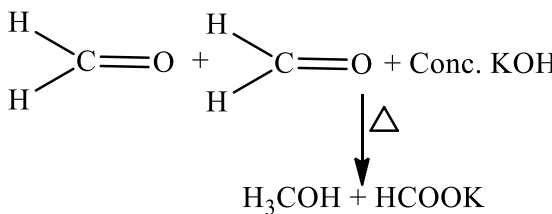
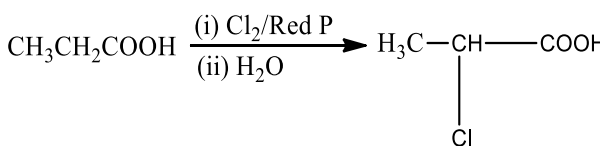
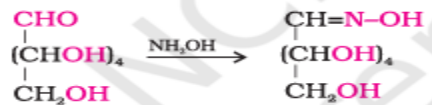
1	The CBSE has decided to introduce On Screen Marking (OSM) for the evaluation of Class XII answer Book with the 2026 Examination.
2	You are aware that evaluation is the most important process in the actual and correct assessment of the candidates. A small mistake in evaluation may lead to serious problems 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.
3	“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.”
4	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. 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.
5	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.
6	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.
7	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. This is most common mistake which evaluators are committing.
8	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.
9	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.

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	<p>Ensure that you do not make the following common types of errors committed by the Examiner in the past :-</p> <ul style="list-style-type: none"> • 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.) • Half or a part of answer marked correct and the rest as wrong, but no marks awarded.
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 "Guidelines for Spot Evaluation" 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	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.
18	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.

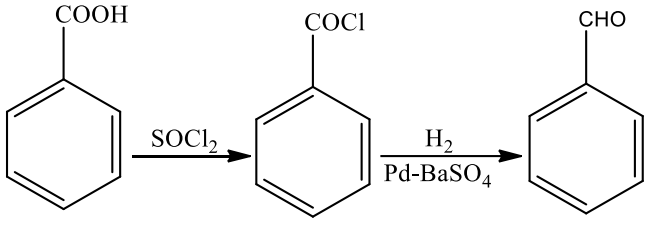
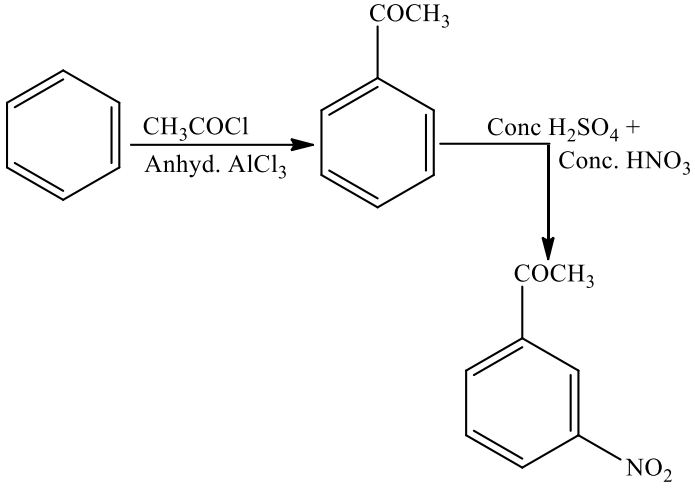
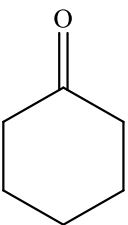
MARKING SCHEME
CHEMISTRY (Subject Code-043)
(PAPER CODE : 56/2/1) (26-02-43N)

Q.No.	EXPECTED OUTCOMES/VALUE POINTS	Marks
SECTION - A		
1.	(A)	1
2.	(B)	1
3.	(A)	1
4.	(C)	1
5.	(B)	1
6.	(D)	1
7.	(B)	1
8.	(C)	1
9.	(A)	1
10.	(C)	1
11.	(B)	1
12.	(D)	1
13.	(A)	1
14.	(A) / (B)	1
15.	(D)	1
16.	(C)	1
SECTION - B		
17.(A)	$k = \frac{2.303}{t} \log \frac{[R]_0}{[R]}$ $k = \frac{2.303}{5 \text{ min}} \log \frac{0.6}{0.2}$ $\text{or } k = \frac{2.303}{5} \log 3$ $k = \frac{2.303}{5} \times 0.48$ $= 0.22 \text{ min}^{-1}$	 ½ ½ 1
OR		
17.(B)	$k = \frac{2.303}{t} \log \frac{[R]_0}{[R]}$ $t = \frac{2.303}{k} \frac{[R]_0}{\frac{1}{4}[R]_0}$ $t = \frac{2.303}{2.54 \times 10^{-3}} \log 4$ $t = \frac{2.303}{2.54 \times 10^{-3}} \times 0.60$ $= 5.44 \times 10^2 \text{ s} / 544 \text{ s}$	 ½ ½ 1
18.	(a) The energy required by the reactants to form the activated complex is called activation energy. / The minimum amount of energy required by the reactants to cross the energy barrier to form products. (b) (i) mol L ⁻¹ s ⁻¹ (ii) mol ⁻¹ L s ⁻¹	 1 ½+½

