

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

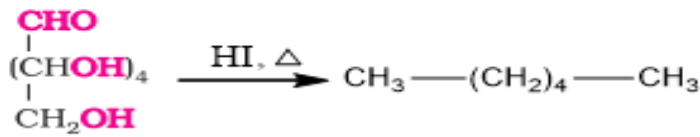
General Instructions: -

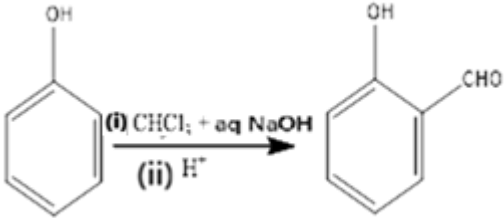
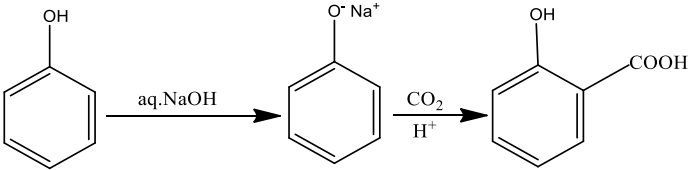
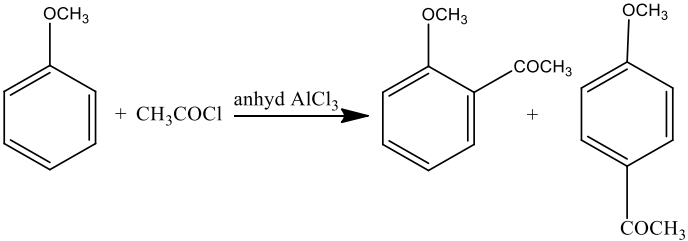
1	The CBSE has decided to introduce On Screen Marking (OSM) for the evaluation of Class XII answer Book with the 2026 Examination.
2	You are aware that evaluation is the most important process in the actual and correct assessment of the candidates. A small mistake in evaluation may lead to serious problems 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 (\checkmark) wherever answer is correct. For wrong answer CROSS 'X' be marked. Evaluators will not put right (\checkmark) 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	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"> • 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.

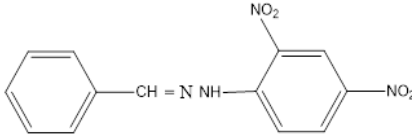
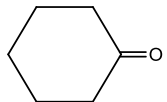
MARKING SCHEME
CHEMISTRY (Subject Code-043)
(PAPER CODE : 56/1/1) (26-01-43N)

Q.No.	EXPECTED OUTCOMES/VALUE POINTS	Marks
SECTION - A		
1.	(B)	1
2.	(B)	1
3.	(C)	1
4.	(B)	1
5.	(D)	1
6.	(C)	1
7.	(D)	1
8.	(D)	1
9.	(B)	1
10.	(C)	1
11.	(A)	1
12.	(C)	1
13.	(A)	1
14.	(D)	1
15.	(B)	1
16.	(C)	1
SECTION - B		
17.	<ul style="list-style-type: none"> Negative deviation Solute -solvent interactions are stronger than solute-solute and solvent-solvent. / The intermolecular hydrogen bonding between phenolic proton and lone pair on nitrogen atom of aniline is stronger than the respective intermolecular hydrogen bonding between similar molecules Boiling point of the solution increases. 	½ 1 ½
18.	Because of, (i) C–X acquires partial double bond due to resonance (ii) sp ² hybridization of C of C–X make it more electronegative and hold the electron pair tightly. (iii) repulsion between nucleophile and electron rich arenes. (iv) Instability of phenyl cation <div style="text-align: right;">(Any two)</div>	1+1
19(a).	(i) Diamminesilver(I) dicyanidoargentate(I) (ii) Potassium trioxalatoferrate(III)	1 1
OR		
19(b).	(i) [Co(NH ₃) ₅ (SO ₄)]Cl with AgNO ₃ solution gives white ppt of AgCl whereas [Co(NH ₃) ₅ Cl]SO ₄ does not / [Co(NH ₃) ₅ Cl]SO ₄ with BaCl ₂ gives white ppt of BaSO ₄ whereas [Co (NH ₃) ₅ (SO ₄)] Cl does not. (ii) Formation of stable complexes by di or polydentate ligand with single metal atom/ ion. For example: [Co(en) ₃] ³⁺ (or any other correct example)	1 ½ ½
20.	(i) It is an amide linkage formed between two amino acids through –CONH– / an amide linkage formed between –COOH and –NH ₂ group whereas in glycosidic linkage two or more monosaccharides are joined together by an oxygen atom.	1

