CHEMISTRY

BOOKS - V PUBLICATION

PERIODIC TABLE

Question Bank

1. Complete the table.

Element	Atomic Number	Proton	Electron	Neutron
$^{14}_{7}N$	7	...a....	....b....	7
$^{40}_{18}Ar$	18	18	.....c....	.....d...

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2. Symbols of certain elements are given. Write their electronic configuration and find the period and group to which they belong.

a) ${}^{12}_{6}C$,b) ${}^{24}_{12}Mg$, c) ${}^{35}_{17}Cl$,d) ${}^{27}_{13}Al$,e) ${}^{20}_{11}Na$

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3. There are three shells in the atom of element 'X', 6 electrons are present in its

outermost shell.

a) Write the electronic configuration of the element.

What is the atomic number?

c) In which period does this element belong?

d) In which group is this element included?

e) Write the name and symbol of this element.

f) To which family of element does this element belong to?

g) Draw and illustrate the Bohr' atom model of this element.

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4. Electronic configuration of elements P, Q, R and S are given below. (Symbols are not real).

P-2,2

Q - 2,8,2

R- 2,8,5

S- 2,8

a) Which among these elements are included in the same period?

b) Which are those included in the same group?

c) Which among them is a noble gas?

d) To which group and period does the element R belong?

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5. An incomplete form of periodic table ia given below. Write the answers to the questions connecting the position of elements in it. (Symbols are not real).

a)Which is the element with the biggest atom in group 1?

b) Which is the element having very lowest

ionization energy in group 1?

c) Which element has the smallest atom in period 2?

d) Which among them are transistion elements?

e) Which of the elements L and M has the lowest electronegativity?

f) Among B and I which has higher metallic character?

g) Which among these are included in the halogen family?

h) Which is the element that resembles E the in its properties?

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6. Find the uses of transistion elements familiar to you. Prepare a note and present it.

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7. Collect more information about rare earth elements. Prepare a note and present it in your class.

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8. The vertical columns in the pariodic table are called.....

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9. Find the relation and fill up suitably:

Metal and non-metals : Lavoiser

Triads: .....(a).....

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10. In modern periodic table the elements are arranged in the ascending order of .....

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11. The longest period in the modern periodic table is .....

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12. The elements belonging to the group 1,2 and group 13 to 18 are known as .....

(Transistion metals, Representative elements, Noble gases, Lathanoides)

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13. The elements of group 3 to 12 are called .....

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14. Find the relation and fill up suitably:

18th group elements: Noble gases

17th group elements: .....

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15. The charged atoms are called .....

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16. Find the odd one out:

(He, Ge, Ne, Ar)

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17. The electronic configuration of an element is 2,8,8. In which period does it belong?

18. The scientist who proposed the law of octaves?

19. .....is the biggest element in the modern periodic table.

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20. The electronic configuration of an element is 2, 7. In which group does it belong?

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21. The shortest period in the modern periodic table.....

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22. In which family does the element He belong?

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23. Find the reason for the follwing:

i) Size of the atom decrease from left to right across a period.

ii) Size of atom increases from top to bottom in a group

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24. Find out whether the following statements are true or false. If there is any mistake correct it.

a) The elements of the group 3 to 12 in the periodic table are called representative elements.

b) In the periodic table, the size of the atom decreases as we go top to bottom.

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25. Element A, B , C and its atomic numbers are shown in the table given below. (Symbols are not real).

a) Which of the elements included in the same

period?

b) Which are elements included in the same group? '(##VPU_TTT_CHE_IX_C04-E03_018_Q01##)'

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26. List three important characteristics of transistion elements.

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27. Write down any two major limitation of Mendeleev's periodic table.

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28. There are three shells in the atom of element 'X', 6 electrons are present in its outermost shell.

Find out its period number and group number.

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29. Choose the correct statements from the following and write them.

a) As the size of atom increases the ionisation energy increases.

b) Elecronegativity is high for smaller atom.

c) Metallic character increases as the size of atom increases.

A. Size of atom increases on moving from left to right in a period.

B.

C.

D.

Answer:

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30. Fill in the blanks

$\int \frac{1}{x} dx$=---

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31. Complete the table.

Element	Atomic Number	Proton	Electron	Neutron
$^{14}_{7}N$	7	...a....	....b....	7
$^{40}_{18}Ar$	18	. 18	.....c....	.....d...

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32. Lithium and oxygen are included in the same period in the periodic table. (Hints: $\underset{3}{Li}, \underset{8}{O}$)

a) Which one having high atomic size?

b) Which one is the electronegative element?

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33. Write down any two advantages of Mendeleev's periodic table.

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34. Element X, Y, Z and its electronic configuration are shown in the given table below. (Symbols are not real).

a) Find the group number of element Y.

b) Find the periodic number of element Z.

Write the elements X, Y and Z in the ascending order of their electronegativity.

'(##VPU_TTT_CHE_IX_C04-E03_027_Q01##)'

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35. Electronic configuration of a few elements are given (Symbols are not real). Analyse them and answer the follwing questions.

a) Which element has the biggest atom?

b) Name the family of the element in which Q belongs?

c) Which among hem has the highest electronegativity? '(##VPU_TTT_CHE_IX_C04-E03_028_Q01##)'

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36. The amount of energy required to liberate the most loosely, bonded electrons from the outer most shell of an element is called as ionisation enregy.

a) Which are the major factors that ionisation energy depends on?

How does ionisation energy vary in groups and periods. Give reason.

