7. Out of Cu^{2+}, Fe^{2+} and Cr^{3+}, which ion is most paramagnetic and why?

8. The electronic configuration of valence shell of Cu is $3d^{10}4s^1$ and not $3d^94s^2$. How is this configuration explained?

9. Write the electronic configuration of ${}_9F^{19}$, ${}_{16}S^{32}$ and ${}_{18}Ar^{38}$ and then point out the element with
   (i) maximum nuclear charge.
   (ii) minimum number of neutrons.
   (iii) maximum number of unpaired electrons.

10. In each of the following pairs of salts, which one is more stable?
   (i) Ferrous and ferric salts
   (ii) Cuprous and cupric salts

11. (i) An atomic orbital has $n = 3$. What are the possible values of l and m_l?
   (ii) List the quantum numbers (m_l and l) of electrons for 3*d*-orbital.
   (iii) Which of the following orbitals are possible? $1p, 2s, 2p$ and $3f$.

12. Indicate the number of unpaired electrons in
   (i) P (ii) Si (iii) Cr (iv) Fe (v) Kr

13. (i) Write the electronic configurations of the following ions.
   (a) H^- (b) Na^+ (c) O^{2-} (d) F^-
   (ii) What are the atomic numbers of elements whose outermost electrons are represented by
   (a) $3s^2$ (b) $2p^3$ (c) $3p^5$?
   (iii) Which atoms are indicated by the following configuration?
   (a) [He] $2s^1$ (b) [Ne] $3s^23p^3$
   (c) [Ar] $4s^23d^1$