



CHEMISTRY

BOOKS - ICSE

THE PERIODIC TABLE

Exercise 5 B

1. State modern periodic law of classification of elements.



Watch Video Solution

2. How many periods and groups are there in the modern periodic table ?



[Watch Video Solution](#)

3. What is the main characteristic of the last elements in the periods of a periodic table?
What is the general name of such elements ?



[Watch Video Solution](#)

4. What is meant by a group in the periodic table?



Watch Video Solution

5. What is meant by a group in the periodic table?



Watch Video Solution

6. From the standpoint of atomic structure, what determines which element will be the first and which the last in a period of the periodic table?



[Watch Video Solution](#)

7. What are the following groups known as ? (i) Group 1 (ii) Group 17 (iii) Group 18



[Watch Video Solution](#)

8. Name two elements of each group.



Watch Video Solution

9. What is the number of elements in:

1. 1st period and

2. 2nd period of modern periodic table.



Watch Video Solution

10. The total number of elements in period 3 of the periodic table is:



Watch Video Solution

11. How does number of (i) valence electrons (ii) valency, vary on moving from left to right: in the second period of a periodic table ?



Watch Video Solution

12. How does number of (i) valence electrons
(ii) valency, vary on moving from left to right:
in the third period of a periodic table ?




Watch Video Solution

13. How do atomic structures (electron arrangement) change in a period with increase in atomic numbers, moving left to right?



Watch Video Solution


14. This question refers to elements of the periodic table with atomic numbers from 3 to 18. In the table below, some elements are shown by letters, even though the letters are not the usual symbols of the elements. 

Which of these is :

(i) a noble gas? (ii) a halogen ? (iii) an alkali metal ? (iv) an element with valency 4?




Watch Video Solution

15. This question refers to elements of the periodic table with atomic numbers from 3 to 18. In the table below, some elements are shown by letters, even though the letters are not the usual symbols of the elements. 

If A combines with F, what would be the formula of the resulting compound ?



Watch Video Solution

16. This question refers to elements of the periodic table with atomic numbers from 3 to 18. In the table below, some elements are shown by letters, even though the letters are not the usual symbols of the elements. 

What is the electronic configuration of G?



Watch Video Solution

17. Sodium and aluminium have atomic numbers 11 and 13, respectively. They are

separated by one element in the periodic table, and have valencies 1 and 3 respectively. Chlorine and potassium are also separated by one element in the periodic table (their atomic numbers being 17 and 19, respectively) and yet both have valency 1. Explain.



[Watch Video Solution](#)

18. Helium is an unreactive gas and neon has very poor reactivity. What do these elements have in common?



[Watch Video Solution](#)

19. In which part of a group would you separately expect the elements to have :
the greatest metallic character ?



[Watch Video Solution](#)

20. In which part of a group would you separately expect the elements to have :
the largest atomic size?



[Watch Video Solution](#)

21. What happens to number of valence electrons in atoms of elements as we go down a group of the periodic table ?



[Watch Video Solution](#)

22. Name the noble gas having atomic number 18.



[Watch Video Solution](#)

23. Name all the noble gases and the group to which they belong to.



Watch Video Solution

24. Element having atomic number 20 belongs to which group of periodic table.



Watch Video Solution

25. Name the noble gas having atomic number

10



Watch Video Solution

26. Write electronic configuration of element

${}_{17}^{35}\text{T}$.

What is the group number of T?



Watch Video Solution

27. Write electronic configuration of element



What is the period number of T ?



[Watch Video Solution](#)

28. Write electronic configuration of element



How many valence electrons are there in an atom of T?



[Watch Video Solution](#)

29. Write electronic configuration of element



What is the valency of T ?



Watch Video Solution

30. Write electronic configuration of element



Is it a metal or a non-metal ?



Watch Video Solution

31. Write electronic configuration of element



State number of protons and neutrons in T.



Watch Video Solution

Exercise 5 C

1. Element P has atomic number 19. To which group and period, does P belong? Is it a metal or a non-metal? Why?



[Watch Video Solution](#)

2. An element belongs to the 3rd period and Group IIIA (13) of the periodic table. State :
the number of valence electrons,



[Watch Video Solution](#)

3. An element belongs to the 3rd period and Group IIIA (13) of the periodic table. State :
the valency,



[Watch Video Solution](#)

4. An element belongs to the 3rd period and Group IIIA (13) of the periodic table. State :
if it is a metal or non metal ?



Watch Video Solution

5. An element belongs to the 3rd period and Group IIIA (13) of the periodic table. State :
the name of the element.



Watch Video Solution

6. Name or state the following with reference to the elements of the first three periods of the periodic table.

Noble gas with duplet arrangement of electrons.



[Watch Video Solution](#)

7. Name or state the following with reference to the elements of the first three periods of

the periodic table.

Metalloid in Period 3.



[Watch Video Solution](#)

8. Name or state the following with reference to the elements of the first three periods of the periodic table.

Valency of elements in Group 14 and 15.



[Watch Video Solution](#)

9. Name or state the following with reference to the elements of the first three periods of the periodic table.

Noble gas having electronic configuration : 2, 8, 8.



Watch Video Solution

10. Name or state the following with reference to the elements of the first three periods of

the periodic table.

Group whose elements have zero valency.



[Watch Video Solution](#)

11. Name or state the following with reference to the elements of the first three periods of the periodic table.

A covalent compound formed by an element in Period 2 and a halogen.



[Watch Video Solution](#)

12. Name or state the following with reference to the element of the first three periods of the periodic table.

Non-metallic element present in Period 3 of Groups 15 and 16.



Watch Video Solution

13. Name or state the following with reference to the elements of the first three periods of the periodic table.

An electrovalent compound formed by an alkalin earth metal and a halogen.