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37. Atomic number of the elements X and Y are 13 and 16 respectively.

a) Find the group number of element X.

b) Find the period of element Y.

c) Which is bigger,, X or Y?

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38. Complete the given statements by choosing the appropriate answer from the bracket.

(Transistion elements, 18th group, Alkali metals, rare earths, 1st group)

a) ..... elements are known as noble gases.

b) The elements showing similarities in chemical properties in groups and periods are known as .....

c) Lanthonoids are also called as .....

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39. Electronic configuration of an atom of an element is 2, 8, 18, 7.

a) What is the atomic number?

b) In which of the period and group this element is included in the periodic table?

c) Write the family name of this atom.

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40. The element A belongs to second period, 17th group and B belongs to second period, first group (Symbols are not real).

a) Write down the electronic configuration of the elements A and B.

b) Whih among them has the highest ionisation energy?

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41. i) Which among the following is not characteristics of alkaline earth metals.

a) High electronegativity

b)They are included in 2^{nd} group.

c) High ionisation energy.

d) High metallic nature.

ii) Write down the relationship between atomic size and metallic character.

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42. Bohr's model of atom of an element is given below.

a) To which period and group does the element belong?

b) Write down the electronic configuration of the element just above the given element in

the same group of the periodic table. '(##VPU_TTT_CHE_IX_C04-E03_035_Q01##)'

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43. In an atom of the element X there are three shells and 2 electrons are in its outermost shell.

a) Write down the electronic configuration of this element.

b) Find the group and period of this element.

c) What is the valency shown by this element.

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44. Three atoms are given:

$\underset{11}{Na}, \underset{15}{P}, \underset{17}{Cl}$

a) Which among these is the most electronegative atom.

b) Which atom has the lowest ionization energy?

Which are the factors on which ionisation energy depends?

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45. Electronic configuration of elements A, B, C, and D are given. (Symbols are not real).

A- 2, 7

B- 2,8,1

C - 2, 8,8

D- 2, 8, 7

a) Name the family of element to which A belongs?

b) which among the above is a noble gas?

c) Which of the elements belong to the same group?

d) Which among them has the highest electronegativity?

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46. Magnesium and chlorine are two elements in the third period in the periodic table . (Mg - 12, Cl- 17)

a) Which one of them has electropositive nature?

b) Which one has the electronegative nature?

Which of them has the highest ionisation energy? Why?

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47. The position of the element A, B and C in the periodic table are given below.

A- 3rd period and 16th group

B- 4th period and 5th group.

C- 4th period and 5th group

a) Write the electronic configuration of the element A.

b) Which among them are transistion elements? Write any two characterization of transistion elements.

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48. Complete the table.

Element	Atomic Number	Proton	Electron	Neutron
$^{14}_{7}N$	7	...a....	....b....	7
$^{40}_{18}Ar$	18	18	.....c....	.....d...

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49. a) How do second group elements in the periodic table differ from 17th group elements in the outer most electronic configuration?

b) Elements of which group show more metallic nature? Why?

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50. A portion of the periodic table is given below

(Hint: The atomic number of atom 'X' is 8)

a) In which period does X belong to?

b) How many electrons are there in the outermost shell of the elements Y?

c) Which one of these elements has highest electronegativity?

d) Why the elements X and Z show similarities in their chemical properties?

'(##VPU_TTT_CHE_IX_C04-E03_043_Q01##)'

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51. A part of the periodic table is given:

a) Write down the electronic configuration of R

b) What is the atomic number of the last element of the period to which C belongs?

c) Which of the given elements has the highest metallic character?

d) Write down the electronic configuration of first element of the period to which P belong?

'(##VPU_TTT_CHE_IX_C04-E03_044_Q01##)'

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52. What are the basis of classification of elements in the modern periodic table?

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53. To which period does actinoides belong?

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54. Which elements among the follwing is a metalloid?

(S, Si, Ca, P)

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55. Element 'A' belongs to third period of the periodic table.This is a noble gas (Symbols are not real)

a) How many electrons are there in the outermost shell of its atom?

b) How many shells are there in the atom?

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56. Identify the wrong and correct statements accordingly:

i) As the size of the atom increases, ionisation energy decreases.

ii) As we move left to right in a period, ionisation energy decreases.

iii) As the ionisation enregy increases, metallic energy increases

iv) As the nuclear charge increases, ionisation energy increases along the period.

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57. Electronic configuration of an atom of an element is 2,8,8 , 2.

a) What is the atomic number?

b) I which of the period and group this element is included in the periodic table?

c) Write the family name of this element.

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58. The element A belongs to second period, 17th group and B belongs to second period, first group (Symbols are not real).

a) Write down the electronic configuration of the elements A and B.

b) Whih among them has the highest ionisation energy?

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59. Lanthanoids and actinoides are given in separate position in the periodic table.

a)Which of them are known as rare earths?

b) Which of them are man made elements?

c) To which period do lanthanoids belong?

d) What is the common name for lanthanoids and actinoides?

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60. A portion belonging to the same period of modern periodic table is given.

$[{}_{13}Al, {}_{14}Si, {}_{15}P, {}_{16}S]$

a) Which one of the given elements belong to the boron family?

b) To which period does these elements belong to?

c) What is the atomic number of the noble gas given in this period?

d) Which is the highest atom among the given elements?

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61. Sodium and sulphur are two elements in the third period in the periodic table.

(Atomic number Na-11, S-16)

a) Which one of them has the highest ionization energy?

b)Which one has the highest electronegative nature?

c) To which period does these elements belong?

Write down the electronic configuration of the element just above the sulfur in the same group of the periodic table.

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