19.	(a) Because Cr has unpaired 4s electron therefore requires lesser energy while Zn has paired 4s electron, so requires more energy. / Because loss of one electron gives stable 3d ⁵ configuration in Cr whereas Zn has high ionisation enthalpy because electron has to be removed from paired 4s electrons. (b) They show variable oxidation states / large surface area / vacant d-orbitals / complex formation.	1 1
20.	(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 atom / ion is directly bonded. (b) Optical isomerism.	1 1
21.	(a) $\begin{array}{ccccccc} & 1 & 2 & 3 & 4 & 5 & \\ & \text{H}_3\text{C} & -\text{CH} & =\text{C} & -\text{CH} & -\text{CH}_3 & \\ & & & & & & \\ & & & \text{CH}_3 & \text{Br} & & \end{array}$ (b) $\text{C}_2\text{H}_5\text{Cl} + \text{KOH}_{(\text{aq})} \rightarrow \text{C}_2\text{H}_5\text{OH} + \text{KCl}$ / ethanol is formed	1 1
SECTION - C		
22.	$\Delta T_b = K_b \times \frac{W_B}{M_B} \times \frac{1000}{W_A}$ $\Delta T_b = T_b - T_b^0 = 353.93 - 353.23 = 0.70 \text{ K}$ $0.70 = 2.52 \times \frac{1.5}{M_B} \times \frac{1000}{90}$ $M_B = \frac{2.52 \times 1.5 \times 1000}{0.70 \times 90}$ $M_B = \frac{3780}{63}$ $M_B = 60 \text{ g mol}^{-1}$ <p style="text-align: right;">(Deduct ½ mark if no or incorrect unit is given)</p>	½ ½ ½ ½ 1
23.	$\text{Sn(s)} \mid \text{Sn}^{2+}(0.001\text{M}) \parallel \text{H}^{+}(0.01\text{M}) \mid \text{H}_{2(\text{g})}(1 \text{ bar}) \mid \text{Pt(s)}$ $E^\circ_{\text{cell}} = 0 - (-0.14 \text{ V}) = 0.14 \text{ V}$ $E_{\text{cell}} = E^\circ_{\text{cell}} - \frac{0.059}{2} \log \frac{[\text{Sn}^{2+}]}{[\text{H}^+]^2}$ $= 0.14 \text{ V} - \frac{0.059}{2} \log \frac{(0.001)}{(0.01)^2}$ $= 0.14 \text{ V} - \frac{0.059}{2} \log 10$ $= 0.14 \text{ V} - 0.0295 \text{ V}$ $= 0.1105 \text{ V}$	½ ½ 1 1
24.	(a) (i) $2\text{KMnO}_4 \rightarrow \text{K}_2\text{MnO}_4 + \text{MnO}_2 + \text{O}_2$ (ii) $\text{Na}_2\text{Cr}_2\text{O}_7 + 2\text{KCl} \rightarrow \text{K}_2\text{Cr}_2\text{O}_7 + 2\text{NaCl}$ (b) Their separation is difficult because they have similar ionic size and similar physical and chemical properties / Due to lanthanoid contraction.	1 1 1
25.	(a) In $[\text{Co}(\text{NH}_3)_6]^{3+}$, NH_3 being a strong field ligand, causes pairing. \therefore no unpaired electrons hence it is diamagnetic. In $[\text{CoF}_6]^{3-}$, F^- being a weak field ligand cannot cause pairing. It has unpaired electrons and is paramagnetic. (b) $t_{2g}^4 e_g^0$	1 1 1

