PECTAA
Transformation, Innovation and Excellence

Director (C & C)

PUNJAB EDUCATION, CURRICULUM, TRAINING AND ASSESSMENT AUTHORITY

21- E-II, Gulberg-III, Lahore
No: PECTAA/C&C Unit/2026/1258

Dated: 14.11.2026

NOTIFICATION

In pursuance of Section 9(1)(b) of the Punjab Education, Curriculum, Training and Assessment Authority Act-2025 and with the approval accorded by the Academics Committee of the Punjab Education, Curriculum, Training and Assessment Authority in its 13th meeting held on 05.11.2026, the Smart Syllabus (Accelerated Learning Programme – ALP / Deleted Topics and Exercise Questions), Pairing Schemes and Model Papers of Grade-12 for the Academic Session 2026-27 and BISEs Annual Examination-2027 **(Annex-A)** are hereby notified for implementation across Punjab.

No Smart Syllabus (Accelerated Learning Programme – ALP / Deleted Topics and Exercise Questions) has been notified for the subjects of Tarjama-tul-Quran and Ethics for Grade-12, as no topics or exercise questions have been deleted in these subjects.

(SAADIA SARDAR)
Director (Curriculum & Compliance)

CC:

1. PSO to the Minister, Government of the Punjab, School Education Department
2. PS to the Vice Chairperson, PECTAA / Parliamentary Secretary for School Education
3. PS to the Chairperson, Chief Minister Task Force for Examination & Assessment
4. PS to the Secretary, Government of the Punjab, School Education Department
5. PS to the Secretary, Government of the Punjab, Higher Education Department
6. PS to the Special Secretary, Government of the Punjab, SED
7. Staff Officer to the Chief Executive Officer, PECTAA
8. PS to all Managing Directors, PECTAA
9. PA to the Secretary, Punjab Boards Committee of Chairpersons (PBCC)
10. PS to the Chairperson, BISE / PBTE (Lahore, Gujranwala, Rawalpindi, Sargodha, Faisalabad, Sahiwal, Multan, Dera Ghazi Khan and Bahawalpur)
11. PA to all Directors, PECTAA
12. PS to the Programme Director, PMIU
13. PS to Managing Director, Punjab Education Foundation
14. PS to the Chief Executive Officer, Punjab Education Initiatives Management Authority
15. PS to the Managing Director, Punjab Daanish Schools & Centres of Excellence Authority
16. PS to the DPI (Colleges / Secondary Education), Punjab
17. PS to the DPI (Colleges / Secondary Education), South Punjab, Multan
18. PS to all Chief Executive Officers (Education), District Education Authorities, Punjab
19. PA to all Directors (Education), Colleges, Punjab
20. Director (IT), PECTAA for uploading the Notification and the Smart Syllabus (Accelerated Learning Programme-ALP / Deleted Topics and Exercise Questions), Pairing Schemes and Model Papers for Grade-12 on the website of PECTAA.
21. Office File

CamScanner

Smart Syllabus /Accelerated Learning Programme (ALP) Chemistry Grade-12 for Academic Session 2026-27 & BISE Exam-2027

Note: All types of questions for BISE Examination paper will be prepared from the entire content of the textbook other than those topics and questions which have been excluded / deleted in the Smart Syllabus (ALP) for Chemistry-12 (Session 2026-27).

Chapter No.	Chapter Name	Deleted Topics and Exercise Questions	Page No.
17	Group 2 Elements	**17.5:** Solubility of Group 2 Sulphates and Hydroxides **17.6:** Complex Ion Formation **17.8:** Uses of Group 2 Compounds Quick Check: 17.3 & 17.4 Multiple Choice Questions (MCQs): viii, ix & x Short Answer Questions (SAQs): b, f & h Constructed Response Questions (CRQs): C Descriptive Questions (DQs): 06	(P 7-8) (P 8-9) (P 10-11)
18	Transition Metals	**18.9:** Stereoisomerism in Transition metal complexes **18.10:** Redox Reaction of Transition metals Quick Check: 18.7 & 18.8 Multiple Choice Questions (MCQs): ix Short Answer Questions (SAQs): g, j & k Constructed Response Questions (CRQs): a & b Descriptive Questions (DQs): 7 & 8	(P 28-29) (P 30-31)
19	Basics of Organic Chemistry	**19.8:** Mechanisms of Chemical Reactions **19.9:** Isomerism **19.10:** Stereochemistry in drug development Quick Check: 19.6 (c) & 19.7 Multiple Choice Questions (MCQs): iii, V, VI, VII, VIII & IX Short Answer Questions (SAQs): a, f, g, h, & i Constructed Response Questions (CRQs): b, c, & d Descriptive Questions (DQs): 5, 6 & 7	(P 46-47) (P 47-51) (P 52)

