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V. P. & R. P. T. P. SCIENCE COLLEGE, V.V. NAGAR

INTERNAL TEST: MARCH-2014

T. Y. B. Sc. Semester-VI

Sub.:- Inorganic Chemistry (US06CCHE04)

Date: 13/03/2014 **Time: 3.30 pm to 5.00 pm**

Day: Thursday **Total Marks : 30**

Note: (i) All questions are to be attempted.

(ii) Figures to the right of each question indicate full marks.

Q : 1 Answers the following short questions**(any three)** [6]

(1) State *'Pilling-Bed worth'* rules of oxidation corrosion.

(2) Give the mechanism of oxidation corrosion.

(3) How will you prepare useful alloy of copper with aluminium?

(4) List any two low melting alloys and give their uses.

(5) Give only chemical reactions involved in Birkland and Eyde process for the manufacture of nitric acid.

(6) Explain concentration of chamber acid by Gaillard Tower.

Q : 2 [A] Explain the term *'passivity'* and give its alternative definitions. [4]

[B] Corrosion starts from metal joints. Explain. [4]

OR

Q : 2 [A] Describe the factors determining rate of corrosion for metal sheltered from rain. [4]

[B] What is meant by concentration cell corrosion? Explain briefly. [4]

Q : 3 [A] Write note on: Melting point of alloys. [4]

[B] Explain interstitial alloys and discuss the phase diagram of iron carbide alloy. [4]

OR

Q : 3 [A] Discuss the general relationship (rules) established by careful study of inter-metallic compounds. [4]

[B] Discuss how size and valence of metals play an important role in formation of different types of alloys? [4]

Q : 4 [A] Discuss the manufacturing process of sulphuric acid by contact process with required diagram and suitable theory.

[B] Give the chemical properties and uses of sodium hydroxide. [4]

OR

Q : 4[A] Discuss the Oswald's process for the manufacture of nitric acid. [4]

[B] Discuss the chemical properties of sulphuric acid under headings: [4]

(i) Affinity for the water (ii) Action on metals

(iii) Oxidizing action