[Watch Video Solution](#)

14. Name or state the following with reference to the elements of the first three periods of the periodic table.

Bridge elements of Period 3 of Group 1, 2 and 3.



[Watch Video Solution](#)

15. Name or state the following with reference to the elements of the first three periods of the periodic table.

Alkali metal in Period 3 that dissolves in water giving a strong alkali.



Watch Video Solution

16. Name or state the following with reference to the elements of the first three periods of the periodic table.

Typical elements of Groups 14 and 15.



[Watch Video Solution](#)

17. Name or state the following with reference to the elements of the first three periods of the periodic table.

Alkaline earth metal in Period 3.



[Watch Video Solution](#)

18. Halogens belong to which group of periodic table. Name any 2 halogens



[Watch Video Solution](#)

19. Name elements of group 17. What are they called as?



[Watch Video Solution](#)

20. Relative atomic mass of a light element up to calcium is approximately its atomic number.



[Watch Video Solution](#)

21. Horizontal rows of periodic table are called



[Watch Video Solution](#)

22. Going across a period left to right, atomic size



[Watch Video Solution](#)

23. Moving down in the second group, number of valence electrons



[Watch Video Solution](#)

24. Moving down in the second group, number of valence electrons



[Watch Video Solution](#)

25. Name the alkali metals. How many electrons(s) do they have in their outermost orbit.



[Watch Video Solution](#)

26. Take any one alkali metal and write its reaction with (i) oxygen (ii) water (iii) acid.



Watch Video Solution

27. Name the method by which alkali metals can be extracted.



Watch Video Solution

28. What is the colour of the flame of sodium and potassium ?



Watch Video Solution

29. An element A has 2 electrons in its, fourth shell. State its atomic number



Watch Video Solution

30. An element A has 2 electrons in its, fourth shell. State its electronic configuration



Watch Video Solution

31. An element A has 2 electrons in its, fourth shell. State its valency



Watch Video Solution

32. An element A has 2 electrons in its, fourth shell. State position in the periodic table



Watch Video Solution

33. An element A has 2 electrons in its, fourth shell. State is it a metal or a non-metal



Watch Video Solution

34. An element A has 2 electrons in its, fourth shell. State is it an oxidizing or reducing agent ?



Watch Video Solution

35. Name the first three alkaline earth metals.



Watch Video Solution

36. (a) Name the first three alkaline earth metals.

(b) Write their reactions with dil hydrochloric acid.



Watch Video Solution

37. How do alkaline earth metals occur in nature ?



Watch Video Solution

38. Write the electronic configuration of the first two alkaline earth metals.



Watch Video Solution

39. Give reasons.

Alkali metals are kept in inert solvent.



Watch Video Solution

40. Give reasons.

Alkali metals and halogens do not occur free in nature.



Watch Video Solution

41. Give reasons.

Alkali and alkaline earth metal compounds usually form electrovalent compounds.



Watch Video Solution

42. Give reasons.

Inert gases do not form compounds



Watch Video Solution

43. Arrange the following:

Elements of group 1, in increasing order of reactivity.



Watch Video Solution

44. Arrange the following:

Elements of group 17, in decreasing order of reactivity.



Watch Video Solution

45. Arrange the following:

He, Na, Mg (increasing order of melting point).



Watch Video Solution

46. Arrange the following:

Chlorine, sodium, magnesium (increasing reducing character).



Watch Video Solution

47. State the nature of compounds formed when group 17 elements combine with (i) metals (ii) non-metals.



Watch Video Solution

48. Why group 17 elements are highly reactive ?



Watch Video Solution

49. How many electrons do inert gases have in their valence shells ?



Watch Video Solution

50. Name an element of group 18 which can form compounds.



Watch Video Solution

51. Name the gas used in :

filling balloons



Watch Video Solution

52. Name the gas used in :

light bulbs



Watch Video Solution

53. Name the gas used in :

bright coloured advertising light works



Watch Video Solution

54. Why group 17 elements are called halogens?



Watch Video Solution

55. Comment on the (i) reactivity (ii) colour and (iii) physical state of group 17 elements.



Watch Video Solution

56. Two elements 'P' and 'Q' belong to the same period of the modern periodic table and are in group 1 and group 2 respectively. Compare the following characteristics in tabular form.

number of electrons in their valence shell.



Watch Video Solution

57. Two elements 'I' and 'Q' belong to the same period of the modern periodic table and

are in Group-1 and Group-2 respectively.

Compare their following characteristics in

tabular form:

(a) The number of electrons in their atoms

(b) The sizes of their atoms

(c) Their metallic characters

(d) Their tendencies to lose electrons

(e) The formula of their oxides

(f) The formula of their chlorides



Watch Video Solution

58. Two elements 'I' and 'Q' belong to the same period of the modern periodic table and are in Group-1 and Group-2 respectively.

Compare their following characteristics in tabular form:

- (a) The number of electrons in their atoms
- (b) The sizes of their atoms
- (c) Their metallic characters
- (d) Their tendencies to lose electrons
- (e) The formula of their oxides
- (f) The formula of their chlorides



Watch Video Solution

59. Two elements 'I' and 'Q' belong to the same period of the modern periodic table and are in Group-1 and Group-2 respectively.

Compare their following characteristics in tabular form:

- (a) The number of electrons in their atoms
- (b) The sizes of their atoms
- (c) Their metallic characters
- (d) Their tendencies to lose electrons
- (e) The formula of their oxides
- (f) The formula of their chlorides



Watch Video Solution

60. Two elements 'I' and 'Q' belong to the same period of the modern periodic table and are in Group-1 and Group-2 respectively.

