

CHEMISTRY

BOOKS - EVERGREEN CHEMISTRY (ENGLISH)

PERIODIC TABLE (PERIODIC PROPERTIES AND VARIATION OF PROPERTIES)

Question

1. Which of the following is generally true. A: Atomic size increases from left to right across a period. B: Ionization potential increases from left to right across a period. C: Electron affinity increases on going down a group. D: Electronegativity increases on going down a group.



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2. Name the first and last element in period 2

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3. What happens to the atomic size of elements on moving from top to bottom of a group.

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4. Which of the elements has the greatest electron affinity among the halogens.

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

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6. If an element has a low ionization energy then it is likely to be _____ ["metallic"// "non-metallic"]

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7. If an element has seven electrons in its outermost shell then it is likely to have the _____ [largest/smallest] atomic size among all the elements in the same period.

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8. Be, Mg, Ca, Sr, Ba are group 2 metals. Which of these will form ions most readily and why.

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9. What property of an element is measured by electronegativity.

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10. Among Period-2 elements - Lithium, Carbon, Fluorine, Neon-
State the one which has high electron affinity.

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11.

IA	IIA	IIIA	IVA	VA	VIA	VIIA	0
1	2	13	14	15	16	17	18
Li		D			O	J	Ne
A	Mg	E	Si		H	K	
B	C		F	G			L

Some elements are given in the above table in their own symbol & position in the periodic table, while others [shaded] are shown with a letter. With reference to the table.

How many valence electrons are present in G

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12.

Group numbers	IA 1	IIA 2	IIIA 13	IVA 14	VA 15	VIA 16	VIIA 17	0 18
	Li		D			O	J	Ne
	A	Mg	E	Si		H	K	
	B	C		F	G			L

Some elements are given in the above table in their own symbol & position in the periodic table, while others [shaded] are shown with a letter. With reference to the table.

Write the formula of the compound between B and H.

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IA	IIA	IIIA	IVA	VA	VIA	VIIA	0
1	2	13	14	15	16	17	18
Li		D			O	J	Ne
A	Mg	E	Si		H	K	
B	C		F	G			L

13.

Some elements are given in the above table in their own symbol & position in the periodic table, while others [shaded] are shown with a letter. With reference to the table.

In the compound between F and J, what type of bond will be formed



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IA	IIA	IIIA	IVA	VA	VIA	VIIA	0
1	2	13	14	15	16	17	18
Li		D			O	J	Ne
A	Mg	E	Si		H	K	
B	C		F	G			L

14.

Some elements are given in the above table in their own symbol &

position in the periodic table, while others [shaded] are shown with a letter. With reference to the table.

Draw the electron dot structure for the compound formed between C and K. potential.

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15. Define the following term - Ionization potential

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16. Select the correct answer:

The no. of electrons in the valence [outermost] shell of a halogen is

A:1, B:3, C:5, D:7

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17. Select the correct answer:

Non-metallic character down the group - increases/decreases

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18. Select the correct answer:

Non-metallic character down the group - increases/decreases

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19. Atomic number of an element is 16. State

To which period it belongs

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20. Atomic number of an element is 16. State

The number of valence electrons in the element

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21. Atomic number of an element is 16. State

Is the element a metal or a non-metal

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22. Define the term

Ionisation potential

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23. Define the following terms:

Electron affinity .

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24. Give reason - The oxidising power of elements increases from left to right along a period.

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25. Select the correct answer

Across a period, the ionization potential [increases, decreases, remains same].

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26. Select the correct answer

Down the group, electron affinity [increases, decreases, remains same]

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27. Choose the correct answer: In the periodic table alkali metals are placed in group - A:1, B:11, C:17, D:18 Which of the following properties: do not match with elements of the halogen family, A : They have seven electrons in their valence shell, B : They are highly reactive chemically, C: They are metallic in nature, D: They are diatomic in their molecular form.

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28. Give the number of group and the period, of the element having three shells with three electrons in valence shells.

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29. Select the element in period 3 whose electron affinity is zero -
A: Neon, B: Sulphur, C: Sodium, D: Argon

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30. Give reason:

I.P. of elements increases across a period,

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31. Give reason:

Alkali metals are good reducing agents

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32. There are three elements E, F, G with atomic numbers 19, 8 and 17 respectively.

Classify the elements as metals and non- metals.

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33. Name A metal present in period 3, group I of the periodic table.