	(ii) Those which cannot be synthesised in the body and must be obtained through diet known as essential amino acids. The amino acids, which can be synthesised in the body, are known as nonessential amino acids.	1
21.	<p>Rate = $k [A]^2 [B]$</p> <p>If the volume is decreased to $\frac{1}{3}$rd of original concentration increases 3 times</p> <p>\therefore Rate = $k [3A]^2 [3B] = 27 k [A]^2 [B]$</p> <p>Hence rate will be increased by 27 times.</p> <p>Order remains same.</p>	1 1
SECTION – C		
22.	<p>$C_2H_5Cl \rightarrow C_2H_4 + HCl$</p> <p> $t = 0$ P_i 0 0 $t = t$ $P_i - x$ x x </p> <p>$P_t = P_i - x + x + x$</p> <p>$x = P_t - P_i$</p> <p>$K = \frac{2.303}{t} \log \frac{P_i}{2P_i - P_t}$</p> <p>$K = \frac{2.303}{30} \log \frac{0.30}{2 \times 0.30 - 0.50}$</p> <p>$K = \frac{2.303}{30} \log \frac{0.30}{0.10}$</p> <p>$K = \frac{2.303}{30} \times 0.48$</p> <p>$K = 0.037 \text{ atm}^{-1}$</p>	1 1 1
23(a).	<p>(i) Because at equilibrium, $E_{\text{cell}} = 0$</p> <p>(ii) Metal 'A'</p> <p>(iii) $2PbSO_{4(s)} + 2H_2O_{(l)} \rightarrow PbO_{2(s)} + Pb_{(s)} + 2H_2SO_{4(aq)}$</p>	1 1 1
OR		
23(b).	<ul style="list-style-type: none"> Mercury cell – Primary cell It provides constant potential difference throughout its life. $Zn(Hg) + HgO_{(s)} \rightarrow ZnO_{(s)} + Hg_{(l)}$ 	1 1 1
24.	<p>$\alpha = 88\% = 0.88$</p> <p>$\Delta T_b = i K_b m = i K_b \frac{W_B}{M_B} \times \frac{1000}{W_A}$</p> <p>$0.88 = \frac{1-i}{1-\frac{1}{2}}$</p> <p>$i = 0.56$</p> <p>$T_b - T_b^\circ = 0.56 \times 2.3 \times \frac{0.61}{122} \times \frac{1000}{5}$</p> <p>$T_b - 46.2^\circ\text{C} = 1.288 \text{ K or } ^\circ\text{C}$</p> <p>$\therefore T_b = (46.2 + 1.288)^\circ\text{C} = 47.488^\circ\text{C} / 320.638\text{K}$</p>	$\frac{1}{2}$ $\frac{1}{2}$ 1 1
25.	<p>(a)</p> <p>  </p>	1×3

