

Quiz (Basic Knowledge of Periodic Table)

- Element X has an atomic number of 15.
 - Deduce the electronic arrangement of an atom of X .
 - In which (i) group (ii) period of the Periodic Table should X be placed?
 - Is X a metal or a non-metal?
 - By referring to the Periodic Table, name element X .
- Element X has an electronic arrangement of 2, 8, 18, 7.
 - To which period and group of the Periodic Table does X belong?
 - What is the special name given to this group?
 - By referring to the Periodic Table, name element X .
- Refer to the following five elements:
 ${}_4\text{Be}$, ${}_6\text{C}$, ${}_{15}\text{P}$, ${}_{16}\text{S}$, ${}_{20}\text{Ca}$
 - Write down the atomic number and electronic arrangement for each element.
 - Which two elements would have similar chemical properties? Explain your answer.
- The atomic number of element P is 20.
 - What is the electronic arrangement of a P atom?
 - Would P conduct electricity? Explain your answer.
 - Which of the following atoms would have chemical properties similar to that of P ?
 ${}_8\text{Q}$ and ${}_{12}\text{R}$
- You are given two elements, ${}_3\text{X}$ and ${}_{11}\text{Y}$.
 - Draw the electron diagram of the atom for each of the above elements.
 - How many occupied electron shells does the atom of each of the above elements have?
 - Do they have similar chemical properties? Explain your answer.

Suggested Answer

- 2,8,5
 - Group V
 - Period 3
 - Non-metal
 - Phosphorus
- Period 4, Group VII
 - Halogens
 - Bromine

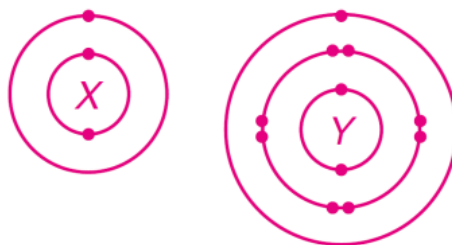
3. (a)

Atom	Atomic number	Electronic arrangement
${}^4\text{Be}$	4	2,2
${}^6\text{C}$	6	2,4
${}^{15}\text{P}$	15	2,8,5
${}^{16}\text{S}$	16	2,8,6
${}^{20}\text{Ca}$	20	2,8,8,2

(b) ${}^4\text{Be}$ and ${}^{20}\text{Ca}$ have the same number of outermost shell electrons, so they would have similar chemical properties.

- 2,8,8,2
 - Yes, because it is a metal.
 - ${}^{12}\text{R}$

5. (a)



(b) ${}^3\text{X}$ has two occupied electron shells and ${}^{11}\text{Y}$ has three occupied electron shells.

(c) Yes, they have similar chemical properties since they have the same number of outermost shell electrons.