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34. Among the following elements - Lithium, Carbon, Chlorine, Flourine-State the one which has high electron affinity.

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Group	IA	IIA	IIIA	IVA	VA	VIA	VIIA	0
number	1	2	13	14	15	16	17	18
2 nd period	Li		D			O	J	Ne
	A	Mg	E	Si		H	M	
	R	T	I		Q	u		y

- 35.
- In this table H does not represent hydrogen.
 - Some elements are given in their own symbol and position in the periodic table.
 - While others are shown with a letter.

With reference to the table answer the following questions :

Identify the most electronegative element.

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36.

Group number	IA 1	IIA 2	IIIA 13	IVA 14	VA 15	VIA 16	VIIA 17	0 18
2 nd period	Li		D			O	J	Ne
	A	Mg	E	Si		H	M	
	R	T	I		Q	u		y

In the above table - H does not represent hydrogen. Some elements are in their own symbol & position in the periodic table while others are shown with a letter. Identify

The most reactive element of group I.

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37.

Group No.	1 - IA	2 - IIA	13 - IIIA	14 - IVA	15 - VA	16 - VIA	17 - VIIA	18 - 0
2 nd period	Li		D			O	J	Ne
3 rd period	A	Mg	E	Si		H	M	
4 th period	R	T	I		Q	u		y

In the above table - H does not represent hydrogen. Some elements are in their own symbol & position in the periodic table while others are shown with a letter. Identify

The element from period 3 with least atomic size.

Group	IA	IIA	IIIA	IVA	VA	VIA	VIIA	0
number	1	2	13	14	15	16	17	18
2 nd period	Li		D			O	J	Ne
	A	Mg	E	Si		H	M	
	R	T	I		Q	u		y

38.

- In this table H does not represent hydrogen.
- Some elements are given in their own symbol and position in the periodic table.
- While others are shown with a letter.

With reference to the table answer the following questions :

Identify the noble gas of the fourth period.

39.

Group number	IA 1	IIA 2	IIIA 13	IVA 14	VA 15	VIA 16	VIIA 17	0 18
2 nd period	Li		D			O	J	Ne
	A	Mg	E	Si		H	M	
	R	T	I		Q	u		y

In the above table - H does not represent hydrogen. Some elements are in their own symbol & position in the periodic table while others are shown with a letter. Identify

How many valence electrons are present in Q.

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40.

Group No.	1 - IA	2 - IIA	13 - IIIA	14 - IVA	15 - VA	16 - VIA	17 - VIIA	18 - 0
2 nd period	Li		D			O	J	Ne
3 rd period	A	Mg	E	Si		H	M	
4 th period	R	T	I		Q	u		y

In the above table - H does not represent hydrogen. Some elements are in their own symbol & position in the periodic table while others are shown with a letter. Identify

Which element from group 2 would have the least ionization energy.

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41.

Group number	IA 1	IIA 2	IIIA 13	IVA 14	VA 15	VIA 16	VIIA 17	0 18
2 nd period	Li		D			O	J	Ne
	A	Mg	E	Si		H	M	
	R	T	I		Q	u		y

In the above table - H does not represent hydrogen. Some elements are in their own symbol & position in the periodic table while others are shown with a letter. Identify

In the compound between A & H what type of bond is formed & give its molecular formula.

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42. Identify: The element which has the highest ionization potential.

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43. Choose the correct answer:

Ionisation Potential increases over a period from left to right because the:

- A. Atomic radius & nuclear charge increases
- B. Atomic radius & nuclear charge decreases
- C. Atomic radius increases & nuclear charge decreases
- D. Atomic radius decreases & nuclear charge increases.

Answer:

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44. Choose the correct answer:

An element A belonging to Period 3 & Group II will have –

A. 3 shells & 2 valence e electrons

B. 2 shells & 3 valence electrons

C. 3 shells & 3 valence electrons

D. 2 shells & 2 valence electrons

Answer:

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45. Atomic number of element Z is 16.

State the period & group to which Z belongs.

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46. Atomic number of element Z is 16.

Is Z a metal or a non metal.

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47. Atomic number of element Z is 16.

State the formula of the compound between Z & Hydrogen. What kind of compound is this.

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48. In the activity series of metals-M is a metal above hydrogen in the activity series & its oxide has the formula M_2O when dissolved in water forms the corresponding hydroxide which is a good conductor of electricity

What kind of combination exists between M & O

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49. In the activity series of metals-M is a metal above hydrogen in the activity series & its oxide has the formula M_2O when dissolved in water forms the corresponding hydroxide which is a good conductor of electricity

State the no. of electrons in the outermost shell of M.

