1*. Can the following groups of elements be classified as Dobereiner's traids. Explain your answer.
(A) Be, Mg, Ca (B) N, O, F

2*. Did Doberiener's triads also exist in the columns of Newlands' octaves? Compare and find out.

3*. What was the criteria used by Mendeleev in creating his periodic table?

4*. Why was Doberiener's arrangement of elements into triads not so successful?

5*. State Newland's law of octaves.

6. Who contributed most in the development of periodic table?
(A) Dobereiner (B)Newland (C) Proust (D) Mendeeleev

7. Who gave the law of octaves?
(A) Dobereiner (B)Newland (C) Proust (D) Mendeeleev

8. What was the basis of Mendeleev's Periodic law?
(A) Atomic number (B)Atomic weight (C) E.C (D) Atomic volume

9. The tenth element in the Newland's periodic classification resembles with
(A) First (B)Third (C) Fourth (D) Ninth

10. Triad of similar elements were discovered by
(A) Dobereiner (B)Newland (C) Proust (D) Mendeeleev

11. Vertical rows in the periodic table are called
(A) Periods (b)Groups (C) Noble (D) Halogens

12. Horizontal rows in the periodic table are called
(A) Periods (b)Groups (C) Noble (D) Halogens

13. How many periods in Mendeleev's periodic table
(A) 6 (B)7 (C) 8 (D) 16

14. How many groups in Mendeleev's periodic table
(A) 6 (B)7 (C) 8 (D) 16

15. The first element in the Newland's periodic classification resembles with
(A) Seventh (B)Eights (C) Ninth (D) Tenth

1*. Compare and contrast the arrangement of elements in Mendeleev's periodic table and the modern periodic table.

2*. Which physical and chemical properties of the elements were used by Mendeleev in creating his periodic table? List two observations which posed a challenge to Mendeleev's periodic law.

3*. What were the two major shortcomings of Mendeleev's periodic table? How have these been removed in the modern periodic table?

4*. The diagram below shows part of the periodic table.

1	2	3												4	5	6	7	0
Na																	Cl	Ar

The position of three elements in the Periodic table is shown.

(A) Write the atomic numbers of the elements.

(B) Give the electronic distribution of the elements.

5*. Part of the Periodic Table is given below shows the position of six elements. All these are present in air either as elements or as compounds.

									2
3	4		5 C	6 N	7 O	8	9 Ne	10	
								Ar	
								36 Kr	

Some of the boxes in the periodic table given above contain a number.

(i) What is this number called?

(ii) What number should go in the box with argon (Ar)?

6. Modern periodic table based on

(A) Atomic weight (B) Atomic number

(C) Atomic size (D) E.C

7. Elements of Group 17 are called

(A) Noble gases (B) Halogens

(C) Alkali metals (D) Transition metals

8. Elements of Group 1 are called

(A) Noble gases (B) Halogens

(C) Alkali metals (D) Transition metals

9. Atomic number was discovered by

(A) Mendeleev (B) Mosley

(C) Roentger (D) none

10. How many groups in Modern Periodic table?

(A) 7 (B) 8

(C) 18 (D) 16

11. Elements of Group zero are called

(A) Noble gases (B) Halogens

(C) ALkali metal (D) Transition metal

12. Elements of Group 2 are called

(A) Noble gases (B) Halogens

(C) Alkali metal (D) Alkaline earth metal

13. In the Modern periodic table, the period indicates the value of

(A) Atomic number (B) Atomic mass

(C) Atomic size (D) Main energy level

14. Which of the given elements A, B, C, D and E with atomic number 3, 11, 15, 18 and 19 respectively belong to the same group?

(A) A, B, C (B) B, C, D

(C) A, D, E (D) A, B, E

15. Elements belonging to which of the following atomic numbers 11, 19, 14, 18, 23 belong to the same period?

(A) 11, 14, 23 (B) 11, 14, 18

(C) 11, 18, 23 (D) 14, 19, 23

Straight Objective Type

This section contains multiple choice questions. Each question has 4 choices (A), (B), (C), (D), out of which **ONLY ONE** is correct. Choose the correct option.

1. Which of the following is not a Dobereiner triad?
   (A) Cl, Br, I (B) Ca, Sr, Ba
   (C) Li, Na, K (D) Fe, Co, Ni
2. The law of triads is applicable to :
   (A) Lithium, beryllium, boron (B) Fluorine, chlorine, bromine
   (C) Chlorine, bromine, iodine (D) Sodium, potassium, rubidium
3. The most lightest alkaline earth metal is **[NTSE 2009]**
   (A) Ba (B) Be
   (C) Ca (D) Mg
4. Elements of I B and II B are called .
   (A) Normal elements (B) Transition elements
   (C) Alkaline earth metals (D) Alkali metals.
5. The elements of groups, IA, IIA, IIIA, IVA, VA, VIA and VIIA are collectively called.
   (A) Noble gases (B) Representative or normal elements
   (C) Transition elements (D) Inner transition elements
6. On the basis of electronic configuration, all the elements in the long form of the periodic table have been grouped in.
   (A) 3 Blocks (B) 4 Blocks
   (C) 4 Blocks + lanthanides (D) 3 Blocks + lanthanides + actinides.
7. The elements whose outer electronic configuration vary from $ns^2\ np^1$ to $ns^2\ np^6$ constitute.
   (A) s-Block of elements (B) p-Block of elements
   (C) d-Block of elements (D) f-Block of elements
8. The long form of periodic table has:
   (A) 8 horizontal rows and 7 vertical columns.
   (B) 7 horizontal rows and 18 vertical columns.
   (C) 7 horizontal rows and 7 vertical columns.
   (D) 8 horizontal rows and 7 vertical columns.
9. d - block elements in long form of periodic table are placed:
   (A) On the extreme left (B) In the middle
   (C) On the extreme right (D) At the bottom
10. Elements of 'd' group are called:
    (A) Transition elements (B) Transuranic elements
    (C) Metals (D) Metalloids