Compare their following characteristics in tabular form:

- (a) The number of electrons in their atoms
- (b) The sizes of their atoms
- (c) Their metallic characters
- (d) Their tendencies to lose electrons

(e) The formula of their oxides

(f) The formula of their chlorides



[Watch Video Solution](#)

Topic 1 Modern Periodic Table And Its Periodicity

1 Mark Questions

1. The longest period of periodic table has ____
elements [36/32]



[Watch Video Solution](#)

2. In the periodic table, the vertical columns are called _____ (periods/groups)



Watch Video Solution

3. Group II metals are called _____ metals.
(alkali/alkaline earth).



Watch Video Solution

4. Properties of the elements are a periodic function of their _____. (atomic number/mass number/relative atomic mass)



[Watch Video Solution](#)

5. Elements in the first period have valence electrons in

A. N shell

B. K shell

C. M shell

D. S shell

Answer: B



Watch Video Solution

6. The pair of elements showing diagonal relationship are:

A. Li & Be

B. B & Be

C. Na & B

D. Li & Mg

Answer: D



Watch Video Solution

7. What are those elements which belong to Groups 1,2, 13, 14, 15, 16, 17.

A. Typical elements.

B. Representative elements

C. Bridge elements.

D. Transition elements

Answer: B



Watch Video Solution

8. The correct order of reactivity in alkali metals is:

A. $Li > Na > K$

B. $Na > Li > K$

C. $K > Li > Na$

D. $K > Na > Li$

Answer: D



Watch Video Solution

9. Properties of eka aluminium matches well

with:

A. Sodium

B. Potassium

C. Magnesium

D. Gallium

Answer: D



Watch Video Solution

10. The number of elements and no. of shells in third period is respectively.

A. 18,3

B. 8,3

C. 18,4

D. 8,2

Answer: B



Watch Video Solution

11. The typical elements in periodic table are

A. Na,Mg,Al

B. F,Cl,Br

C. Li,Na,K

D. Be,Mg,Ca

Answer: A



Watch Video Solution

12. Chlorine lies in which period and group of the periodic table:

A. 3rd period and 7th group

B. 3rd period and 8th group

C. 4rd period and 7th group

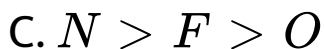
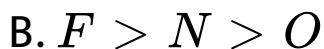
D. 2rd period and 7th group

Answer: A



Watch Video Solution

13. The correct order of size of atoms is



Answer: A



Watch Video Solution

14. What was the basis of the earliest attempts made for classification and grouping of elements ?



Watch Video Solution

15. State Mendeleev's periodic law.



 [Watch Video Solution](#)

16. Which group of elements was missing from Mendeleev's original periodic table ?



[Watch Video Solution](#)

17. From the standpoint of atomic structure, what determines which element will be the first and which the last in a period of the periodic table?



[Watch Video Solution](#)

18. How do atomic structures (electron arrangement) change in a period with increase in atomic numbers, moving left to right?



Watch Video Solution

19. What happens to number of valence electrons in atoms of elements as we go down a group of the periodic table ?



Watch Video Solution

20. Give reason : Metals form positive ions.



Watch Video Solution

21. A part of the periodic table is shown below with one element missing:

H							He
Li	Be	B	C	N	O	F	Ne
Na	Mg	Al	Si	-	S	Cl	Ar
K	Ca						

Based on the above table, answer the

following question:

Identify the missing element.



Watch Video Solution

22. Give reasons for the following

Hydrogen is kept in I A group of the periodic table.



Watch Video Solution

23. Provide reason for each of the following:

Discarding the law of triad.



Watch Video Solution

24. Name the first and last alkali metals



Watch Video Solution

25. Define the following: Atomic number



Watch Video Solution

Topic 1 Modern Periodic Table And Its Periodicity

2 Marks Questions

1. Why did Mendeleev left gaps in his periodic table ?



[Watch Video Solution](#)

2. Three elements of Dobereiner's triad are X, Y & Z. If the atomic mass of X is 7 and Z is 39, Calculate the atomic mass of Y.



[Watch Video Solution](#)

3. Provide reason for each of the following:

Discarding the law of triad.



[Watch Video Solution](#)

4. Did Dobereiner's triads also exist in the columns of Newlands' octaves ? Compare and find out.



[Watch Video Solution](#)

5. Predict the formula of hydrides of carbon and silicon using Mendeleev's periodic table.



[Watch Video Solution](#)

6. The atomic number of an element is more important to the chemist than its relative atomic mass. Why ?



[Watch Video Solution](#)

7. Consider the following elements: Be, Li, Na, Ca, K. Name the elements of same group .



[Watch Video Solution](#)

8. Consider the following elements: Be, Li, Na, Ca, K. Name the elements of same period.



[Watch Video Solution](#)

9. State modern periodic law of classification of elements.



[Watch Video Solution](#)

10. How many periods and groups are there in the modern periodic table ?



[Watch Video Solution](#)

11. What is the main characteristic of the last elements in the periods of a periodic table?
What is the general name of such elements ?



[Watch Video Solution](#)

12. What is meant by a group in the periodic table?



Watch Video Solution

13. What is meant in the periodic table by a period ?



Watch Video Solution

14. What is the number of elements in the 1st period of the modern periodic table ?



Watch Video Solution

15. What is the number of elements in the 3rd period of the modern periodic table ?



Watch Video Solution

16. Sodium and aluminium have atomic numbers 11 and 13, respectively. They are separated by one element in the periodic table, and have valencies 1 and 3 respectively. Chlorine and potassium are also separated by one element in the periodic table (their atomic numbers being 17 and 19, respectively) and yet both have valency 1. Explain.



Watch Video Solution

17. Within a group where would you expect to find the element with

(A) the greatest metallic character?

(B) the largest atomic size?