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50. In the activity series of metals-M is a metal above hydrogen in the activity series & its oxide has the formula M_2O when dissolved in water forms the corresponding hydroxide which is a good conductor of electricity

Name the group to which M belongs.

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51. Give a phrase for. Amount of energy released when an atom in the gaseous state accepts an electron to form an anion

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52. Match the option A: Metal or B: Iron - with the statements i] & ii] The metal that forms two types of ions ii] An element with electronic configuration 2,8,8,3

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53. The element with the least electronegativity is: A: Lithium B: Carbon C: Boron D: Fluorine

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54. Arrange the elements as per the instructions:

Cs, Na, Li, K, Rb [increasing order of metallic character].

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55. Arrange the elements as per the instructions:

Mg, Cl, Na, S, Si [decreasing order of atomic size].

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56. Arrange the elements as per the instructions:

Na, K, Cl, S, Si [increasing order of ionization energy].

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57. Arrange the elements as per the instructions:

Cl, F, Br, I [increasing order of electron affinity].

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58. Select a covalent oxide of a metalloid from the following -

SO_2 , SiO_2 , Al_2O_3 , MgO , CO , Na_2O

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59. The metals of Group 2 in the periodic table from top to bottom are - Be, Mg, Ca, Sr, & Ba

Which one of these elements will form ions most readily. Give reasons.

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60. The metals of Group 2 in the periodic table from top to bottom are - Be, Mg, Ca, Sr, & Ba

State the common feature in the electronic configuration of all these elements given.

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61. Select the correct answer from A, B, C & D: An element with the atomic number 19 will most likely combine chemically with the element whose atomic number is:

A. 17

B. 11

C. 18

D. 20

Answer:



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62. Identify the term in each of the

The tendency of an atom to attract electrons to itself when combined in a compound.



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63. Identify the term in each of the

The electrons present in the outermost shell of an atom.



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64. Write the correct symbol: $>$ [greater than] or $<$ [less than]

in the statements:

The ionization potential of potassium is _____ that of sodium.

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65. Write the correct symbol: $>$ [greater than] or $<$ [less than] in the statements:

The electronegativity of iodine is _____ that of chlorine.

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66. Use the letters only written in the Periodic Table below to answer the question :

	I	II	GROUPS										III	IV	V	VI	VII	0
1																	L	
2	Q											E	G	J	Z	M		
3	R																	
4	T																	
5																		

State the number of valence electrons in atom J.

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67. Use the letters only written in the Periodic Table below to answer the question :

		GROUPS																		
		I	II											III	IV	V	VI	VII	0	
PERIODS	1																			L
	2	Q												E	G	J	Z	M		
	3	R																		
	4	T																		
	5																			

Which element shown forms ions with a single negative charge.

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68. Use the letters only written in the Periodic Table given below to answer the questions that follow :

		GROUPS																		
		I	II											III	IV	V	VI	VII	0	
PERIODS	1																			L
	2	Q												E	G	J	Z	M		
	3	R																		
	4	T																		
	5																			

Which element has its electrons arranged in four shells ?

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69. Use the letters only written in the Periodic Table below to answer the question : Which element has its electrons arranged in four shells.

	I	II	III	IV	V	VI	VII	0
	Groups							
1								L
2	Q		E	G	J	Z	M	
3	R							
4	T							

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70. Fill in the blank by selecting the correct word:

If an element has a low ionization energy then it is likely to be _____ [metallic/non metallic]

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71. Fill in the blank by selecting the correct word:

If an element has seven electrons in its outermost shell then it is likely to have the _____ [largest/smallest] atomic size among all the elements in the same period.



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72. Select the correct answer - The energy required to remove an electron from a neutral isolated gaseous atom & convert it into a positively charged gaseous ion is called _____ [electron affinity, ionisation potential electronegativity]



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73. Match the atomic number 2, 4, 8, 15 & 19 with each of the following - i] A solid non-metal belonging to the third period. ii] A

metal of valency 1. iii] A gaseous element with valency 2 iv] An element belonging to Group 2. v] A rare gas.

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74. Arrange as per the instruction

He, Ar, Ne [Increasing order of the number of electron shells]

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75. Arrange as per the instruction

Na, Li, K [Increasing ionisation energy].

