## MCQs Periodic Classification of Elements

1. Newlands relation is called  
(a) Musical Law  
(b) Law of Octaves  
(c) Periodic Law  
(d) Atomic Mass Law

**Answer**

2. Upto which element, the Law of Octaves was found applicable?  
(a) Oxygen  
(b) Calcium  
(c) Cobalt  
(d) Potassium

**Answer**

3. In Mendeleev’s Periodic Table, gaps were left for the elements to be discovered later. Which of the following elements found a place in the Periodic Table later?  
(a) Chlorine  
(b) Silicon  
(c) Oxygen  
(d) Germanium

**Answer**

4. At the time of Mendeleev, the number of elements known was  
(a) 63  
(b) 65  
(c) 62  
(d) 64

**Answer**

5. The properties of eka-aluminium predicted by Mendeleev are the same as the properties of later discovered element:  
(a) Scandium  
(b) Germanium  
(c) Gallium  
(d) Aluminium

**Answer**

6. An atom of an element has the electronic confi-guration 2,8,2. To which group does it belong?  
(a) 4th group  
(b) 6th group  
(c) 3rd group  
(d) 2nd group

**Answer**

7. The arrangement of elements in the Modem Periodic Table is based on their  
(a) increasing atomic mass in the period  
(b) increasing atomic number in the horizontal rows  
(c) increasing atomic number in the vertical columns  
(d) increasing atomic mass in the group

**Answer**

8. Where would you locate the element with electronic configuration 2, 8 in the Modern Periodic Table?  
(a) Group 8  
(b) Group 2  
(c) Group 18  
(d) Group 10

**Answer**

9. Element ‘X’ forms a chloride with the formula XCl2, which is a solid with high melting point. X would most likely be in the same group of the periodic table as:  
(a) Si  
(b) Mg  
(c) Al  
(d) Na

**Answer**

10. Which of these belong to the same period?

|  |  |  |  |
| --- | --- | --- | --- |
| Element | A | B | C |
| Atomic number | 2 | 10 | 5 |

(a) A, B  
(b) B, C  
(c) C, A  
(d) A, B and C

**Answer/ Explanation**

11. Carbon belongs to the second period and Group 14. Silicon belongs to the third period and Group 14. If atomic number of carbon is 6, the atomic number of silicon is  
(a) 7  
(b) 14  
(c) 24  
(d) 16

**Answer**

12. Pick out the chemically most reactive elements from the given triads.  
Li, Na, K F, Cl, Br  
(a) Li and F  
(b) Li and Br  
(c) K and F  
(d) K and Br

**Answer**

13. What is the atomic number of element of period 3 and group 17 of the Periodic Table?  
(a) 10  
(b) 4  
(c) 17  
(d) 21

**Answer**

14. Which one of the following statements is not correct about the trends in the properties of the elements of a period on going from left to right?  
(a) The oxides become more acidic  
(b) The elements become less metallic  
(c) There is an increase in the number of valence electrons  
(d) The atoms lose their electrons more easily

**Answer**

15. The elements A, B and C belong to groups 1, 14 and 17 respectively of the Periodic Table. Which two elements will form ionic compounds?  
(a) A and B  
(b) A and C  
(c) B and C  
(d) None

**Answer**

16. An element X from group 2 of the Periodic Table reacts with Y from group 17 to form a compound. Give the formula of the compound.  
(a) XY2  
(b) XY  
(c) X2Y  
(d) (XY)2

**Answer**

17. A metal ‘M’ is in the first group of the Periodic Table. What will be the formula of its oxide?  
(a) MO  
(b) M2O  
(C) M2O3  
(d) MO2

**Answer**

18. Name the neutral atom in the Periodic Table which has the same number of electrons as K+ and Cl-.  
(a) Helium  
(b) Argon  
(c) Neon  
(d) Krypton

**Answer**

19. An element X combines with oxygen to form an oxide XO. This oxide is electrically con¬ducting. Write the formula of the compound formed when X reacts with chlorine.  
(a) XCl3  
(b) XCl  
(c) XCl2  
(d) XCl5

**Answer**

20. An element X has mass number 40 and contains 21 neutrons in its atom. To which group of the Periodic Table does it belong?  
(a) Group 1  
(b) Group 4  
(c) Group 2  
(d) Group 3

**Answer/ Explanation**

21. Consider the following elements  
20Ca, 8Or 18Ar, 16S, 4Be, 2He  
Which of the above elements would you expect to be in group 16 of the Periodic Table?  
(a) 20Ca and 16S  
(b) 20Ca and 8O  
(c) 18Ar and 16S  
(d) 8O and 16S

**Answer**

22. An element ‘A’ belongs to the third period and group 16 of the Periodic Table. Find out the valency of A.  
(a) Valency = 6  
(b) Valency = 2  
(c) Valency = 1  
(d) Valency = 3

**Answer**

23. Which one of the following statements is not correct about the trends in the properties of the elements of a group on going down in a group?  
(a) The chemical reactivity of metals increases.  
(b) The metallic character of elements increases.  
(c) The size of the atom increases.  
(d) The valence electrons increase.

**Answer**

24. Which of the following set of elements is written in order of their increasing metallic character?  
(a) Na Li K  
(b) C Q N  
(c) Mg Al Si  
(d) Be Mg Ca

**Answer**

25. The atom of an element has electronic con-figuration 2, 8, 7. To which of the following elements would it be chemically similar?  
(a) N(7)  
(b) P(15)  
(c) Na(11)  
(d) F (9)

**Answer/ Explanation**

Fill in the blanks

1. The concept of grouping elements into triads was given by ……… .  
2. Mendeleev’s basis for the Periodic Table is ……… .  
3. The basis for Modern Periodic Table is ……… .  
4. (a) Metallic character ……… down the group.  
(b) Atomic size ……… along the period.  
(c) Electronegative character ……… down the group.  
5. Isotopes belong to the same ……… in the Periodic Table.  
6. Halogens belong to group ……… of the Periodic Table.  
7. An element having electronic configuration (2, 8, 2) belongs to the ……… group.  
8. Atoms of different elements with the same number of occupied shells are placed in the same ……… .  
9. Valency of elements ……… and then ……… as we move across the period while it remains the same down the group.  
10. Non-metals are located on the ……… side of the Periodic Table.

Answers

1. Dobereiner  
2. atomic mass  
3. atomic no.  
4. (a) increases  
(b) decreases  
(c) decreases  
5. position  
6. 17  
7. 12th  
8. Period  
9. increases, decreases  
10. right