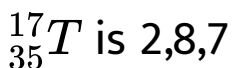
Watch Video Solution

18. Mention the part of group where the elements show: Big atomic size



Watch Video Solution

19. The electronic configuration of element is



Is it a metal or a non-metal ?



[Watch Video Solution](#)

20. Write electronic configuration of element



State number of protons and neutrons in T.



[Watch Video Solution](#)

21. Complete the table :

Element	Electronic Configuration
Sulphur	
Fluorine	



Watch Video Solution

22. Complete the table :

Element	Electronic Configuration
	2,8,1
	2,8,8,1



Watch Video Solution

23. Identify the following on the basis of given atomic numbers:

19,15,14,8,4

Gas with valency of 2.



Watch Video Solution

24. Identify the following on the basis of given atomic numbers:

19,15,14,8,4

Metal with valency of 1.



Watch Video Solution

25. Identify the following on the basis of given atomic numbers:

19,15,14,8,4

Non-metal (solid) with valency of 3



Watch Video Solution

26. Identify the following on the basis of given atomic numbers:

19,15,14,8,4

Metalloid with valency of 4



[Watch Video Solution](#)

27. Write the hydrides of Lithium and Beryllium



[Watch Video Solution](#)

28. What is the common name of the groups given below.

A. Group 2

B. Group 17



[Watch Video Solution](#)

29. Arrange the following elements Li, B, O, Be, N, F in the order of decreasing atomic size.



[Watch Video Solution](#)

30. Arrange the following elements Li, B, O, Be, N, F in the order of metallic character.



[Watch Video Solution](#)

31. Name or state with reference to the elements of the modern periodic table.

The noble gas having duplet arrangement of electrons.



[Watch Video Solution](#)

32. With reference of first three periods of the periodic table.

Metalloid in 3rd period



[Watch Video Solution](#)

33. With reference of first three periods of the periodic table.

Valency of elements in group 17



[Watch Video Solution](#)

34. With reference of first three periods of the periodic table.

Noble gas with electronic configuration of 2,8 .



[Watch Video Solution](#)

35. What is the total number of elements in the I group of the modern periodic table



[Watch Video Solution](#)

36. What is the total number of elements in the II group of the modern periodic table



[Watch Video Solution](#)

37. What is the total number of elements in the III group of the modern periodic table



Watch Video Solution

38. Name two elements of group II



Watch Video Solution

39. State variation in number of shells in
Period



Watch Video Solution

40. State variation in number of shells in
Group



Watch Video Solution

41. Compare and contrast the arrangement of elements in MendeléeV's Periodic Table and the Modern Periodic Table.



Watch Video Solution

42. An element has electronic configuration
2,8,7

What is the valency of this element.



Watch Video Solution

43. An element has electronic configuration

2,8,7

The element will show resemblance with which of the following elements ?

N(7), F(9), P(15), Ar(18), Ca(20)



Watch Video Solution

44. What is new notation used instead of old notation for group given below (i) III A (ii) III B



Watch Video Solution

45. Identify the common name of group of elements based on following facts: Elements with one electron less in their valence shell to complete their octet.



Watch Video Solution

46. Identify the common name of group of elements based on following facts: Radioactive elements



Watch Video Solution

47. Identify the common name of group of elements based on following facts: Elements with 2 electrons in the valence shell



Watch Video Solution

48. Identify the common name of group of elements based on following facts: Zero group elements



Watch Video Solution

49. Why group 17 elements are highly reactive ?



[Watch Video Solution](#)

50. What is nature of compounds formed when group 17 elements react with metals ?



[Watch Video Solution](#)

Topic 1 Modern Periodic Table And Its Periodicity
3 Marks Questions

1. What is the need for classification of elements ?



Watch Video Solution

2. Use Mendeleev's periodic Law to predict the formula of Oxides of potassium, aluminium and barium.



Watch Video Solution

3. State the merits of Mendeleev's classification of elements.



[Watch Video Solution](#)

4. State the merits of Mendeleev's classification of elements.



[Watch Video Solution](#)

5. Name the element whose properties can be predicted on the basis of its position in the periodic table given by Mendeleev's.



Watch Video Solution

6. Name two elements whose atomic weights were corrected on the basis of their positions in Mendeleev's periodic table.



Watch Video Solution

7. How many elements were known at the time of Mendeleev's classification of elements ?



Watch Video Solution

8. What are the groups known as ?

Group 1



Watch Video Solution

9. What are the groups known as ?

Group 17



Watch Video Solution

10. What are the groups known as ?

Group 18



Watch Video Solution

11. Name any one element of each group.



[Watch Video Solution](#)

12. How does number of Valence electrons on moving from left to right

In the second period of a periodic table



[Watch Video Solution](#)

13. How does number of valency vary on moving from left to right

In the second period of a periodic table





[Watch Video Solution](#)

14. How does number of Valence electrons on moving from left to right

In the third period of a periodic table



[Watch Video Solution](#)

15. How does number of valency vary on moving from left to right

In the third period of a periodic table



[Watch Video Solution](#)

16. What is meant by a group in the periodic table?



Watch Video Solution

17. Explain why the elements of the same group exhibit the same chemical behaviour.



Watch Video Solution

18. In which Group the inert gases are placed in the periodic table ?



Watch Video Solution

19. A part of the periodic table is shown below with one element missing :

H							He
Li	Be	B	C	N	O	F	Ne
Na	Mg	Al	Si	-	S	Cl	Ar
K	Ca						

Based on the above table , answer the

following questions :

Name the element that has duplet structure.



[Watch Video Solution](#)

20. A part of the periodic table is shown below with one element missing :

H							He
Li	Be	B	C	N	O	F	Ne
Na	Mg	Al	Si	-	S	Cl	Ar
K	Ca						

Based on the above table , answer the following questions :

Name the lightest alkali metal.