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76. Arrange as per the instruction

F, C, Cl [Increasing electronegativity].



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77. Arrange as per the instruction

Na, K, Li (Increasing atomic size)



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78. Give one word or a phrase for the following statement: The energy released when an electron is added to a neutral gaseous isolated atom to form a negatively charged ion.



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79. Give reason :

Inert gases do not form ions.



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80. Give reason :

Ionisation potential increases across a period-left to right.

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81. In Period 3 of the Periodic Table, element B is placed to the left of element A. On the basis of this information, choose the correct word from the brackets - to complete the following statements.

The element B would have [lower/higher] metallic character than A.

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82. In Period 3 of the Periodic Table, element B is placed to the left of element A. On the basis of this information, choose the correct word from the brackets - to complete the following statements.

The element A would probably have [lesser/higher] electron affinity than B.

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83. In Period 3 of the Periodic Table, element B is placed to the left of element A. On the basis of this information, choose the correct word from the brackets - to complete the following statements.

The element A would have [greater/smaller] atomic size than B.

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84. Choose the correct answer from the options A,B,C&D given: The most electronegative element from the following elements is:

A. Magnesium

B. Chlorine

C. Aluminium

D. Sulphur

Answer:

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85. Fill in the blank: In period 3, the most metallic element is ____ [sodium/magnesium/aluminium]

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86. Give the appropriate term defined by the statement given: The tendency of an atom to attract electrons towards itself when combined in a covalent compound.

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87. Arrange the following

Li, K, Na, H [In the decreasing order of their ionization potential].

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88. Arrange the following

F, B, N, O [In the increasing order of electron affinity]

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89. Study the extract of the Periodic Table given below and answer the questions. Give the alphabet corresponding to the element in question. Do not repeat an element. State which element: Forms an electrovalent compound with G.

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90. Study the extract of the Periodic Table given below and answer the questions. Give the alphabet corresponding to the element in question. Do not repeat an element. State which element: Is non-metallic and has a valency of 2.

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91. Study the extract of the Periodic Table given below and answer the questions. Give the alphabet corresponding to the element in question. Do not repeat an element. State which element: Is an inert gas. State the ion of which element will migrate: Towards the cathode during electrolysis

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Additional Questions

1. State the fundamental property on which the modern periodic table or long form of periodic table is based.

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2. State the important salient features of the modern periodic table. State how separation of elements and periodicity of elements forms an important feature of the modern periodic table.

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3. What are 'periods'. State the correlation of a period number with the elements of that period.

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4. Name the elements in correct order of their increasing atomic numbers present in the first, second and third short periods of the periodic table. State each elements electronic configuration.

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5. Give a reason why
completion of each period is logical

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6. Give a reason why
period-2 elements are called bridge elements

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7. State the property trends in general on moving from left to right in a period of the periodic table.

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8. State

the bonding & state of chlorides of period-3 - group 1 [IA], 15 [VA],
16 [VIA]

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9. State

the bonding & character of oxides of period-3 - group 1 [IA], 13 [IIIA]
and 16 [VIA].

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10. What are 'groups' of the Modern Periodic Table. What does the group number' signify.

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11. State the type of elements present in group 1 [IA]

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12. State the type of elements present in group 2 [IIA]

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13. State the type of elements present in
group 3 to 12 [1B to VIIB & VIII]

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14. State the type of elements present in
group 13 to 16 [IIIA to VIA]

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15. State the type of elements present in
group 17 [VIIA]

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16. State the type of elements present in group 18 [0].

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17. What are transition elements and inner transition elements. State the position of the inner transition elements state why noble gases are considered unreactive elements.

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18. Compare the properties of the elements of group 1 [IA] i.e. alkali metals and group 17 [VIIA] i.e. halogens.

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19. Explain the term

periodicity in properties of elements

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20. Explain the term

periodic properties

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21. Explain the term

periodicity of elements.

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22. State the reason for periodicity of elements in periods and groups.

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23. Explain the meaning of the periodic properties
atomic radius

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24. Explain the meaning of the periodic properties
Ionisation potential

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25. Explain the meaning of the periodic properties

electron affinity

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26. Explain the meaning of the periodic properties

electronegativity

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27. Explain the meaning of the periodic properties

non-metallic and metallic character.

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28. State the factors which affect the atomic size of elements in a periodic table. In period 2 from left to right, state which element has the largest atomic size and which has the smallest, giving reasons.

