MAR THOMA RESIDENTIAL SCHOOL,TIRUVALLA

FIRST ASSESSMENT AUGUST 2020-2021

CHEMISTRY   TIME :30MIN

CLASS :XI   MARKS 20

1. Write the electronic configuration of copper and ferrous ion   **[2]**
   [Z of Cu= 29,Z of Fe = 26]

2. (a) What are degenerate orbitals?   **[2]**
   (b) What is the physical significance of φ^2

3. (a) Which orbital does not have directional characteristics?   **[2]**

   (b) Which energy level does not have P orbital?

   (c) Which quantum number specifies orientation of orbitals in space?

   (d) How many radial nodes are present in 5f orbital?

4. A spectral line in the Balmer series of hydrogen spectrum corresponds to

   Wavelength 6561 A^0 .Find the energy levels involved in the transition   **[2]**

   [R_H = 109677 cm^{-1}]

5. A 25 watt bulb emits monochromatic yellow light of wavelength 0.57μm

   Calculate the rate of emission of quanta per second.   **[2]**

6. The uncertainity in position and velocity of a particle are 10^{-10}m and **[2]**

   5.27 x 10^{-24} m/s .Calculate the mass of the particle.

   [h =6.626 x 10^{-34} Kg m^{2}s^{-1}]

7. (a) Give four difference between orbit and orbital   **[4]**

   (b) State and explain Hunds Rule of maximum multiplicity with example

. 8. (a) State Photo electric effect   **[4]**

   (b) A photon of wavelength 4 x10^{-7}m strikes metal surface .The work

      Function of metal being 2.13 eV. Calculate the energy of photons in

   Electron volt,kinetic energy of emitted photon and velocity of photon.