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Chapter No.	Chapter Name	Deleted Topics and Exercise Questions	Page No.
20	Aromatic Hydrocarbons	**20.3:** Comparison of reactivity of benzene with alkanes and alkenes. **20.6:** Other Reactions of Benzene Quick Check: 20.7 Multiple Choice Questions (MCQs): Nil Short Answer Questions (SAQs): Nil Constructed Response Questions (CRQs): a & b Descriptive Questions (DQs): Nil	**(**P 60) (P 65-67)
21	Halogenoalkanes	**21.4:** Examples of reactions of Halogenoalkanes **21.5:** Halogenoarenes Quick Check: 21.3 & 21.4 Multiple Choice Questions (MCQs): IX Short Answer Questions (SAQs): g, h & i Constructed Response Questions (CRQs): e Descriptive Questions (DQs): 6	(P 78-79) (P 80)
22`	Hydroxy Compounds	**22.2:** Acidity of Alcohols & Phenols **22.6.2:** Reactions of Aromatic Ring in Phenols Quick Check: 22.2 & 22.5 Multiple Choice Questions (MCQs): VII & VIII Short Answer Questions (SAQs): b, C (ii) & f Constructed Response Questions (CRQs): a & d Descriptive Questions (DQs): 4 & 7	(P 86-87) (P 92-93)
23	Carbonyl Compounds and Carboxylic Acids	**23.3:** Oxidation of Aldehydes and Ketones **23.8:** Acyl Chlorides **23.9:** Hydrolysis of Acyl Chlorides, Alkyl Chlorides & Aryl Chlorides Quick Check: 23.3 (b,c) & 23.5 Multiple Choice Questions (MCQs): II & X Short Answer Questions (SAQs): c & g Constructed Response Questions (CRQs): c Descriptive Questions (DQs): 9	(P 102-103) (P 110) (P 110-111)

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Chapter No.	Chapter Name	Deleted Topics and Exercise Questions	Page No.
24	Organic Nitrogen Compounds	**24.3.2:** Distinction between Primary and Secondary Amines **24.3.3:** Reactions of Phenyl amines (Aromatic Amines) **24.4:** Alkanenitriles **24.5:** Amides Quick Check: 24.4 Multiple Choice Questions (MCQs): IV, V, VI, VII & VIII Short Answer Questions (SAQs): c, d, f, h & k Constructed Response Questions (CRQs): a, b, & c Descriptive Questions (DQs): 7	(P 119) (P 119-121) (P 122) (P 122-124)
25	Organic Synthesis	**25.2:** Retro synthesis and Synthesis of Some Compounds **25.3:** Synthesis of Pharmaceutical Products **25.4:** Use of artificial intelligence (AI) in drug Designing Quick Check: 25.2 & 25.3 Multiple Choice Questions (MCQs): VII Short Answer Questions (SAQs): h & j Constructed Response Questions (CRQs): b Descriptive Questions (DQs): 4, 5 & 6	(P 132-133) (P134-136) (P 137)
26	Polymers	**26.2:** Nylon **26.3**: Identification of the type of a polymer, repeat Unit and monomers from a polymer section **26.5:** Challenge of Non-degradable Polymer **26.6:** Polymer in Artificial Organs Quick Check: 26.1 & 26.2 Multiple Choice Questions (MCQs): IV, V, VI, IX & X Short Answer Questions (SAQs): a, d, f, h, i & J Constructed Response Questions (CRQs): b Descriptive Questions (DQs): 6	(P 145-146) (P 147-148) (P 150-151) (P 151-152)

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Chapter No.	Chapter Name	Deleted Topics and Exercise Questions	Page No.
27	Biochemistry	**27.1.1:** Nutritional Importance of Carbohydrates **27.2.2:** Biological functions of Proteins **27.3:** Enzymes As Biocatalysts **27.4.4:** Nutritional and Biological importance of Lipids **27.5:** Nucleic Acids **27.6:** Minerals Quick Check: 27.1 (c), 27.2 (d, e), 27.3, 27.4 (b) & 27.5 Multiple Choice Questions (MCQs): IV, V, IX, & X Short Answer Questions (SAQs): g, h, i, j, k & l Constructed Response Questions (CRQs): d & e Descriptive Questions (DQs): 7	(P 158) (P 161-162) (P 162-164) (P 166) (P 167-169) (P 169-170)
28	Chromatography	**28.4:** Gas Chromatography Multiple Choice Questions (MCQs): VII, VIII, IX & X Quick Check: 28.2 Short Answer Questions (SAQs): f, g & h Constructed Response Questions (CRQs): b Descriptive Questions (DQs): 6	(P 176-178)
29	Spectroscopy-1	**29.1:** Index of Hydrogen Deficiency **29.2**: Atomic Spectrum **29.6:** Mass Spectrometry Quick Check: 29.1 & 29.4 Multiple Choice Questions (MCQs): V, VI, VII, & VIII Short Answer Questions (SAQs): a & d Constructed Response Questions (CRQs): a Descriptive Questions (DQs): 5 & 6	(P 182-183) (P 184) (190-194)