26.	<p>(a) </p> <p>(b) A mixture containing two enantiomers in equal proportions having zero optical rotation / equimolar mixture of d and l form.</p> <p>(c) It is due to symmetry of para isomer that fits into crystal lattice better as compared to ortho and meta isomers.</p>	<p>1</p> <p>1</p> <p>1</p>						
27.	<p>(a) </p> <p>(b) </p> <p>(c) </p> <p>(Or any other correct reaction)</p>	<p>1</p> <p>1</p> <p>1</p>						
28(A).	<p>(a) The Carbohydrates which reduce Fehling's solution or Tollens' reagent are referred to as reducing sugars.</p> <p>(b) (i) Fibrous proteins : When the polypeptide chains run parallel and are held together by hydrogen & disulphide bonds then fibre-like structure is formed.</p> <p>Globular proteins : This structure results when the chains of polypeptides coil around to give a spherical shape.</p> <p>(or any other suitable difference)</p> <p>(ii)</p> <table border="1"><thead><tr><th>Nucleoside</th><th>Nucleotide</th></tr></thead><tbody><tr><td>-A unit formed by the attachment of a base to sugar is known as Nucleoside</td><td>-When nucleoside is linked to phosphoric acid, it is called Nucleotide</td></tr><tr><td>-Nucleoside= Base + Sugar</td><td>-Nucleotide= Sugar + Base + Phosphate</td></tr></tbody></table> <p>(or any other suitable difference)</p>	Nucleoside	Nucleotide	-A unit formed by the attachment of a base to sugar is known as Nucleoside	-When nucleoside is linked to phosphoric acid, it is called Nucleotide	-Nucleoside= Base + Sugar	-Nucleotide= Sugar + Base + Phosphate	<p>1</p> <p>1</p> <p>1</p>
Nucleoside	Nucleotide							
-A unit formed by the attachment of a base to sugar is known as Nucleoside	-When nucleoside is linked to phosphoric acid, it is called Nucleotide							
-Nucleoside= Base + Sugar	-Nucleotide= Sugar + Base + Phosphate							
	OR							
28(B).	<p>(a) </p>	1x3						

	<p>(b)</p> $\begin{array}{c} \text{CHO} \\ \\ (\text{CHOH})_4 \\ \\ \text{CH}_2\text{OH} \end{array} \xrightarrow{\text{Acetic anhydride}} \begin{array}{c} \text{CHO} \quad \text{O} \\ \quad \parallel \\ (\text{CH}-\text{O}-\text{C}-\text{CH}_3)_4 \\ \quad \parallel \\ \text{CH}_2-\text{O}-\text{C}-\text{CH}_3 \end{array}$ <p>(c)</p> $\begin{array}{c} \text{CHO} \\ \\ (\text{CHOH})_4 \\ \\ \text{CH}_2\text{OH} \end{array} \xrightarrow[\text{conc. HNO}_3]{\text{Oxidation}} \begin{array}{c} \text{COOH} \\ \\ (\text{CHOH})_4 \\ \\ \text{COOH} \end{array}$	
	SECTION – D	
29.	<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</p> <p style="text-align: center;">OR</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.</p> <p>(c) Reverse osmosis</p>	<p>$\frac{1}{2}$</p> <p>$\frac{1}{2}$</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p>
30.	<p>(a) (i) $\text{CH}_3\text{CONH}_2 \xrightarrow[\text{(ii) H}_2\text{O}]{\text{(i) Li Al H}_4} \text{CH}_3\text{CH}_2\text{NH}_2$</p> <p>(ii)</p> $\begin{array}{c} \text{NO}_2 \\ \\ \text{C}_6\text{H}_4 \\ \\ \text{CH}_3 \end{array} \xrightarrow{\text{Fe} + \text{HCl}} \begin{array}{c} \text{NH}_2 \\ \\ \text{C}_6\text{H}_4 \\ \\ \text{CH}_3 \end{array}$ <p>(b) Because primary amines are associated due to hydrogen bonding and there is no hydrogen bonding in tertiary amines.</p> <p>(c)</p> <p>(i) Tertiary amine</p> <p>(ii) Primary amine</p> <p style="text-align: center;">OR</p> <p>(c) Butan-1-ol</p>	<p>1</p> <p>1</p> <p>1</p> <p>$\frac{1}{2}$</p> <p>$\frac{1}{2}$</p> <p>1</p>
	SECTION – E	

<p>31(A).</p>	<p>(a) (i)</p> $\text{CH}_3\text{COCH}_3 + 4[\text{H}] \xrightarrow[\text{-H}_2\text{O}]{\text{LiAlH}_4} \text{CH}_3-\underset{\substack{\text{OH} \\ }}{\text{CH}}-\text{CH}_3$ $\text{CH}_3-\text{CH}=\text{CH}_2 \xleftarrow[\text{H}_2\text{SO}_4 \text{ Conc.}]{\text{heat}}$ <p>(ii)</p>  <p>(iii)</p>  <p>(or any other suitable method)</p> <p>(b)</p> <p>(i)</p> $ \begin{array}{c} (\text{CH}_3)_3\text{C} \\ \diagdown \\ \text{C}=\text{O} \\ \diagup \\ (\text{CH}_3)_3\text{C} \end{array} < \begin{array}{c} \text{CH}_3 \\ \diagdown \\ \text{C}=\text{O} \\ \diagup \\ \text{CH}_3 \end{array} < \begin{array}{c} \text{CH}_3 \\ \diagdown \\ \text{C}=\text{O} \\ \diagup \\ \text{H} \end{array} $ <p>(ii)</p> <p>CH₃CHO, </p>	<p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>½+½</p>
	<p>OR</p>	
<p>31(B).</p>	<p>(a)(i) Acetophenone on heating with NaOH and I₂, gives yellow precipitate of iodoform whereas benzophenone does not give iodoform test.</p>	<p>1</p>

