D.A.V PUBLIC SCHOOL, KURUKSHETRA
SUMMER VACATION ASSIGNMENT
CLASS XII
SUBJECT-CHEMISTRY
UNIT 1,2,3

1. State law of multiple proportion . Explain it with the help of example.
2. 0.7 g Fe combines with 0.4 g of S to formFeS. 2.8g of Fe dissolved in HCl Precipitates out 4.4g FeSon treatment with Na_2s. Prove that it obeys law of constant proportion.
3. Calculate the total number of electrons in 1.6g of methane .
4. From 200mg of CO_2,10^{21}molecules are removed. How many mg and moles of CO_2 are left ?
5. The %age composition of F.A.S is 14.32% Fe^{2+}, 9.20% NH_4^+, 49.0% $SO_4^{2-}$and 27.57% H_2O. What is the empirical formule of the compound [F.A.S is ferrous ammonium sulphate]
6. 2.0g of Mg is burnt in 1.0g of 0_2 Which is the limiting reagent ? What is the amount of MgOformed ?
7. The density of 3M solution of NaCl is 1.25g/ml. Calculate molality of solution.
8. What information regarding quantum nos. is given by $3d^7$?
9. The ionization energy oh H atom is 13.6 eV . What will be the ionization energy of $He^+$and li^{2+} ?
10. Calculate the momentum of of a particle which has a de Brogle's wavelength of 10^{-10}m.
11. The uncertainity in position and velocity of a particle are 10^{-10}m and 5.27 X $10^{-24}ms^{-1}$respectively.Calculate the mass of the particle?

12. State Pauli's exclusion principle?
13. Write the following orbiltals in increasing order of energy:

    1S,2S,2P,3S,3d,4S,4P,4cl,4f
14. Give the quantum no. of the last electron of element atomic number 17.
15. What is the ratio between the energy of two radiations of one with a wavelength of 6000A^o and the other with 2000A^o.
16. Explain why cations are small and anions are larger on ratio than their parent atom?
17. What would be IUPAC names and symbols for elements with atomic no. 150.
18. Arrangethe following ions in order of decreasing ionic ratio : li^{2+},He^{+},Be^{3+}.
19. Give four examples of species which are isoelectronic with Ca^{2+}.
20. Why are electron gainenthalpies of Be and Mg positive.
21. Explain why chlorine can be converted into chloride ion more easily as compared to fluoride ion from fluorine.
22. Write the general E.C Of S,P,d,and f block elements?
23. Why chlorine has highest electron gain enthalpy although fluorine is most electronegative element?
24. Electron gain enthalpy of noble gases is positive. Explain?
25. Though Cu,Ag and Au atoms have completely filled sets of d^- orbitals yet they are called transition metals. Why?