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Chapter No.	Chapter Name	Deleted Topics and Exercise Questions	Page No.
30	Spectroscopy-2 NMR	**30.7:** ^{13}C NMR Spectroscopy Quick Check: 30. 6 & 30.7 Multiple Choice Questions (MCQs): VII, VIII, IX & X Short Answer Questions (SAQs): c & f Constructed Response Questions (CRQs): Nil Descriptive Questions (DQs): 6	(P 209)
31	Materials and Energy	**31.2:** Toxicity and Recycling in Material Science **31.7**: Energy Density and Specific Energy **31.8:** Solar energy and Photovoltaic Cell Multiple Choice Questions (MCQs): V, VI & VIII Short Answer Questions (SAQs): a, b, d, g & h Constructed Response Questions (CRQs): d Descriptive Questions (DQs): 7	(P 216-218) (P 223-224) (P 224-225)
32	Medicine, Agriculture and Industry	**32.1** Therapeutic Index and Therapeutic windows **32.3.2** Opiates and Opioid receptors **32.4** Challenges in treating viral infections **32.8** Effect of Climate Change on crops **32.9** Genetic Engineering **32.13** Applications of Industrial Chemistry **32.14** Safety measure and Precautions Quick Check: 32.1, 32.2 (c) & 32.3 Multiple Choice Questions (MCQs): I, III, VI, X Short Answer Questions (SAQs): a, c, d, f & j Constructed Response Questions (CRQs): a & c Descriptive Questions (DQs): 5, 6 & 8	(P 228-229) (P 230) (P 231) (P 234-235) (P 235) (P 238) (P 238)

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Chapter No.	Chapter Name	Deleted Topics and Exercise Questions	Page No.
33	Water	**33.4:** Water Pollution due to human activities **33.5**: Effect of water pollution on the environment **33.7:** Protection and Conversation of water Resources **33.8:** Rules and regulations regarding water pollution and conservation Quick Check: 33.4 & 33.5 Multiple Choice Questions (MCQs): Nil Short Answer Questions (SAQs): g, I, j Constructed Response Questions (CRQs): c & d Descriptive Questions (DQs): 7	(P 249-250) (P 250-251) (253-254) (P 254)

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Pairing Scheme of Chemistry Grade-12
for Academic Session 2026-27 & BISE Exam-2027

Instructions for Preparation of Exam Paper of Chemistry Grade-12

The Chemistry paper for class 12 will consist of 85 marks. Timing of the paper will be three hours. The paper will be made as per following details:

<table>
<tr><td>Part-I:
Objective:</td><td>Q-1: One multiple-choice question (MCQ) from each Chapter i.e. Chapter 17 to 33.</td><td>1 × 17 = 17</td></tr>
<tr><td rowspan="3">Part-II:
Subjective:</td><td>Q-2: 8 short answer questions must be answered out of 12. The detail is as follows:
<table>
<tr><td>Chapter</td><td>17</td><td>18</td><td>19</td><td>20</td><td>24</td><td>25</td></tr>
<tr><td>No. of Short Questions</td><td>1</td><td>1</td><td>3</td><td>2</td><td>3</td><td>2</td></tr>
</table></td><td>2 × 8 = 16</td></tr>
<tr><td>Q-3: 8 short answer questions have to be answered out of 12. The detail is as follows:
<table>
<tr><td>Chapter</td><td>21</td><td>22</td><td>23</td><td>27</td><td>28</td><td>29</td></tr>
<tr><td>No. of Short Questions</td><td>1</td><td>1</td><td>2</td><td>2</td><td>3</td><td>3</td></tr>
</table></td><td>2 × 8 = 16</td></tr>
<tr><td>Q-4: 6 short answer questions have to be answered out of 9. The detail is as follows:
<table>
<tr><td>Chapter</td><td>26</td><td>30</td><td>31</td><td>32</td><td>33</td></tr>
<tr><td>No. of Short Questions</td><td>1</td><td>2</td><td>2</td><td>2</td><td>2</td></tr>
</table></td><td>2 × 6 = 12</td></tr>
<tr><td>Part-III:
Subjective:</td><td>This section will contain five detailed questions bifurcated in two-part a & b (carrying 4 & 4 marks each) and students must attempt 3 questions The detail is as follows:
Q-5:
<table>
<tr><td>Chapter</td><td>17</td><td>21</td></tr>
<tr><td>Part</td><td>a</td><td>b</td></tr>
</table>
Q-6:
<table>
<tr><td>Chapter</td><td>18</td><td>26</td></tr>
<tr><td>Part</td><td>a</td><td>b</td></tr>
</table>
Q-7:
<table>
<tr><td>Chapter</td><td>20</td><td>31</td></tr>
<tr><td>Part</td><td>a</td><td>b</td></tr>
</table>
Q-8:
<table>
<tr><td>Chapter</td><td>22</td><td>32</td></tr>
<tr><td>Part</td><td>a</td><td>b</td></tr>
</table>
Q-9:
<table>
<tr><td>Chapter</td><td>23</td><td>33</td></tr>
<tr><td>Part</td><td>a</td><td>b</td></tr>
</table></td><td>8 × 3 = 24</td></tr>
</table>