Watch Video Solution

21. A part of the periodic table is shown below with one element missing :

H							He
Li	Be	B	C	N	O	F	Ne
Na	Mg	Al	Si	-	S	Cl	Ar
K	Ca						

Based on the above table , answer the following questions :

Name the halogen of period 2.



Watch Video Solution

22. Name the element whose properties can be predicted on the basis of its position in the periodic table given by Mendeleev's.



Watch Video Solution

23. (a) What was the basis of Mendeleev's Classification of elements ?

(b) List two achievements of Mendeleev's periodic tables.

(c) List any two observations which posed a challenge to Mendeleev's periodic law.



[Watch Video Solution](#)

24. Predict the formula of hydrides of carbon and silicon using Mendeleev's periodic table.



[Watch Video Solution](#)

25. Write three similarities between hydrogen & alkali metals.



[Watch Video Solution](#)

26. In the table given below, fill the vacant places.

Elements	Hydrides	Oxides
<i>N</i>	<i>NH₃</i>	
<i>Al</i>		<i>Al₂O₃</i>
<i>C</i>		<i>CO₂</i>



Watch Video Solution

27. The elements given below are arranged in order of increasing atomic masses.

F, Na, Mg, Al, Si, P, S, Cl, Ar, K

Pick two sets of elements which shows similar behaviour



[Watch Video Solution](#)

28. The elements given below are arranged in order of increasing atomic masses.

F, Na, Mg, Al, Si, P, S, Cl, Ar, K

This arrangement of elements is an illustration of which law of classification of elements.



[Watch Video Solution](#)

29. What is the total no. of elements in shortest period of modern periodic table



Watch Video Solution

30. What is the number of elements in:

1. 1^{st} period and

2. 2^{nd} period of modern periodic table.



Watch Video Solution

31. Three elements of Dobereiner's triad are X, Y & Z. If the atomic mass of X is 7 and Z is 39, Calculate the atomic mass of Y.



Watch Video Solution

32. Who proposed that atomic number is the fundamental property of an element?



Watch Video Solution

33. Newland's law of octaves states that



Watch Video Solution

Topic 1 Modern Periodic Table And Its Periodicity

5 Marks Questions

1. Lithium , sodium and potassium elements were put in one group on the basis of their similar properties. What are those similar properties ?



Watch Video Solution

2. The elements calcium, strontium and barium were put in one group or family on the basis of their similar properties . Which were those similar properties ?



[Watch Video Solution](#)

3. State any two points of Mendeleev's basis for classification of elements ?



[Watch Video Solution](#)

4. Mendeleev's contributions to the concept of periodic table laid the foundation for the Modern Periodic Table. Justify your answer giving three points.



[Watch Video Solution](#)

5. This question refers to elements of the periodic table with atomic numbers from 3 to 18. In the table below, some elements are

shown by letters, even though the letters are not the usual symbols of the elements.

3	4	5	6	7	8	9	10
A	B	C	D	E	F	G	H
11	12	13	14	15	116	17	18
I	J	K	L	M	N	O	P

Which of these is a noble gas



[Watch Video Solution](#)

6. This question refers to elements of the periodic table with atomic numbers from 3 to 18. In the table below, some elements are shown by letters, even though the letters are

not the usual symbols of the elements.

3	4	5	6	7	8	9	10
A	B	C	D	E	F	G	H
11	12	13	14	15	116	17	18
I	J	K	L	M	N	O	P

Which of these is a halogen



[Watch Video Solution](#)

7. This question refers to elements of the periodic table with atomic numbers from 3 to 18. In the table below, some elements are shown by letters, even though the letters are not the usual symbols of the elements.

3	4	5	6	7	8	9	10
A	B	C	D	E	F	G	H
11	12	13	14	15	116	17	18
I	J	K	L	M	N	O	P

Which of these is an alkali metal



Watch Video Solution


8. This question refers to elements of the periodic table with atomic numbers from 3 to 18. In the table below, some elements are shown by letters, even though the letters are not the usual symbols of the elements.

3	4	5	6	7	8	9	10
A	B	C	D	E	F	G	H
11	12	13	14	15	116	17	18
I	J	K	L	M	N	O	P

Which of these is an element with valency 4.




[Watch Video Solution](#)

9. This question refers to elements of the periodic table with atomic numbers from 3 to 18. In the table below, some elements are shown by letters, even though the letters are not the usual symbols of the elements. 

If A combines with F, what would be the formula of the resulting compound ?



[Watch Video Solution](#)

10. This question refers to elements of the periodic table with atomic numbers from 3 to 18. In the table below, some elements are shown by letters, even though the letters are not the usual symbols of the elements. 

What is the electronic configuration of G?



[Watch Video Solution](#)

11. Helium is an unreactive gas and neon has very poor reactivity. What do these elements have in common?



Watch Video Solution

12. The position of elements A,B,C,D and E in the periodic table are shown below :

Group 1	Group 2	Group 17	Group 18
-	-	-	D
-	B	C	-
A	-	-	E

State which are metals, non-metals and noble gas in this table.



[Watch Video Solution](#)

13. The position of elements A,B,C,D and E in the periodic table are shown below :

Group 1	Group 2	Group 17	Group 18
-	-	-	D
-	B	C	-
A	-	-	E

State which is the most reactive (i) metal (ii) non metal .



[Watch Video Solution](#)

14. The position of elements A,B,C,D and E in the periodic table are shown below :

Group 1	Group 2	Group 17	Group 18
-	-	-	D
-	B	C	-
A	-	-	E

Which type of ion will be formed by element A, B and C.



