

## Periodic Table Important Questions

**Question 1.** State the number of elements in period 1, period 2 and period 3 of the periodic table.

**Question 2.** Name the elements in period 1.

**Question 3.** What happens to atomic size of elements on moving from left to right in a period?

**Question 4.** State the common feature of the electronic configuration of elements at the end of period 2 and 3.

**Question 5.** If an element is in Group 7 [or Group 7 A] is it likely to be metallic or non-metallic character.

**Question 6.** Supply the missing word from those in brackets: If an element has one electron in its outermost energy level [shell] then it is likely to be \_\_\_\_\_ [metallic/non-metallic].

**Question 7.** Complete the sentence choosing the correct word/s from those given in brackets.

- i. The properties of the elements are a periodic function of their \_\_\_\_\_ [atomic number, mass number, relative atomic mass.]
- ii. Moving across a \_\_\_\_\_ of the Periodic Table the elements show increasing \_\_\_\_\_ character [group, period, metallic, non-metallic]
- iii. The element at the bottom of a group would be expected to show \_\_\_\_\_ metallic character than the element at the top [less, more]
- iv. The similarities in the properties of a group of elements is because they have the same \_\_\_\_\_ [electronic configuration, number of outer electrons, atomic numbers.]

**Question 8.** What does a Group in the Periodic Table mean? Within a Group where would you expect to find the element having following properties?

- i. The greatest metallic character,
- ii. The largest atomic size.

**Question 9.** State whether the ionisation potential increases or decreases on going down a Group.

**Question 10.** How many elements are there in Period 2?

**Question 11.** Name the gas that is the most electronegative among all the elements.

**Question 12.** With reference to the first three periods of the modern periodic table answer the following questions:

- i. Write the formula of the sulphate of the element with atomic number 13.
- ii. What type of bonding will be present in the oxide of the element with atomic number 1.
- iii. Which feature of the atomic structure accounts for the similarities in the chemical properties of the elements in-group 7A of the periodic table?
- iv. Name the element that has the highest Ionisation potential.
- v. How many electrons are present in the valence shell of the element with the atomic number 18.
- vi. What is the electronic configuration of the element in the third period that gains one electron to change into an anion?

**Question 13.** What is the name given to the energy released when an atom in its isolated gaseous state accepts an electron to form an anion?

**Question 14.** Fill in the blanks: The atomic size \_\_\_\_\_ as we move from left to right across the period, because the \_\_\_\_\_ increases but the \_\_\_\_\_ remains the same.

**Question 15.** Predict the group of an element X if its atomic number is 16.

**Question 16.** The electro-negativities (according to Pauling) of the element in period 3 of the Periodic Table are as follows: Al [1.5] Cl [3.0] Mg [1.2] Na [0.9] P [2.1] S [2.5] Si [1.8] Arrange the elements in the order in which they occur in the Periodic Table from left to right. [The group 1 element first, followed by group 2 element and so on, up to group 7.]

**Question 17.** Choose the word/phrase from the brackets which correctly completes each of the following statements:

- i. The element below sodium in the same group would be expected to have a \_\_\_\_\_ [lower/higher] electro-negativity than sodium and the element above chlorine would be expected to have a \_\_\_\_\_ [lower/higher] Ionisation potential than chlorine.
- ii. From the left to right in a given period, the number of shells [remains the same / increases / decreases].
- iii. Down a group, the number of valence electrons [remains the same / increases decreases].

**Question 18.** (i) to (v) refer to changes in properties of elements on moving left to right across a period of the Periodic Table. For each property, choose the letter corresponding to the correct answer from A, B, C & D.

- i. Non-metallic character of elements \_\_\_\_\_ A: decreases. B: increases. C: remains same. D: depends on period.
- ii. (ii) The electro-negativity \_\_\_\_\_ A: depends on the number of valence electrons. B: remains the same. C: decreases. D: increases.
- iii. (iii) The ionisation potential \_\_\_\_\_ A: goes up and down. B: decreases C: increases. D: remains the same.
- iv. Atomic size \_\_\_\_\_ A: decreases. B: increases. C: remains the same. D: sometimes increases or decreases.
- v. The electron affinity of the elements in group 1 to 7 \_\_\_\_\_ A: goes up and down. B: decreases and then increases. C: increases. D: decreases

**Question 19.** The element of one short period of the Periodic Table are given below in order from left to right: Li, Be, B, C, O, F, Ne.

- i. To which period do these elements belong? Which is the missing element and where should it be placed.
- ii. Which element exhibits catenation? Place the element F, Be & N in order of increasing electro-negativity.
- iii. Which one of the above elements belongs to the halogen series?