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MODEL PAPER OF CHEMISTRY FOR CLASS-12

Objective Type

Time Allowed: 20 Min. **1 × 17 = 17**

Note: Four possible answers A, B, C and D to each question are given. For the choice which you think is correct, fill that circle with marker or pen ink in the answer book. Cutting or filling two or more circles will result in zero marks for that question.

(i) Which Group 2 oxide forms the most alkaline solution in water?

(a) Beryllium oxide (b) Magnesium oxide

(c) Calcium oxide (d) Strontium oxide

(ii) In the complex ion, $[Fe(CN)_6]^{4-}$, what is coordination number of central metal ion?

(a) 2 (b) 4 (c) 6 (d) 8

(iii) Which of the following is organic in nature?

(a) CO_2 (b) CS_2 (c) HCN (d) $CHCl_3$

(iv) Bromine reacts more readily with phenol than with benzene. This is because the

(a) Benzene ring in phenol is more susceptible to nucleophilic attack

(b) Benzene ring in phenol is deactivated because the oxygen of the OH group is very electronegative

(c) lone pair of electrons on the oxygen atom in phenol overlap with the delocalized electrons in the benzene ring

(d) lone pair of electrons on the oxygen atom enable phenol to act as an electrophile

(v) Which one of the following is not a nucleophile?

(a) H_2O (b) H_2S (c) BF_3 (d) NH_3

(vi) Dehydration of alcohols is an example of:

(a) Substitution Reaction (b) Addition Reaction

(c) Elimination Reaction (d) Redox Reaction

(vii) Ketones are prepared by the oxidation of

(a) Primary alcohols (b) Secondary alcohols

(c) Tertiary alcohols (d) Phenol

(viii) Which one of the following bases is a strongest one?

(a) Ammonia (b) Ethyl amine

(c) Phenyl amine (d) Diethyl amine

(ix) Which functional group is formed when carboxylic acid reacts with alcohol in the presence of an acid as catalyst?

(a) Alkane (b) Alcohol (c) Aldehdye (d) Ether

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(x) Which pair of monomers reacts to form a polyester?

(a) Diamine and dicarboxylic acid (b) Diol and dicarboxylic acid

(c) Ethene and chloroethene (d) Amino-carboxylic acid

(xi) Glucose is a building block for all, except:

(a) Cellulose (b) Glycogen (c) Insulin (d) Starch

(xii) A substance has a very low R_f value. What does this indicate?

(a) It is insoluble in the solvent (b) It is highly soluble in the solvent

(c) It strongly sticks to the paper (d) It has a high density

(xiii) The types of transitions possible in UV-visible region for a compound with molecular formula C_2H_4 are:

(a) $n \rightarrow \pi^*$ (b) $n \rightarrow \boldsymbol{\sigma}^*$ (c) $\boldsymbol{\sigma} \rightarrow *$ (d) $\pi \rightarrow \pi^*$

(xiv) NMR relies on the magnetic properties of nuclei known as:

(a) Chemical shift (b) Nuclear density (c) Nuclear spin (d) Signal intensity

(xv) Which property makes ceramics suitable for furnace bricks?

(a) Conductivity (b) Low density

(c) High melting point (d) Flexibility

(xvi) Which N-P-K nutrient promotes protein synthesis and chlorophyll?

(a) Nitrogen (b) Phosphorus (c) Potassium (d) Sulphur

(xvii) Which condition is a direct result of cadmium (Cd) replacing calcium (Ca) in the skeletal system?