Watch Video Solution

15. The position of elements A,B,C,D and E in the periodic table are shown below :

Group 1	Group 2	Group 17	Group 18
-	-	-	D
-	B	C	-
A	-	-	E

Which is larger in size (i) D or E (ii) B or C.



[Watch Video Solution](#)

16. Write electronic configuration of element



What is the group number of T?



Watch Video Solution

17. Write electronic configuration of element



What is the period number of T ?



Watch Video Solution

18. Write electronic configuration of element



How many valence electrons are there in an atom of T?



[Watch Video Solution](#)

19. Write electronic configuration of element



What is the valency of T ?



[Watch Video Solution](#)

20. Mention the part of group where the elements show: Highest metallic character



Watch Video Solution

21. Mention the part of group where the elements show: Big atomic size



Watch Video Solution

22. How valency of elements changes : Along the period from left to right



Watch Video Solution

23. How valency of elements changes : Down the group from top the bottom



Watch Video Solution

24. Name the metalloid present in second period



[Watch Video Solution](#)

25. For elements ${}_{19}^{39}X$

Write electronic configuration



[Watch Video Solution](#)

26. For elements ${}_{19}^{39}\text{X}$

What is the group number



[Watch Video Solution](#)

27. For elements ${}_{19}^{39}\text{X}$

What is the period number



[Watch Video Solution](#)

28. For elements ${}_{19}^{39}\text{X}$

Number of valence electrons



Watch Video Solution

29. For elements ${}_{19}^{39}\text{X}$

Valency of X



Watch Video Solution

30. An element P has atomic no. 13.

Write its electronic configuration



Watch Video Solution

31. An element P has atomic no. 13.

State the group to which it belongs.



Watch Video Solution

32. An element P has atomic no. 13.

Element P is metal or non-metal ?



Watch Video Solution

33. An element P has atomic no. 13.

Write the formula of its oxide



Watch Video Solution

34. Name the scientist who proposed modern periodic law



Watch Video Solution

35. Name first element of period 7



Watch Video Solution

36. As we move down the group, the atomic size increases or decreases ?



[Watch Video Solution](#)

37. What is the common feature of the electronic configurations of the elements in group 17[VIIA]



[Watch Video Solution](#)

38. Properties of eka silicon resembles with which element ?



[Watch Video Solution](#)

39. Beryllium exhibits diagonal relationship with (magnesium / aluminium).



[Watch Video Solution](#)

40. Elements W, X, Y, Z in the periodic table are shown below:

Group 1	Group 2
Z	-
-	X
-	-
W	Y

State whether Z is metal or non-metal



Watch Video Solution

41. Elements W, X, Y, Z in the periodic table are shown below:

Group 1	Group 2
Z	-
-	X
-	-
W	Y

State whether W is smaller or larger than Z in size



Watch Video Solution

42. Elements W, X, Y, Z in the periodic table are shown below:

Group 1	Group 2
Z	-
-	X
-	-
W	Y

State whether Y is smaller or larger than W



Watch Video Solution

43. Elements W, X, Y, Z in the periodic table are shown below:

Group 1	Group 2
Z	-
-	X
-	-
W	Y

Identify what type of anion or cation will be formed by Z and X



[Watch Video Solution](#)

44. Elements W, X, Y, Z in the periodic table are shown below:

Group 1	Group 2
Z	-
-	X
-	-
W	Y

If Z is the third element of first group, identify the element and what would be the colour imparted by Z during the flame test.



[Watch Video Solution](#)

Topic 2 Studying Individual Groups 1 Mark Questions

1. Relative atomic mass of a light element up to calcium is approximately its atomic number.



[Watch Video Solution](#)

2. Horizontal rows of periodic table are called



[Watch Video Solution](#)

3. Going across a period left to right, atomic size



[Watch Video Solution](#)

4. Moving left to right in the second period, number of valence electrons [increases from 1 to 4/ increases from 1 to 7]



[Watch Video Solution](#)

5. Moving down in the second group, number of valence electrons



[Watch Video Solution](#)

6. Match the Column A with Column B

Column A	Column B
(a) Elements short by 1 electron in octet	(i) Transition elements
(b) Highly reactive metals	(ii) Noble gases
(c) Non-reactive elements	(iii) Alkali metals
(d) Elements of groups 3 to 12	(iv) Alkaline earth metals
(e) Radioactive elements	(v) Halogens
(f) Elements with 2 electrons in the outermost orbit.	(vi) Actinides



[Watch Video Solution](#)

7. Match Column A with Column B.

Column A

- (i) Liquid metal
- (ii) An element without neutron
- (iii) An oxidizing agent
- (iv) A liquid non metal
- (v) An inert gas

Column B

- A. Bromine
- B. Mercury
- C. Helium
- D. Hydrogen
- E. Oxygen



[Watch Video Solution](#)

8. An element A has 2 electrons in its, fourth shell. State its atomic number



[Watch Video Solution](#)

9. An element A has 2 electrons in its, fourth shell. State its electronic configuration



Watch Video Solution

10. An element A has 2 electrons in its, fourth shell. State its valency



Watch Video Solution

11. An element A has 2 electrons in its, fourth shell. State position in the periodic table



Watch Video Solution

12. An element A has 2 electrons in its, fourth shell. State is it a metal or a non-metal



Watch Video Solution

13. An element A has 2 electrons in its, fourth shell. State is it an oxidizing or reducing agent ?



Watch Video Solution

14. Give reasons: Argon is used to fill light bulbs.



Watch Video Solution

15. Give reasons for each of the following:

Noble gases do not form compounds readily.



Watch Video Solution

Topic 2 Studying Individual Groups 2 Marks Questions

1. How do alkaline earth metals occur in nature ?



Watch Video Solution

2. Write the electronic configuration of the first two alkaline earth metals.



[Watch Video Solution](#)

3. Name or state the following with reference to the element of the first three periods of the periodic table.

Typical elements of Groups 14 and 15.



