

CBSE CLASS X Science (o86)

QUESTION PAPER

From previous CBSE Board Exam questions

Code: F3UU6C **Questions: 7** **Maximum Marks: 18** **Generated: 2026-06-15 13:05**

SELECTIONS USED

Source	Previous-year board
Subject	Science
Lessons	Periodic Classification of Elements [2022 syllabus - removed in 2023 CBSE rationalisation; retained for pre-2023 board questions]
Year	2022-2026
Questions selected	7

Composition — Types: 7 Short

Q1.

[3]

△ Periodic Classification of Elements [2022 syllabus - removed in 2023 CBSE rationalisation; retained for pre-2023 board questions] — Formative only — not assessed in the Board exam (per CBSE 2026-27 curriculum) Included in the syllabus but assessed only formatively; not in the year-end Board exam. [\[source: Course Structure, Unit I + Note for Teachers pt.1\]](#)

Name the elements whose compounds formed the basis of classification in Mendeleev's periodic table. Why did Mendeleev choose these elements ? How the formulae of these compounds had helped Mendeleev in deciding the position of an element in his periodic table ?

Previously asked in: 2022 31/4/1 Q8

♦ Periodic Classification of Elements [2022 syllabus - removed in 2023 CBSE rationalisation; retained for pre-2023 board questions]

Mendeleev's Periodic Table – basis of classification using hydrides and oxides

Q2.

[2]

△ Periodic Classification of Elements [2022 syllabus - removed in 2023 CBSE rationalisation; retained for pre-2023 board questions] — Formative only — not assessed in the Board exam (per CBSE 2026-27 curriculum) Included in the syllabus but assessed only formatively; not in the year-end Board exam. [\[source: Course Structure, Unit I + Note for Teachers pt.1\]](#)

Explain giving reason why although the nuclear charge in atoms increases in moving from left to right in a period as well as in moving from top to bottom in a group in the Modern periodic table, but the size of the atoms does not vary similarly in both situations.

Previously asked in: 2022 31/4/1 Q1

♦ Periodic Classification of Elements [2022 syllabus - removed in 2023 CBSE rationalisation; retained for pre-2023 board questions]

Effect of Nuclear Charge and Number of Shells on Atomic Size

Trends in Atomic Size (Atomic Radius) across a Period and down a Group

Q3.

[3]

△ Periodic Classification of Elements [2022 syllabus - removed in 2023 CBSE rationalisation; retained for pre-2023 board questions] — Formative only — not assessed in the Board exam (per CBSE 2026-27 curriculum) Included in the syllabus but assessed only formatively; not in the year-end Board exam. [source: Course Structure, Unit I + Note for Teachers pt.1]

Answer the following: ($1+1+\frac{1}{2}+\frac{1}{2} = 3$)

- (a) State Newland Law of Octaves.
- (b) With an example, explain Dobereiner's Triads.
- (c) List one limitation each of both the attempts mentioned in 'a' & 'b'.

Previously asked in: 2022 31/2/1 Q8

♦ Periodic Classification of Elements [2022 syllabus - removed in 2023 CBSE rationalisation; retained for pre-2023 board questions]

Dobereiner's Triads

Limitations of Early Periodic Classifications (Newlands and Dobereiner)

Newlands' Law of Octaves

Q4.

[3]

△ Periodic Classification of Elements [2022 syllabus - removed in 2023 CBSE rationalisation; retained for pre-2023 board questions] — Formative only — not assessed in the Board exam (per CBSE 2026-27 curriculum) Included in the syllabus but assessed only formatively; not in the year-end Board exam. [source: Course Structure, Unit I + Note for Teachers pt.1]

In the following table, some elements have been arranged in a certain pattern. Identify the periodic law with which the given table is associated. List two important features and two anomalies of the above periodic law.

Previously asked in: 2022 31/3/1 Q10

♦ Periodic Classification of Elements [2022 syllabus - removed in 2023 CBSE rationalisation; retained for pre-2023 board questions]

Early attempts at classification of elements (Döbereiner, Newlands, Mendeleev)

Mendeleev's Periodic Law – features and anomalies

Newlands' Law of Octaves – features and anomalies

Q5.

[2]

△ Periodic Classification of Elements [2022 syllabus - removed in 2023 CBSE rationalisation; retained for pre-2023 board questions] — Formative only — not assessed in the Board exam (per CBSE 2026-27 curriculum) Included in the syllabus but assessed only formatively; not in the year-end Board exam. [source: Course Structure, Unit I + Note for Teachers pt.1]

State the criteria used by Mendeleev for creating his Periodic Table. Compare the position of isotopes in Mendeleev's Periodic Table and in the Modern Periodic Table.

Previously asked in: 2022 31/3/1 Q3

♦ Periodic Classification of Elements [2022 syllabus - removed in 2023 CBSE rationalisation; retained for pre-2023 board questions]

Mendeleev's Periodic Table – criteria and basis of classification

Position of isotopes in Mendeleev's Periodic Table vs. Modern Periodic Table

Q6.

[3]

△ Periodic Classification of Elements [2022 syllabus - removed in 2023 CBSE rationalisation; retained for pre-2023 board questions] — Formative only — not assessed in the Board exam (per CBSE 2026-27 curriculum) Included in the syllabus but assessed only formatively; not in the year-end Board exam. [source: Course Structure, Unit I + Note for Teachers pt.1]

Answer the following:

- (a) List two advantages of adopting the atomic number of an element as the basis of classification of elements in the Modern Periodic Table.
- (b) Write the electronic configurations of the elements X (atomic number 13) and Y (atomic number 20).

Previously asked in: 2022 31/1/1 Q8

♦ Periodic Classification of Elements [2022 syllabus - removed in 2023 CBSE rationalisation; retained for pre-2023 board questions]

Advantages of using atomic number as basis of Modern Periodic Table

Electronic configuration of elements and its relation to periodic classification

Q7.

[2]

△ Periodic Classification of Elements [2022 syllabus - removed in 2023 CBSE rationalisation; retained for pre-2023 board questions] — Formative only — not assessed in the Board exam (per CBSE 2026-27 curriculum) Included in the syllabus but assessed only formatively; not in the year-end Board exam. [source: Course Structure, Unit I + Note for Teachers pt.1]

The electrons in the atoms of two elements X and Y are distributed in three shells having 1 and 7 electrons respectively in their outermost shells.

- (a) Write the group numbers of these elements in the Modern Periodic Table.
- (b) Write the molecular formula of the compound formed when X and Y combine with each other.
- (c) Which of the two is electropositive ?

Previously asked in: 2022 31/1/1 Q2

♦ Periodic Classification of Elements [2022 syllabus - removed in 2023 CBSE rationalisation; retained for pre-2023 board questions]

Compound formation and molecular formula based on valency

Electropositive and electronegative character of elements

Valence electrons and group numbers in the Modern Periodic Table

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