	(ii) Propanal reduces Tollens' reagent to silver whereas propanone does not. (iii) Pentan-2-one on heating with NaOH and I ₂ , gives yellow precipitate of iodoform whereas Pentan-3-one does not. (or any other suitable chemical test) (b) (i) FCH ₂ COOH is a stronger acid than CH ₃ COOH. Due to – I effect of F atom (ii) CH ₃ CH ₂ CH ₃ < CH ₃ OCH ₃ < CH ₃ CHO < CH ₃ CH ₂ OH	1 1 ½ ½ 1
32(A).	(a) $\lambda^\circ_{\text{NaCl}} = 50.1 + 76.5 = 126.6 \text{ Scm}^2 \text{ mol}^{-1}$ $\Lambda_m = \frac{k \times 1000}{M}$ $= \frac{1.06 \times 10^{-2} \times 1000}{0.1}$ $= 106 \text{ Scm}^2 \text{ mol}^{-1}$ $\alpha = \frac{\Lambda_m}{\Lambda_m^\circ}$ $\alpha = \frac{106}{126.6} = 0.8372 \text{ or } 83.72 \%$ (b) (i) Current will flow from Silver to Zinc /cathode to anode (ii) Primary battery – the reaction occurs only once, it cannot be reused again. Secondary battery – It can be recharged and can be used again.	½ ½ ½ ½ ½ ½ 1 1
	OR	
32(B).	(a) $k = \frac{1}{R} \left(\frac{l}{A} \right)$ $\left(\frac{l}{A} \right) = k R$ $= 1.29 \times 10^{-2} \times 100$ $= 1.29 \text{ cm}^{-1}$ $k = \frac{1 \times 1.29}{300}$ $= 0.0043 \text{ Scm}^{-1}$ $\Lambda_m = \frac{k \times 1000}{M}$ $= \frac{0.0043 \times 1000}{0.01}$ $= 430 \text{ Scm}^2 \text{ mol}^{-1}$ (b) (i) 1. Fuel cells are pollution free. 2. High efficiency. (Or any other correct advantage) (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.	½ ½ ½ ½ ½ ½ ½+½ 1

33(A).	$ \begin{array}{c} \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)} \qquad \qquad \text{(A)} \qquad \qquad \qquad \text{(B)} \\ \qquad \qquad \qquad \downarrow \text{H}_2\text{SO}_4 \\ \qquad \qquad \qquad 413 \text{ K} \\ \qquad \qquad \qquad \text{CH}_3\text{CH}_2\text{OCH}_2\text{CH}_3 \text{ (D)} \\ \qquad \qquad \qquad \downarrow \text{HI} \\ \qquad \qquad \qquad \text{CH}_3\text{CH}_2\text{I} \text{ (E)} \end{array} $ <p>(1 + ½ + ½ + ½ + ½ mark for identification and ½ mark each for reaction)</p>	(3+2)
	OR	
33(B).	<p>(a) (i) Aqueous Br₂ (ii) HBr, Peroxide followed by hydrolysis / B₂H₆, H₂O₂/OH⁻ (iii) H₂, Ni/Pd/Pt / LiAlH₄ / NaBH₄</p> <p>(b) 1. Protonation of alkene</p> $ \begin{array}{c} \text{H} \\ \\ \text{>C=C<} + \text{H}-\text{O}^+-\text{H} \rightleftharpoons \text{---C---C}^+ + \text{H}_2\ddot{\text{O}} \end{array} $ <p>2. Nucleophilic attack of water on carbocation</p> $ \begin{array}{c} \text{H} \\ \\ \text{---C---C}^+ + \text{H}_2\ddot{\text{O}} \rightleftharpoons \text{---C---C---O}^+ \text{H} \end{array} $ <p>3. Deprotonation to form an alcohol</p> $ \begin{array}{c} \text{H} \quad \text{H} \\ \quad \\ \text{---C---C---O}^+ \text{H} + \text{H}_2\ddot{\text{O}} \rightarrow \text{---C---C---}\ddot{\text{O}}\text{H} + \text{H}_3\text{O}^+ \end{array} $	<p>1 1 1</p> <p>1</p> <p>½</p> <p>½</p>

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