

# RAMAKRISHNA MISSION VIDYAMANDIRA

(Residential Autonomous College affiliated to University of Calcutta)

SECOND YEAR [2015-18]

B.A./B.Sc. THIRD SEMESTER (July – December) 2016

Mid-Semester Examination, September 2016

Date : 16/09/2016

**CHEMISTRY (General)**

Time : 12 noon – 1 pm

Paper : III

Full Marks : 25

[Answer any five questions]

1. How Hydroxylamine is prepared? Discuss both the oxidising and reducing properties of hydrazine. [2+3]
2. Compare the—
  - a) Basic properties
  - b) Reducing properties
  - c) Stability of the hydrides of  $MH_3$  [where M is Gr. 15 elements] [2+1·5+1·5]
3. Explain the acidities and reducing properties of three oxyacids of P. [2·5+2·5]
4. What do you mean by '10 vol of  $H_2O_2$ '
  - a) Express its strength in gms/lit
  - b) Why  $CO_2$  is linear but  $SO_2$  is bent? [1+2+2]
5. How sodium thiosulfate is prepared in the laboratory? What is the equivalent weight of Sodium thiosulphate (Molecular weight is M). Give equations when Sodium thiosulfate reacts with  $I_2$ ? [2+1+2]
6.
  - a) Give brief introduction on interhalogen. [3]
  - b) Solubility of  $I_2$  in  $H_2O$  increases by addition of KI, explain with reason. [2]
7.
  - a) Explain with example, symmetrical and unsymmetrical cleavage of  $B_2H_6$ . [3]
  - b) How can you prepare Borazole? [2]
8.
  - a) Write short note on pseudohalogens. [3]
  - b) How can you prepare diborane? [2]

————— × —————