[Watch Video Solution](#)

4. Name or state the following with reference to the element of the first three periods of the periodic table.

Alkaline earth metal in Period 3.

 [Watch Video Solution](#)

5. Complete the table :

Atomic No	Element	Electronic configuration	Select element of the same group
11	Sodium		(Ca/N/K...)
15	Phosphorus		(Al/N/C...)

 [Watch Video Solution](#)

6. Complete the table :

Atomic No.	Element	Electronic configuration	Select element of the same group
		2,8,6	O
		2,7	Cl



[Watch Video Solution](#)

7. Name the method by which alkali metals can be extracted.



[Watch Video Solution](#)

8. What is the colour of the flame of sodium and potassium ?



Watch Video Solution

9. How many electrons do inert gases have in their valence shells ?



Watch Video Solution

10. Name an element of group 18 which can form compounds.



Watch Video Solution

11. Why group 17 elements are called halogens?



Watch Video Solution

12. Give use of Helium gas



Watch Video Solution

13. Give use of neon gas



Watch Video Solution

14. The table given below shows the position of element U, V, X, Y and Z.

Group 1	Group 2	Group 17	Group 18
-	-	-	Y
-	V	X	-
U	-	-	Z

Which is larger in size Y or Z





Watch Video Solution

15. The table given below shows the position of element U, V, X, Y and Z.

Group 1	Group 2	Group 17	Group 18
-	-	-	Y
-	V	X	-
U	-	-	Z

Which is larger in size V or X



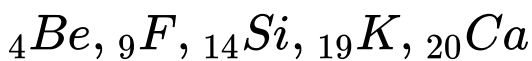
Watch Video Solution

16. What is the action of air on (i) Alkali metals
(ii) Provide chemical reaction equation to prove your answer.



[Watch Video Solution](#)

17. Below are some elements of modern periodic table



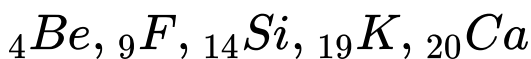
Select the element which has one electron in its outermost shell





Watch Video Solution

18. Below are some elements of modern periodic table

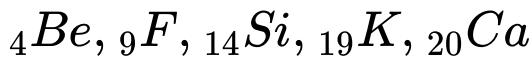


Select two elements which belong to same group



Watch Video Solution

19. Below are some elements of modern periodic table

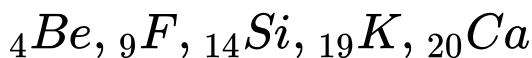


Select two elements which belong to same period



Watch Video Solution

20. Below are some elements of modern periodic table



Identify the element that belong to halogen family



Watch Video Solution

21. Write the name of two elements in group I.



[Watch Video Solution](#)

22. Write the chemical reaction to show formation of hydrides and oxides with any element of group I.



[Watch Video Solution](#)

23. State two properties of group I elements.



[Watch Video Solution](#)

Topic 2 Studying Individual Groups 3 Marks Questions

1. Element P has atomic number 19. To which group and period does P belong? It is a metal or a non metal ? Why?



[Watch Video Solution](#)

2. An element belongs to the third period and Group III A (13) of the periodic table. State the number of valence electrons



[Watch Video Solution](#)

3. An element belongs to the third period and Group III A (13) of the periodic table. State the valency



[Watch Video Solution](#)

4. An element belongs to the third period and Group III A (13) of the periodic table. State if it is a metal or non-metal



[Watch Video Solution](#)

5. An element belongs to the third period and Group III A (13) of the periodic table. State the name of the element



[Watch Video Solution](#)

6. What is nature of compounds formed when group 17 elements react with metals ?



[Watch Video Solution](#)

7. State the nature of compounds formed when group 17 elements combine with non-metals



[Watch Video Solution](#)

8. Why group 17 elements are highly reactive ?



[Watch Video Solution](#)

9. Comment on the reactivity of group 17 elements.



[Watch Video Solution](#)

10. Comment on the colour of group 17 elements.



[Watch Video Solution](#)

11. Comment on the physical state of group 17 elements.

 [Watch Video Solution](#)

12. The table given below shows the position of element U, V, X, Y and Z

Group 1	Group 2	Group 17	Group 18
-	-	-	Y
-	V	X	-
U	-	-	Z

Which ions are formed by elements U and X.

 [Watch Video Solution](#)

13. The table given below shows the position of element U, V, X, Y and Z

Group 1	Group 2	Group 17	Group 18
-	-	-	Y
-	V	X	-
U	-	-	Z

What type of compound is formed by U and X.



[Watch Video Solution](#)

14. Name the method used for extraction of alkali metals



[Watch Video Solution](#)

15. Name first three alkali metals



[Watch Video Solution](#)

16. Lithium compounds impartcolour to the flame.



[Watch Video Solution](#)

17. Find the name of elements based on the electronic configuration : 2,8,4



Watch Video Solution

18. Find the name of elements based on the electronic configuration : 2,8,7



Watch Video Solution

19. Find the name of elements based on the electronic configuration : 2,8,8,1



Watch Video Solution

20. Write one main characteristic of p-block elements or representative elements?



Watch Video Solution

21. Write one main characteristic of d-block elements or transition elements



Watch Video Solution

22. Write one main characteristic of f-block elements or inner transition elements



Watch Video Solution

23. Which element has twice as many electrons in its second shell as in the first shell?



Watch Video Solution

24. Which element has 3 shells in total with eight electrons in its valence shell?



Watch Video Solution

25. Name an element that has two shells each one of which is completely filled with electrons.



[Watch Video Solution](#)

Topic 2 Studying Individual Groups 5 Marks Questions

1. Name the alkali metals. How many electrons(s) do they have in their outermost orbit.



[Watch Video Solution](#)

2. Take any one alkali metal and write its reaction with Oxygen



[Watch Video Solution](#)

3. Take any one alkali metal and write its reaction with Water



[Watch Video Solution](#)

4. Take any one alkali metal and write its reaction with Acid



[Watch Video Solution](#)

5. Name or state the following with reference to the elements of the first three periods of the periodic table.

Noble gas with duplet arrangement of electrons.