	<p>(b) $\text{CHO}-(\text{CHOH})_4-\text{CH}_2\text{OH} \xrightarrow{\text{Br}_2 \text{ water}} \begin{array}{c} \text{COOH} \\ \\ (\text{CHOH})_4 \\ \\ \text{CH}_2\text{OH} \end{array}$</p> <p>(c) $\begin{array}{c} \text{CHO} \\ \\ (\text{CHOH})_4 \\ \\ \text{CH}_2\text{OH} \end{array} \xrightarrow{\text{Conc. HNO}_3} \begin{array}{c} \text{COOH} \\ \\ (\text{CHOH})_4 \\ \\ \text{COOH} \end{array}$</p>	
26.	<p>(a) Due to extensive association of carboxylic acid molecules through intermolecular hydrogen bond./ Dimer formation takes place</p> <p>(b) Due to the strong electron withdrawing effect of the carbonyl group / resonance stabilisation of their conjugate base.</p> <p>(c) Protonation of nucleophile takes place in strongly acidic medium.</p>	<p>1</p> <p>1</p> <p>1</p>
27.	<p>(a) </p> <p>(b) </p> <p>(c) </p>	<p>1</p> <p>1</p> <p>1</p>
28.	<p>(a) $\text{X} = \begin{array}{c} \text{CH}_3 \\ \\ \text{CH}_3-\text{C}-\text{Br} \\ \\ \text{CH}_3 \end{array} \quad \text{Y} = \begin{array}{c} \text{CH}_3-\text{CH}-\text{CH}_2-\text{CH}_3 \\ \\ \text{Br} \end{array}$</p> <p>(b) X, because reaction is S_{N}^1/ due to formation of planar carbocation as intermediate. Award full marks if the students writes Y which is optically active.</p> <p>(c) Y, Because reaction is S_{N}^2/due to rear side attack of nucleophile.</p>	<p>$\frac{1}{2} + \frac{1}{2}$</p> <p>$\frac{1}{2} + \frac{1}{2}$</p> <p>$\frac{1}{2} + \frac{1}{2}$</p>
SECTION – D		
29.	<p>(a) (i) Due to combined effect of the inductive effect, solvation effect and steric hinderance of the alkyl group.</p> <p>(ii) A = CH_3NH_2 B = $\text{CH}_3-\text{NHCOC}_6\text{H}_5$</p> <p>(b) $\text{CH}_3-\text{CH}_2-\text{NH}-\text{CH}_3$ / N – Methyleneamine OR</p>	<p>1</p> <p>$\frac{1}{2} + \frac{1}{2}$</p> <p>1</p>

	<p>(b) $\text{C}_6\text{H}_5\text{NH}_2 \xrightarrow[0-5^\circ\text{C}]{\text{NaNO}_2 + \text{HCl}} \text{C}_6\text{H}_5\text{N}_2^+\text{Cl}^- \xrightarrow{\text{CuCN}} \text{C}_6\text{H}_5\text{CN}$</p> <p>(c) The nitration reaction can be controlled and the p-nitro derivative can be obtained as the major product / To prevent the formation of anilinium ion which is meta directing.</p>	<p>1</p> <p>1</p>
30.	<p>(a) • $dx^2 - y^2$ and dz^2 • In Octahedral Crystal field, ligands approach metal atom /ion along the axis due to which $dx^2 - y^2$ and dz^2 orbitals experience more repulsion.</p> <p>(b) (i) $[\text{CoF}_6]^{3-} \text{Co}^{3+} = 3d^6 \quad t_{2g}^4 e_g^2$ (ii) $[\text{Co}(\text{NH}_3)_6]^{3+} \text{Co}^{3+} = 3d^6 \quad t_{2g}^6 e_g^0$</p> <p>(c) In $[\text{NiCl}_4]^{2-}$, Cl^- is a weak field ligand and does not pair up the unpaired electrons in 3d-orbital and hence paramagnetic. In $[\text{Ni}(\text{CO})_4]$, CO being a strong field ligand pair up the unpaired electrons and hence diamagnetic.</p> <p style="text-align: center;">OR</p> <p>(c) Hybridisation- d^2sp^3 Magnetic behaviour: Paramagnetic</p>	<p>1</p> <p>1</p> <p>$\frac{1}{2}$</p> <p>$\frac{1}{2}$</p> <p>$\frac{1}{2}$</p> <p>$\frac{1}{2}$</p> <p>$\frac{1}{2} + \frac{1}{2}$</p>
SECTION – E		
31(a).	<p>(i) (I) $\text{CH}_3 - \underset{\text{O}}{\underset{\parallel}{\text{C}}} - \text{CH}_2 - \text{CH}_2 - \text{CH}_3$</p> <p>(II) $\text{CH}_3 - \text{CH}_2 - \underset{\text{O}}{\underset{\parallel}{\text{C}}} - \text{CH}_2 - \text{CH}_3$</p> <p>(III) $\begin{array}{c} \text{CH}_3 \\ \\ \text{CH}_3 - \text{C} - \text{CHO} \\ \\ \text{CH}_3 \end{array}$</p> <p>(ii) (I) $\text{C}_6\text{H}_5\text{COCH}_3 \xrightarrow[\text{H}^+]{\text{NaOI}} \text{C}_6\text{H}_5\text{COOH}$ /</p> <p>$\text{C}_6\text{H}_5\text{COCH}_3 \xrightarrow[\text{Heat}]{\text{KMnO}_4 - \text{KOH}} \text{C}_6\text{H}_5\text{COOK} \xrightarrow{\text{H}_3\text{O}^+} \text{C}_6\text{H}_5\text{COOH}$</p> <p>(II) $\text{C}_6\text{H}_5\text{CH}_2\text{CH}_3 \xrightarrow[\text{(ii) H}^+]{\text{(i) KMnO}_4 - \text{KOH}} \text{C}_6\text{H}_5\text{COOH}$</p>	<p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p>

