Reg.No. | | | | | | | | | | | |

D.K.M.COLLEGE FOR WOMEN (AUTONOMOUS), VELLORE-1

SEMESTER EXAMINATIONS

APRIL – 2016 15CPCH2B

INORGANIC CHEMISTRY - II

Time : 3 Hrs **Max. Marks : 75**

SECTION-A (5x 6 =30)

Answer ALL the questions.

1. (a) Explain the defects developed due to metal excess and metal deficiency non – stoichiometric compounds. Give examples.

   (Or)

   (b) What are fullerenes? Write their chemistry.

2. (a) Describe the mechanism of different types of diffusion.

   (Or)

   (b) List out the differences between Corrin and Porphyrin ring systems.

3. (a) Give the significance of bridging ligands.

   (Or)

   (b) Discuss the mechanism of replacement of coordinated water.

4. (a) What are the salient features of nuclear shell model?

   (Or)

   (b) Write notes on Cherenkov counter and its applications.

5. (a) Explain Carbon burning.

   (Or)

   (b) What are the principle and applications of fast breeder reactors?

SECTION-B (3x15 =45)

Answer any THREE of the following questions.

6. Write notes on (5+5+5)
   (a) Superconductors.
   (b) Guoy method.
   (c) Photochromic materials and their applications.

7. (a) What are the functions of rubredoxins and ferredoxins? (7+8)
   (b) Mention the role of Na, K, Ca and Zn in biological processes.

8. (a) How are cis and trans isomers of $[Pt\ Cl_2(NO_2)(NH_3)]^+$ prepared from $[Pt\ Cl_4]^{2-}$? (5+5+5)
   (b) Which one of the following electron transfer reactions will be fast?
   $[Co(NH_3)_6]^{2+}$ to $[Co(NH_3)_6]^{3+}$ or $[Fe(CN)_6]^{4-}$ to $[Fe(CN)_6]^{3-}$
   (c) Give an account of Marcus theory and its applications.

9. Explain the following (5+5+5)
   (a) Nuclear isomerism (b) Orbital electron capture (c) Internal conversion.

10. (a) Discuss the mechanism of nuclear fission reaction. (5+5+5)
    (b) Write notes on nuclear reaction cross section.
    (c) Give an account of photonuclear reactions.

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