(a) Minamata disease (b) Blue Baby Syndrome

(c) Itai-itai disease (d) Chloracne

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Subjective Type (Part I)

Time allowed: 2.40 Hrs. **Max. Marks: 68**

Q. 2: Write short answers to any eight (08) questions: (2 × 8 = 16)

i. Give the products of the thermal decomposition of Strontium nitrate. Write the chemical equation.

ii. How do transition metals function as effective catalysis? Give some examples?

iii. Alkanes have no functional group. Justify.

iv. Give the systematic name of the following compounds

(i) $CH_3\text{-}CH_2\text{-}CN$ (ii) $CH_3COCH_2CH_2\text{-}CH_3$ (iii) CH_3CH_2COOH

v. Define electrophile and nucleophile with two examples each.

vi. Explain what is meant by the term delocalized π-electrons.

vii. What is a meta directing group?

viii. What is Zwitter Ion?

ix. Give two preparations of phenylamine.

x. Give two preparations of secondary amines.

xi. Differentiate between synthesis and retrosynthesis.

xii. How is carboxylic acid converted into an amide group?

Q. 3: Write short answers to any eight (08) questions: (2 × 8 = 16)

i. How does chloropropane react with alcoholic KOH?

ii. How do you convert propanal to propan-1-ol?

iii. How is ethanol converted to acetic acid?

iv. Give the reaction of ethanoyl chloride with phenol?

v. How is the tertiary structure of protein formed?

vi. In what ways are fats and oil different?

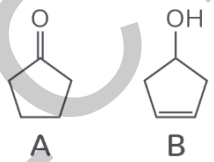
vii. What is Principle of Paper Chromatography?

viii. Why is TLC is not suitable for large-scale separation?

ix. What information does a chromatogram provide?

x. Will $CH_3CHOHCH_3$ show a significant absorption in the UV Visible region? Justify your answer.

xi. What is spectroscopy?



xii. Explain how the two isomers shown in the diagram can be distinguished using IR spectroscopy.

Q. 4: Write short answers to any six (06) questions: (2 × 6 = 16)

i. State two reasons why TMS is a standard in ^1H NMR.

ii. Give two applications of PVC.

iii. Why does deuterium (D) not appear in the NMR spectrum?

iv. State two applications of X-Ray Crystallography in science or industry.

v. Name two specific semiconductors mentioned in the text and their modern applications.

vi. How structure of penicillin allows it to inhibit the transpeptidase enzyme?

vii. What is the concept of pesticide resistance in a target pest population, linking it to the principles of natural selection and repeated application?

viii. Why microplastics are called a growing environmental crisis?

ix. Identify two types of chemical pollutants commonly found in urban storm water run off.

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Subjective Type (Part II)

Note: Attempt any three questions. **8 × 3 = 24**

Q.5:

(a) Explain the process of extraction of Mg through Dow's Method. (4)

(b) Describe the S_N1 and S_N2 mechanisms of nucleophilic substitution in halogenoalkanes. (4)

Q.6:

(a) Describe the splitting of d orbitals and color formation in octahedral and tetrahedral complexes. (4)

(b) Illustrate the formation of two condensation polymers. (4)

Q.7:

(a) Explain the atomic orbital model for the structure of benzene. (4)

(b) Explain how X-rays interact with crystals to produce diffraction patterns and how these patterns help to determine atomic positions. (4)

Q.8:

(a) Describe four methods for the preparation of alcohols. (4)

(b) Describe the structure and mechanism of action of penicillin. (4)

Q.9:

(a) Explain the relative acidic strengths of unsubstituted carboxylic acids and substituted carboxylic acids. (4)

(b) Explain the various technologies used in water treatment. (4)

List of Excluded Practicals of Chemistry-11 For Academic Session 2026-2027

- To demonstrate that gases spread by diffusion to areas of lower concentration.
- To separate the given mixture of alcohol and water by distillation.
- To determine the heat of neutralization of NaOH and HCI.

List of Excluded Practicals of Chemistry-12 For Academic Session 2026-2027

- To prepare ethene gas (C_2H_4) in the laboratory by the dehydration of ethanol (C_2H_5OH) using concentrated sulphuric acid (H_2SO_4) as a dehydrating agent.
- To recycle expanded or solid post-consumer polystyrene waste by dissolution in a nontoxic organic solvent (ethyl acetate/acetone) followed by precipitation and recovery as reusable polystyrene resin.
- To determine the Iodine Number (Iodine Value) of a given vegetable oil or fat sample using the iodometric back-titration, and to measure its degree of unsaturation.

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