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29. Explain the trend in atomic radii on moving down a group, with reference to the alkali metals in Group 1 [IA].

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30. State the factors which influence or affect the ionisation potential of elements in a periodic table.

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31. Explain the trend in general of ionisation potential of elements on moving from left to right across a period

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32. Explain the trend in general of ionisation potential of elements on moving down a group. Give reasons for the change in the periodic trend in each case.

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33. State the factors which affect
electronaffinity

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34. State the factors which affect

electronegativity of elements in a periodic table.

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35. State the factors which affect

electronegativity of elements in a periodic table.

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36. Explain the trend in general of i] electronegativity ii]

electronegativity of elements -

on moving from left to right across a period

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37. Explain the trend in general of i] electronaffinity ii] electronegativity of elements -
on moving down a group. Give reasons for the change in each periodic trend.



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38. With reference to the alkali metals in Group 1 [IA] & the halogens in 17 [VIIA] explain the trend in ionisation potential, electron affinity and electronegativity on moving down the groups in the periodic table.



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39. State the factors which affect the metallic and the non-metallic character of elements in a periodic table.

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40. Explain the trends from metallic to non-metallic character of the different elements in the first three periods.

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41. Explain with reasons the trends in metallic and non-metallic character down a group.

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42. State how density and melting points of elements varies across a period and down a group.

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43. State the general trend in periodicity in properties of oxides, hydroxides, oxy-acids and hydrides of compounds of elements across a period and down a group.

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44. State the relation between atomic number and atomic mass for light elements. State which elements are considered radioactive giving reasons.

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

The alkali metal in period 2 and the halogen in period 3.

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

The noble gas having duplet arrangement of electrons.

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

The noble gas having an electronic configuration 2, 8, 8.

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

The number of electron shells in elements of period 3.

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

The valency of elements in group 1[IA].

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

The metals present in period 3 and the non-metals present in period 2.

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

The group whose elements have zero valency.

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

The non-metal in period 3 having a valency 1

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

The formula of the hydroxide of the element having electronic configuration 2, 8, 2.

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

The formula of the hydride of the halogen in period 3.

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

The formula of the sulphite of the element in period-3, group 1 [IA].

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

The element in period-3 which does not form an oxide.

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

The bonding [i.e. electrovalent or covalent) of the oxide of the element in period-3 group 16 [VIA].

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

The character of the hydroxide of the element in period-3 group 13 [IIIA].

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

A light element in period-3 with a neutron/proton ratio around 1.

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

The element with the least atomic size from carbon, nitrogen, boron and beryllium.

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

The element, from the elements Li, Na, K, having the least number of electron shells.

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

The element from the elements C, O, N, F, having the maximum nuclear charge.

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

The element from the elements Be and Mg having a lower nuclear charge.

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

The element from the elements fluorine and neon having a higher electron affinity.

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

The period and group to which the element 'X' with electronic configuration 2, 8, 8, 2 belongs.

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

The more electronegative element from the elements Ar, S, Cl of period-3.

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

The element with the largest atomic size from the elements of period-1, 2 and 3

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

The element with the highest ionisation potential from the elements of period 1,2 and 3

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

The element from the elements Li, Na, K which has maximum metallic character.

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

The element with maximum non-metallic character from the elements of period-2

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

The more non-metallic element from the elements S, P, Cl and Ar

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

The more non-metallic element from the elements X' & 'Y having elec.config. 2, 8,5 & 2,8,6 respectively

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

The periodic property which relates to the amount of energy required to remove an electron from the outermost shell of an isolated gaseous atom.

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

The periodic property which refers to character of element, which loses electrons when supplied with energy

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**Additional Questions Fill In The Blanks With The Appropriate Word S
In Each Case**

1. Fill in the blanks with the appropriate word/s

Periods are ___ [5, 6, 7] horizontal rows of elements in the periodic table and an element with three electron shells and two electrons in its valence shell belongs to period ____ [6,3,1] and group ___[3,6,2]

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2. Fill in the blanks with the appropriate word/s

Across a period the valence electrons ____ while down a subgroup they ___[remain same/increase by 1].

