CHAPTER 2 STRUCTURE OF ATOM

1.How many electrons in Sulphur (Z=16) can have n + l=3 ?

2. Which series of hydrogen spectrum lies in (i) visible region and (ii) UV region ?

3.Which orbital is a non-directional?

4. What is the wavelength of light emitted when the electron in a hydrogen atom undergoes transition from an energy level with n=4 to an energy level with n=2 ?

5.What is the total number of orbitals associated with the principal quantum number n=3?

6.Write electronic configuration of Cr^{2+} (At.no=24) and O^{2-}(At.no.=8).

7.In Rutherford's experiment generally the thin foil of heavy atoms like gold, platinum etc have been exposed to the alpha particles .If thin foil of light atoms such as aluminium is used , what differences would be observed from the above results?

8.(a)How many electrons will be present in the sub-shells having $m_s$value of -1/2 for

n=4?

(b)How many sub-shells are associated with n=4?

CHAPTER 3 CLASSIFICATION OF ELEMENTS

1.Arrange the elements P, Cl,O and N in the correct order of their chemical reactivity in terms of oxidizing property?

2.What are d-block elements ? Why are they called transition metals ? Give general electronic configuration of d-block elements.

3.A and B belong to same group of periodic table . A has higher atomic number than B. Which will have lower ionization energy and why?

4. Explain why cations are smaller and anions are larger in radii than their parent atoms.

5. Why do elements in the same group have similar physical and chemical properties?

6. What is the basic difference between the terms electron gain enthalpy and electronegativity?

CHAPTER10 S-BLOCK ELEMENTS.(second term)

1.Potassium carbonate cannot be prepared by Solvay's process why?

2. Why is second ionization energy of alkali metals higher than alkaline earth metals?

3.Give a brief account on the following

(i) KO_2 is paramagnetic in nature .

(ii) Sodium is stored under kerosene oil.

4. What happens when

(i) magnesium is burnt in air

(ii) quick lime is heated with silica

(iii) $Cl_2(g)$ reacts with slaked lime ?

5. Explain the significance of sodium, potassium, magnesium and calcium in biological fluids.

CHAPTER 11 P-BLOCK ELEMENTS(second term)

1.What property of anhydrous $AlCl_3$ makes it a very good preparative reagent in organic chemistry ?

2.State with equation what happen when borax is heated on a platinum wire loop and the resulting transparent mass is heated with CoO in Bunsen burner.

3. How is excessive content of CO_2 responsible for global warming?

4.Explain structures of diborane and boric acid.

5.Give reason

(i) Graphite is used as lubricant

(ii) Diamond is used as an abrasive

(iii) Aluminium alloys are used to make air craft body

(iv) Aluminium utensils should be kept in water overnight

6. What do you understand by

(i) Inert pair effect

(ii) allotropy

(iii) Catenation ?