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Your Roll No . . .

5168

B.Sc. (Prog.) / II J
CH-201 : INORGANIC CHEMISTRY
(N.C. – Admissions of 2008 onwards)

Time : 2 Hours **Maximum Marks : 50**

(Write your Roll No on the top immediately on receipt of this question paper)

Attempt any **four** questions

1 (a) Describe modes of occurrence of metals on the basis of their standard redox potential value [E°] **(4½)**

(b) Describe Mond's process for the purification of nickel **(4)**

(c) Write a short note on KROLL process **(4)**

2 (a) What is inert pair effect ? Explain the concept of inert pair effect by taking group 14 elements as an example **(4½)**

(b) Why beryllium resembles with aluminium in its properties ? **(4)**

(c) Write short note on allotropy **(4)**

3 (a) Explain the concept of multi center bonding (Diborane) (4½)

(b) Applications of any **two** of the following (4)

(i) PCl_5

(ii) Hydrazine (N_2H_4)

(iii) $SOCl_2$

(c) Give the names, formulas and structure of two oxyacids of sulphur (4)

4 (a) Write the method of preparation of hydrazine from ammonia, write down two reducing property of hydrazine (4½)

(b) What happens when (4)

(1) PCl_3 hydrolyses

(2) PCl_5 hydrolyses

(c) How will you prepare hydroxylamine from NO ? Explain the reducing and oxidizing properties of hydroxylamine (4)

5. Write short note on following

(i) Borazine (4½)

(ii) Silicates (4)

(iii) Role of Ca^{2+} in blood clotting (4)

6. (a) Describe the role and function of Na/K pump with the help of diagram (4½)

(b) Discuss the toxicity due to CO and mercury with their antidotes (4)

(c) Discuss the toxicity due to Pd & SO_2 with their antidotes (4)