	OR	
31(b).	<p>(i) </p> <p>(ii) Di-tert-butyl ketone < Acetone < Acetaldehyde</p> <p>(iii) Add NaHCO₃ to both, benzoic acid will give a brisk effervescence while ethyl benzoate will not.</p> <p>(iv) (i) DIBAL-H (ii) H₃O⁺ / (i) SnCl₂+HCl (ii) H₃O⁺</p> <p>(v) </p>	<p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p>
32(a).	<p>(i) (I) Due to the irregular variation of ionisation enthalpies ($\Delta_i H_1 + \Delta_i H_2$) and sublimation enthalpies.</p> <p>(II) Due to low $\Delta_{hyd} H^0$ and high $\Delta_a H^0$ of Cu.</p> <p>(III) Because Mn²⁺ is highly stable due to half-filled 3d⁵ configuration.</p> <p>(ii) $2MnO_4^- + 10I^- + 16H^+ \rightarrow 2Mn^{2+} + 8H_2O + 5I_2$</p> <p>$2MnO_4^- + I^- + H_2O \rightarrow 2MnO_2 + IO_3^- + 2OH^-$</p>	<p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p>
	OR	
32(b).	<p>(i) (I) Cerium</p> <p>(II) Europium / Ytterbium</p> <p>(Or any other correct example)</p> <p>(ii) Because of their ability to show multiple oxidation states / complex formation / Due to large surface area.</p> <p>(iii) Involvement of greater number of electrons from (n-1)d and ns electrons in interatomic metallic bonding.</p> <p>(iv) $MnO_4^- + 4H^+ + 3e^- \rightarrow MnO_2 + 2H_2O$ / $MnO_4^- + 8H^+ + 5e^- \rightarrow Mn^{2+} + 4H_2O$</p> <p>Reduction reaction</p> <p>/</p> <p>$4MnO_4^- + 4H^+ \rightarrow 4MnO_2 + 3O_2 + 2H_2O$</p> <p>Redox reaction</p>	<p>$\frac{1}{2} + \frac{1}{2}$</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p>
33(a).	$E_{cell} = E_{cell}^{\circ} - \frac{0.059}{2} \log \frac{[Mg^{2+}]}{[Ag^+]^2}$ $= [0.80 + 2.37] - \frac{0.059}{2} \log \frac{[0.01]}{[0.001]^2}$ $= 3.17 - \frac{0.059}{2} \log 10^4$ $= 3.17 - \frac{0.059}{2} \times 4$ $= 3.17 - 0.118 = 3.052V$	<p>1</p> <p>1</p> <p>1</p> <p>1</p>

	$\Delta G = -nFE_{\text{cell}}$ $= -2 \times 96500 \times 3.052$ $= -589036 \text{ J mol}^{-1}$ $= \text{Or } -589.036 \text{ k J mol}^{-1}$	$\frac{1}{2}$ $\frac{1}{2}$ 1
	OR	
33(b).	$\Delta G^\circ = -nF E_{\text{cell}}^\circ$ $-43500 = -2 \times 96500 \times E_{\text{cell}}^\circ$ $E_{\text{cell}}^\circ = 0.225 \text{ V}$ $E_{\text{cell}} = E_{\text{cell}}^\circ - \frac{0.059}{2} \log \frac{[\text{H}^+]^2 [\text{Cl}^-]^2}{P_{\text{H}_2}}$ $= 0.225 - \frac{0.059}{2} \log \frac{[0.1]^2 [0.2]^2}{0.4}$ $= 0.225 - \frac{0.059}{2} \log 10^{-3}$ $= 0.225 + \frac{0.059}{2} \times 3$ $= 0.225 + 0.0885$ $= 0.3135 \text{ V}$	$\frac{1}{2}$ 1 $\frac{1}{2}$ 1 1 1
	- o O o -	