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3. Fill in the blanks with the appropriate word/s

Across a period, the electropositive character character _____ and

down a group the electronegative character _____

[increases/decreases]

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4. Fill in the blanks with the appropriate word/s

Elements at the extreme left of modern periodic table are _____

reactive while elements on the extreme right [group 18(0)] are

_____ reactive [least/un/most]

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5. Fill in the blanks with the appropriate word/s

Elements of group 1 [IA] are strong _____ [oxidising/reducing]

agents since they are electron _____ [acceptors/donors]

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6. Fill in the blanks with the appropriate word/s

The element in group 17 [VIIA] which is a liquid at room temperature is _____ [F Cl, Br. I.]

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7. Fill in the blanks with the appropriate word/s

Periodicity in properties is observed in elements after definite intervals due to similar _____ [electronic configuration, number of valence electrons, atomic numbers] of elements

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8. Fill in the blanks with the appropriate word/s

Across a period the nature of oxides and hydrides varies from _____

to _____ [acidic/basic] while the strength of oxy-acids _____
(decreases/increases) from left to right.

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9. Fill in the blanks with the appropriate word/s

Nuclear charge of an atom is the ____ [negative positive] charge on
the nucleus of an atom, equivalent to the atomic _____
[number/mass] of an atom.

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10. Fill in the blanks with the appropriate word/s

Atomic size of neon is _____ [more/less] than the atomic size of
fluorine.

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11. Fill in the blanks with the appropriate word/s

Atomic size across a period _____ [increases/decreases] with increase in nuclear charge of the element.

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12. Fill in the blanks with the appropriate word/s

With increase in nuclear charge the nuclear attraction for outer electrons ____ [increases/decreases], hence ionisation potential _____ [increases/decreases]:

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13. Fill in the blanks with the appropriate word/s

Increase in nuclear charge of an atom _____ [decreases/increases] the tendency of the atom to lose electrons.



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14. Fill in the blanks with the appropriate word/s

Elements with stable electronic configuration e.g. neon have an electron affinity value of _____ [1, 0,-1]

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15. Fill in the blanks with the appropriate word/s

An atom with a small atomic radii takes up electrons _____
[less/more] readily than an atom with a large radii.

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16. Fill in the blanks with the appropriate word/s

If combining atoms of a compound have nearly similar

electronegativities the bond between them is _____

[electrovalent/covalent].

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17. Fill in the blanks with the appropriate word/s

Elements with low electronegativity are usually _____

[metallic/non-metallic]

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18. Fill in the blanks with the appropriate word/s

An atom is said to be a non-metal if it ___[gains/loses] one or more electrons.

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19. Fill in the blanks with the appropriate word/s

Atoms with _____ [small/large] atomic radii & _____ [high/low] ionisation potential tend to gain electrons.

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20. Fill in the blanks with the appropriate word/s

Element 'X' in period 3 has high electron affinity & electronegativity.

It is likely to be a [metal/non-metal]

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21. Fill in the blanks with the appropriate word/s

Element 'B' in period 2 is to the right of element 'A'. Element 'B' is likely

to be ___ [more/less] non-metallic in character than element A

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22. Fill in the blanks with the appropriate word/s

Element 'Z' in sub-group 2[IIA] is below element Y in the same sub-group. The element Z will be expected to have ___ [higher/lower] atomic size and ___ [more/less] metallic character than Y

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23. Fill in the blanks with the appropriate word/s

Argon in period 3 is likely to have a _____ [larger/smaller] atomic size than chlorine and its electron affinity value would be _____ [Greater/lesser/zero] compared to chlorine

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24. Fill in the blanks with the appropriate word/s

Across a period - Atomic size and metallic character _____ while I.P., E.A. EN and non-metallic character ____ and nuclear charge _____ [increases/ decreases]

Down a group- Atomic size and metallic character _____ while P, E.A., E.N and non-metallic character _____ and nuclear charge _____ [increases/decreases]

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Additional Questions Give Reasons For The Following

1. Give reason

In the same period or subgroup a gradual change in a particular property may be seen.

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2. Give reason

Atomic size of group 18 [0 group] elements is more than the atomic size of group 17 [VIIA] elements

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3. Give reason

Ionisation potential increases with increase in nuclear charge of the elements.

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4. Give reason

Electron affinity of noble gas elements is zero.

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5. Give reason

Phosphorus, sulphur and chlorine are electronegative elements of the periodic table.

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6. Give reason

Sulphur is placed in group 16 [VIA], chlorine in group 17[VIIA]butargon in group 18 [0 group] of the periodic table

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7. Statement-1 : Electronegativity of an element depends on ionisation energy of that element.