[Watch Video Solution](#)

6. Name or state the following with reference to the element of the first three periods of the periodic table.

Metalloid in Period 3.



[Watch Video Solution](#)

7. Name or state the following with reference to the elements of the first three periods of the periodic table.

Valency of elements in Group 14 and 15.





[Watch Video Solution](#)

8. Name or state the following with reference to the elements of the first three periods of the periodic table.

Noble gas having electronic configuration : 2, 8, 8.



[Watch Video Solution](#)

9. Name or state the following with reference to the element of the first three periods of the

periodic table.

Group whose elements have zero valency.



[Watch Video Solution](#)

10. Name or state the following with reference to the elements of the first three periods of the periodic table.

A covalent compound formed by an element in Period 2 and a halogen.



[Watch Video Solution](#)

11. Name or state the following with reference to the element of the first three periods of the periodic table.

Non-metallic element present in Period 3 of Groups 15 and 16.



Watch Video Solution

12. Name or state the following with reference to the elements of the first three periods of the periodic table.

An electrovalent compound formed by an alkalin earth metal and a halogen.



[Watch Video Solution](#)

13. Name or state the following with reference to the elements of the first three periods of the periodic table.

Bridge elements of Period 3 of Group 1, 2 and 3.



[Watch Video Solution](#)

14. Name or state the following with reference to the elements of the first three periods of the periodic table.

Alkali metal in Period 3 that dissolves in water giving a strong alkali.



Watch Video Solution

15. (a) Name the first three alkaline earth metals.

(b) Write their reactions with dil hydrochloric acid.



Watch Video Solution

16. The table given below shows the position of element U, V, X, Y and Z

Group 1	Group 2	Group 17	Group 18
-	-	-	Y
-	V	X	-
U	-	-	Z

Identify metals, non-metals and noble gases



Watch Video Solution

17. The table given below shows the position of element U, V, X, Y and Z

Group 1	Group 2	Group 17	Group 18
-	-	-	Y
-	V	X	-
U	-	-	Z

Identify most reactive metal and non-metal



[Watch Video Solution](#)

18. In the table given below, six elements are shown with their atomic numbers given in parenthesis.

Period	Group 1	Group 2
2	A (3)	D (4)
3	B (11)	E (12)
4	C (19)	F (20)

What is electronic configuration of element C.



[Watch Video Solution](#)

19. In the table given below, six elements are shown with their atomic numbers given in parenthesis.

Period	Group 1	Group 2
2	A (3)	D (4)
3	B (11)	E (12)
4	C (19)	F (20)

Number of shells in atom E.



[Watch Video Solution](#)

20. In the table given below, six elements are shown with their atomic numbers given in parenthesis.

Period	Group 1	Group 2
2	A (3)	D (4)
3	B (11)	E (12)
4	C (19)	F (20)

Number of valence electrons in atom A.



[Watch Video Solution](#)

21. In the table given below, six elements are shown with their atomic numbers given in parenthesis.

Period	Group 1	Group 2
2	A (3)	D (4)
3	B (11)	E (12)
4	C (19)	F (20)

State whether element B is non-metal or metal.



[Watch Video Solution](#)

22. In the table given below, six elements are shown with their atomic numbers given in parenthesis.

Period	Group 1	Group 2
2	A (3)	D (4)
3	B (11)	E (12)
4	C (19)	F (20)

Among elements A, B, C, which one has largest atomic size.



[Watch Video Solution](#)

23. Complete the following table :

Element	Group No.	Formula of oxide	Formula of hydrides
Na	1		NaH
C	4	CO ₂	
N	3		NH ₃
As	3		AsH ₃



[Watch Video Solution](#)

24. An element with atomic number 5 belongs to III A group of the modern periodic table .
Find Oxide of element .



Watch Video Solution

25. An element with atomic number 5 belongs to III A group of the modern periodic table.
Find the number of valence electrons



Watch Video Solution

26. An element with atomic number 5 belongs to III A group of the modern periodic table.

Find Valency



Watch Video Solution

27. An element with atomic number 5 belongs to III A group of the modern periodic table.

Find Metal or non-metal or metalloid



Watch Video Solution

28. An element with atomic number 5 belongs to III A group of the modern periodic table.

Find Name of the element



Watch Video Solution

29. An element with atomic number 5 belongs to III A group of the modern periodic table.

Find Hydride of element



Watch Video Solution

30. From the standpoint of atomic structure, what determines which element will be the first and which the last in a period of the periodic table?



Watch Video Solution

31. How does valency and valence electrons vary on moving from left to right in II period



Watch Video Solution

32. Name the following:

An alkaline earth metal in period 3 of the periodic table.



Watch Video Solution

33. The elements of the third period of the Periodic Table are given below:

Group →	I	II	III	IV	V	VI	VII
Period ↓	Na	Mg	Al	Si	P	S	Cl
	3						

(a) Which atom is bigger, Na or Mg? Why?

(b) Identify the most (i) metallic and (ii) non-metallic element in Period 3.

(c) Which is more non-metallic, S or Cl?

(d) Which has higher atomic mass, Al or Cl?



[Watch Video Solution](#)

34. Metalloid in 3rd period.



[Watch Video Solution](#)