

RAMAKRISHNA MISSION VIDYAMANDIRA

(Residential Autonomous College under University of Calcutta)

SECOND YEAR

B.A./B.SC. THIRD SEMESTER (July – December) 2014

Mid-Semester Examination, September 2014

Date : 16/09/2014

CHEMISTRY (General)

Time : 12 noon – 1 pm

Paper : III

Full Marks : 25

1. Answer all the questions :

- a) Why the molecular formula of nitrogen is N_2 and in case of phosphorous it is P_4 ? Explain [2½]

Or,

Explain the chemical inertness of nitrogen.

- b) PF_3 is slowly hydrolysed than PCl_3 . Explain. [2½]

- c) Why a little amount of glue or gelatin is added in the preparation hydrazine from ammonia and sodium hypochlorite. [2½]

- d) Hydroxylamine shows both oxidising and reducing properties. Explain with reactions. [3]

Or,

Write the preparation of hydrogenazide in the laboratory.

- e) Why is different hydrolytic products are obtained from NCl_3 and PCl_3 ? Explain. [2½]

Or,

What happens with Bi_2O_3 is treated with 40% NaOH solution and chlorine (g).

- f) What do you mean by C.F.C? Write down the harmful effect of C.F.C on atmosphere. [3]

- g) Write the preparation and uses of dry ice. [3]

Or,

What is xenate and perxenate? How can you prepare it?

- h) Solubility of iodine in water increases in presence of KI. Explain [2]

- i) Write down the autoionisation product of BrF_3 and determine their shape (according to VSEPR theory) [2]

- j) Conductivity of BrF_5 increases in presence of NOF or AgF. Explain. [2]

Or,

What is pseudohalide? CN^- is a pseudohalide. Justify

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