Statement-2 : Electroegativity regularly decreases along the group.

Statement-3 : Fluorine is the most electronegative element.



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8. Give reason

Atoms with large atomic radii and low ionisation potential are more metallic in nature.



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9. Give reason

A decrease in ionisation potential of an element leads to a decrease in non-metallic of the element



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10. Give reason

Atomic size decreases across a period but increases down a group

of the periodic table

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Unit Test Paper 1 Periodic Table

1. In period 2, element 'A' is to the right of element 'B'.

The element 'A' would probably have a ___ [smaller/larger] atomic size than 'B'.

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2. In period 2, element 'A' is to the right of element 'B'.

The element 'B' would probably have ___ [lower/higher] ionisation potential than 'A'.

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3. In period 2, element 'A' is to the right of element 'B'.

The element 'A' would have. _____ [lesser/higher] electron affinity than 'B'.

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4. In period 2, element 'A' is to the right of element 'B'.

Nuclear charge of element 'B' would be _____ [less/more] than element 'A'.

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5. In period 2, element 'A' is to the right of element 'B'.

If an element 'C' had a low electronegativity and ionisation potential it would have more tendency to _____ [gain/lose] electrons.

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6. With reference to period 3 of the periodic table - State:

The type of bonding of the element with electronic configuration 2, 8, 7.

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7. With reference to period 3 of the periodic table - State:

The formula of the chloride of the element with electronic configuration 2, 8, 4.

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8. With reference to period 3 of the periodic table - State:

The nature of the oxide of the alkaline earth metal in the period.



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9. With reference to period 3 of the periodic table - State:

The number of electrons in the penultimate shell of the element with valency -1.



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10. With reference to period 3 of the periodic table - State:

The electronic configuration of the element whose hydroxide is a weak base.



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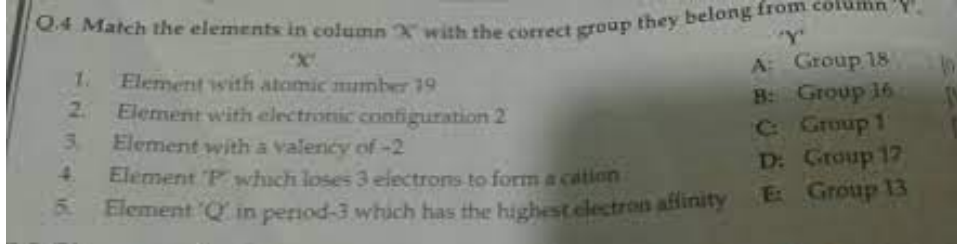
11. With reference to group 1 [IA] of the periodic table - fill in the blanks with the correct word:

The elements are _____ [light/heavy]. _____ [metals/non-metals] since their atomic size is _____ [large/small]. The energy binding the atoms is _____ [high/low] and hence the elements have [high/low] melting points. The melting points of the elements _____ [increases/decreases] down the subgroup. The electropositive character _____ [increases/decreases] down the subgroup and the elements are strong _____ [reducing/oxidizing] agents. The element with electronic configuration 2,8,1 will have _____ [higher/lower] electronaffinity and _____ [smaller/larger] atomic size than the element with electronic configuration 2,1.



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12. Match the elements in column 'X' with the correct group they belong from column 'Y'.



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13. Give reasons for

Occurrence of characteristic properties of elements takes place at definite intervals in the modern periodic table.

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14. Give reasons for

Properties of elements are periodic functions of their atomic numbers and not atomic weights.

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15. Give reasons for

Atomic size of an element depends on the nuclear charge of that element.

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16. Give reasons for

Down a group electronegativity should increase with increase in nuclear charge but it is seen that the electronegativity decreases.

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17. Give reasons for

If combining atoms have nearly similar electronegativities the bond between them is covalent.

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18. Arrange the element as per the guidelines in brackets.

Na, Cl, Mg, P [in decreasing order of atomic size]

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19. Arrange the element as per the guidelines in brackets.

C, Li, F, N [in increasing order of electronegativity]

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20. Arrange the element as per the guidelines in brackets.

Cl, Al, Na, S [in increasing order of ionisation potential]

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21. Arrange the element as per the guidelines in brackets.

Li, F, C, O [in increasing order of electron affinity]

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22. Arrange the element as per the guidelines in brackets.

Ar, He, Ne [in increasing order of number of electron shells]

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