

**BHARATIYA VIDYA BHAVAN'S V M PUBLIC SCHOOL, VADODARA**

**QUESTION BANK**

**CHAPTER 5 – PERIODIC CLASSIFICATION OF ELEMENTS**

**Very short answer type questions – 1 mark each Q1**

: Why do we need to classify elements?

Q2 : How did Dobereiner classify the elements?

Q3 : What was the major limitation of Mendeleev's Periodic Table?

Q4 : The formula of Magnesium Oxide is MgO. Write the formula of Magnesium Chloride.

Q5 : An element has configuration 2,8,3. What is the atomic number of the element?

Q6 : What is the advantage of Mendeleev's Periodic Table?

Q7 : Element 'Y' with atomic number 3 combines with element 'A' with atomic number

17. What would be the formula of the compound?

Q8 : Why is atomic number more important?

Q9 : What is the similarity in the electronic configuration of Mg, Ca & Sr?

Q10 : Name three elements which behaves as metalloids.

**Short answer type questions – 2 Marks each**

Q11 : How do atomic radii vary down the group?

Q12 : Calcium is an element with atomic number 20. Is it a metal or non-metal? Will its size be more or smaller than that of potassium?

Q13 : What is the valency of sulphur? Why?

Q14 : Which can lose electron easily – K or Na? Why?

Q15 : What is the formula of hydrides and oxides of silicon?

Q16 : How were the positions of isotopes of various elements decided in Modern Periodic Table?

Q17 : Write down the electronic configuration of first three elements of group 1?

Q18 : Write the electronic configuration of Li, Be, B, C, N, O, F.

Q19 : Nitrogen and phosphorous belong to group 15 of the periodic table. Write their electronic configuration. Which of these will be more electronegative and why?

Q20 : (a) How would the tendency to gain electrons change as you go from left to right across a period?

(b) How would the tendency to gain electrons change as you move down a group?

**Short answer type questions – 3 Marks each**

Q21 : (a) Write the formula of the sulphate of the element with atomic number 13.

(b) Name an element which requires highest amount of energy to lose electron.

(c) How many valence electrons are present in element with atomic number 18?

Q22 : (a) How many elements are there in periods 2 and 3?

(b) Name elements of first period?

(c) The element has one electron in outermost shell '1'. Will it be metal or nonmetal and why?

Q23 : Consider the following elements :

Ca, O, Ar, S, Be, He

Which of the following element is

(a) Very Stable

(b) Belong to group 2

(c) Belong to group 16

Q24 : Arrange the following elements in the order of increasing chemical reactivity :

(a) Na, K, Li

(b) Na, Mg, Al

(c) Cl, Br, I

Q25 : The following table represents a part of periodic table

Li	Be	B	C	N	O	F
Na	Mg	Al	Si	P	S	Cl
K						Br

From these elements, answer the following questions :

(a) Which element has largest atomic size?

(b) Which element can lose electrons with highest energy?

(c) Which element belongs to alkali metal?

Q26 : Three elements A, B and C have atomic numbers 7,8 and 9 respectively.

(a) What would be their positions in the modern periodic table?

(b) Arrange A, B, C in decreasing order of their size.

(c) Which one of the three element is more reactive and why?

Q27 : Calcium is an element with atomic number 20.

(a) Is it a metal or non-metal?

(b) Will its size be more or smaller than that of potassium?

(c) Write the formula of its chloride.

Q28 : Two elements M and N belongs to group 1 and 2 respectively and they are in the same period of the periodic table. How do following properties of M and N vary?

(a) Size of their atoms

(b) Their metallic character

(c) Their valencies in forming oxides

(d) Formula of their chlorides

Q29 : (a) The atomic number of three elements X, Y and Z are 9, 11 and 17 respectively.

Which of these two elements will show similar characteristics and why?

(b) Chlorine is more electro negative than sulphur. Explain Q30

: Account for the following :

(a) Elements of group 17 are monovalent.

(b) Elements C, N, O and F are placed in the second period of the periodic table.

(c) The elements of 18<sup>th</sup> group of the periodic table are un-reactive.

### Long answer type questions – 5 Marks each

Q31 : An element 'X' is in second period and group 16 of the periodic table.

(a) Is it metal or non-metal?

(b) What is its valency?

(c) What will be the formula of compound 'X' with Na? (d)

What is the name of the element?

Q32 : (i) The elements of the period of the periodic table are given below :

Li, Be, B, C, O, F, Ne

(a) To which period do these elements belong?

(b) One element is missing and where should it be placed?

(ii) Two elements X and Y belongs to group 1 and 2 respectively in the same period.

Compare them with respect to the number of valence electron, valency, metallic character, size of the atoms and formula of their oxides.

