



B.E DEGREE EXAMINATIONS: JUNE 2015

(Regulation 2009)

Second Semester

CHY103: APPLIED CHEMISTRY

(Common to AE/AUE/ME/MCE)

Time: Three Hours

Maximum Marks: 100

Answer all the Questions:-

PART A (10 x 1 = 10 Marks)

- Which of the following coal variety contains high calorific value?
 - Peat
 - Lignite
 - Anthracite
 - Bituminous
- Name the gas which is not identified by Orsat's method.
 - CO
 - CO₂
 - O₂
 - H₂
- Select the artificial abrasive material from the following engineering materials.
 - Diamond
 - Quartz
 - Emery
 - Boron Carbide
- Find out the polymer which is used for heat resistant purpose in roofs.
 - Polyamide
 - Thermocole
 - Polycarbonates
 - Polyurethanes
- What type of corrosion takes place when iron rod is immersed in water tank?
 - Galvanic corrosion
 - Water corrosion
 - Water line corrosion
 - Stress corrosion
- Recall the role of anti skinning agent in paint.
 - Prevents the peeling of paint film
 - Diluting the paint
 - Provides high elasticity
 - Increases the volume of the paint
- Which one of the following salt not imparts the hardness in water?
 - CaCl₂
 - NaCl
 - MgCl₂
 - CaSO₄
- Name the salt which involves in caustic embrittlement in boilers from the following

23. a) i) Analyze briefly on factors influencing the rate of corrosion. (7)
ii) Demonstrate briefly on corrosion controlled by cathodic protection and sacrificial anode methods. (7)

(OR)

- b) i) List out and discuss the various constituents and their functions in paint. (7)
ii) Illustrate briefly on electroplating of copper. (7)

24. a) i) Analyze briefly on external treatment of water by ion-exchange method. (7)
ii) Explain the desalination process of hard water by reverse osmosis. (7)

(OR)

- b) i) Examine the process of calgon and phosphate conditioning in internal treatment of water. (7)
ii) Illustrate the various steps involved in domestic water treatment. (7)

25. a) i) Demonstrate briefly on construction of phase diagram by thermal analysis. (7)
ii) Illustrate the simple eutectic system of Pb-Ag binary alloy. (7)

(OR)

- b) i) Explain briefly on any four techniques of preparation of metal powders. (7)
ii) Summarize the advantages and limitations of powder metallurgy. (7)