Multiple Correct Answer Type

This section contains multiple choice questions. Each question has 4 choices (A), (B), (C), (D), out of which **ONE or MORE** is correct. Choose the correct options.

11. Group 18 (or zero group) elements are also called as:
    (A) Inert gases (B) Rare gases
    (C) Noble gases (D) Inactive gases
12. Which of the following is correct about s-block elements?
    (A) The elements in which the electron enters the s-subshell of their outermost energy level are called s-block elements.
    (B) This block is situated at the extreme left of the periodic table.
    (C) This block contains elements of groups IA and IIA.
    (D) None of the above.
13. Which of the following is/are not represents a Dobereiner's triad?
    (A) Na, Cl, Ca (B) Cl, Br, I
    (C) Li, Br, Sr (D) K, I, Ba
14. The atomic number of which of the following elements are not represents metal?
    (A) 17 (B) 2
    (C) 37 (D) 33
15. Which of the following statements are correct merits of long form of periodic table?
    (A) It eliminates the even and odd series of IV,V and VI periods of Mendeleef's periodic table.
    (B) This periodic table can be divided into four blocks namely s, p, d and f-block elements.
    (C) In this, classification of elements is based on the atomic number which is a more fundamental property of the elements.
    (D) None of the above.

Linked Comprehension Type

This section contains paragraphs. Based upon each paragraph multiple choice questions have to be answered. Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct. Choose the correct option.

In long form of periodic table the elements have been arranged considering their electronic configurations. If we consider elements A, B, C, D and E which have the following electronic configurations:

A) $1s^2,2s^2,2p^3$ B) $1s^2,2s^2,2p^6,3s^2,3p^1$
C) $1s^2,2s^2,2p^6,3s^2,3p^3$ D) $1s^2,2s^2,2p^6,3s^2,3p^5$
E) $1s^2,2s^2,2p^6,3s^2,3p^6,4s^2$

16. Which of the following elements belong to same group in the periodic table?
    (A) C and D (B) A and B
    (C) C and D (D) A and B
17. To which block D belongs?
    (A) s-block (B) p-block
    (C) d-block (D) f-block
18. To which block E belongs?
    (A) s-block (B) p-block
    (C) d-block (D) f-block

Assertion – Reason Type questions

This section contains certain number of questions. Each question contains Statement – 1 (Assertion) and Statement – 2 (Reason). Each question has 4 choices (A), (B), (C) and (D) out of which **ONLY ONE** is correct Choose the correct option.

(A) **Statement–1** is **True**, **Statement–2** is **True**; **Statement–2** is **a correct** explanation for **Statement–1**.

(B) **Statement–1** is **True**, **Statement–2** is **True**; **Statement–2** is **not a correct** explanation for **Statement–1**.

(C) **Statement–1** is **True**, **Statement–2** is **False**.

(D) **Statement–1** is **False**, **Statement–2** is **True**.

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19. **Statement – 1 :** In the long form of periodic table, the elements are arranged in order of increasing atomic number.
Statement – 2 : The properties of the elements are related to the atomic masses.

20. **Statement – 1 :** In a triad, the three elements present have same gaps of atomic masses.
Statement – 2 : Elements in a triad have similar properties.

Matrix Match Type

This section contains Matrix-Match Type questions. Each question contains statements given in two columns which have to be matched. Statements (A, B, C, D) in **Column–I** have to be matched with statements (p, q, r, s) in **Column–II**. The answers to these questions have to be appropriately bubbled as illustrated in the following example.

If the correct matches are A-p, A-s, B-q, B-r, C-p, C-q and D-s, then the correctly bubbled 4 × 4 matrix should be as follows:

21.

Column A		**Column B**
(A) Dobereiner's Law	(p)	Atomic weight
(B) Newland's Law	(q)	Atomic number
(C) Mendeleev's Periodic Law	(r)	Octaves
(D) Modern Periodic Law	(s)	Triads

22.

Column A		**Column B**
(A) Alkali Metals	(p)	VII A
(B) Alkaline Earth Metals	(q)	0
(C) Halogens	(r)	IA
(D) Noble gases	(s)	IIA

Integer Answer Type

23. How many elements in zero group?
24. How many elements in Group VII A?
25. How many periods in Mendeleev's periodic table?
26. How many elements in second period?