## MID TERM EXAMINATION AUGUST- 2012

**CLASS: - XI SCIENCE** **MAX MARKS : 20**

**DAY: – FRIDAY** **(SUBJECT: CHEMISTRY)** **DATE : 10-08-2012**

**TIME: - 09.00 AM. TO 10.00 AM** **DURATION: 1 HOUR**

**TOTAL NUMBER OF QUESTIONS: 2** **TOTAL NUMBER OF PRINTED PAGES: 1**

***INSTRUCTIONS:*** (1) Figures to the right-indicate full marks.

(2) Use of calculators is not permitted, however mathematical tables will be provided on request.

(3)Atomic masses & Constants:
K=39,Al=27,S=32,H=1,C=12,N=14,O=16,$N_A$=$6.023\times10^{23}$

---

**Q.NO.1]**

**A.** Determine the empirical formula of a salt which has percentage composition of different elements as follows Potassium=15.1%, Aluminium =10.5%, sulphur=24.96% and Oxygen=49.92%. (3 marks)

**B.** Calculate the molecular mass and percentage composition of the following : (2 marks)

(i) $CO_2$ (ii) $NH_3$

**C.** State the following and give one example. (2marks)

I. Law of Conservation of Mass

II. Law of Constant Composition

**D.** Write two points of difference between Homogenous and Heterogeneous mixtures with two examples of each. (2marks)

**E.** What is a Limiting reagent? (1mark)

**Q.NO.2]**

**A.** Draw a neat labeled diagram showing generation of cathode rays and write the properties of cathode rays and anode rays. (3 marks)

**B.** Using s, p, d notations, designate the orbital with the following quantum numbers. (2 marks)

(a) n=1, l = 0 (b) n = 3 , l =1 (c) n = 4, l = 2 (d) n = 4, l = 3

**C.** Determine the possible values of quantum numbers **n , l , $m_l$** for the M shell of an atom (2marks)

**D.** Answer the following. (2marks)

a) Write the electronic configuration of the following elements.

1) Ca 2) Cu

b) Why does chromium show exceptional electronic configuration of $[Ar]4s^1 3d^5$ ?

**E.** State the Pauli's exclusion principle? (1mark)