XI Chemistry

Periodic Classification / Work Sheet

One mark

1. The first ionization potential of Na is 5.1eV. The value of electron gain enthalpy of Na^+ will be
2. The correct order of shielding effect of s, p, d, f orbitals.
3. Predict the order of electron affinity of halogens.
4. Among the noble gas which one has high boiling point. Why?
5. Formula to find effective nuclear charge in an atom?
6. In modern periodic table, the period indicates which quantum number?
7. Assign the position of elements having outer electronic configuration $ns^2 np^4$ for n=3?
8. What is the most common oxidation state of group II elements?
9. What is the outer most electronic configuration of halogens?
10. Predict the factor affecting t he size of isoelectronic species.
11. Predict the IUPAC name for atomic number (Z = 109)
12. What is the principal defect in Mendleef periodic table?
13. What is the unit of ionization enthalpy?
14. Arrange the following ionization potential IE_1, IE_3, IE_4, IE_2
15. What is the outermost electronic configuration of noble gases?

Two marks

16. Why atomic radius is also called covalent radius?
17. State modern periodic law?
18. What is ionization potential?
19. What is electron affinity?
20. What is electronegativity?
21. Compare the ionization potential of Nitrogen and Oxygen?
22. Compare the ionization potential of Boron and beryllium?
23. Why electron affinity for noble gases is zero?
24. Electron affinity of fluorine is less than that of chlorine?
25. What is inert pair effect?
26. Why alkali metals show low ionization potential?
27. Why D block elements exhibit variable oxidation states?
28. What is Fajan's rule?-
29. Why do elements in the same group have same physical and chemical properties?
30. Write any two differences between electron gain enthalpy and electronegativity?
31. What are the differences between metals and non metals?
32. Why D block elements exists as coloured compounds?
33. What are Amphoteric oxides? Give two examples.
34. Write the general outer electronic configuration of s, p, d, f block elements?
35. Why cation is always smaller and anion is always larger than parent atom?

three copies

A. —

Three marks

36. Among the following elements

Na, Li, K, Rb, Fr, Cs

i. Arrange them in increasing atomic radius.

ii. Which element has more metallic character?

iii. What is the most common oxidation state?

37. Among the following elements

Ti, Sc, Cr, Zn, Cu, Mn, Fe

i. What is the general outer most electronic configuration?

ii. Predict the element with $3d^1$ electronic configuration?

iii. Which element has high paramagnetic character?

38. List out the general characteristics of p block elements?

39. Discuss the factor affecting electron affinity?

40. Among the elements B, Al, C and Si

i. Which element has the highest ionization potential?

ii. Which element has the most metallic character?

iii. Compare the ionization potential of Al and Si?

41. What is ionization potential? How does it varies along the period and down the group?

42. Consider the following species

N^{3-}, O^{2-}, F^-, Na^+, Mg^{2+} and Al^{3+}

i. What is common in them?

ii. Arrange them in increasing order of ionic radii.

iii. What is isoelectronic species.

43. a. Why D block elements is also called transition elements?

b. Why F block elements is also called inner transition elements?