



KUMARAGURU
college of technology
character is life

Register Number:

B.E DEGREE EXAMINATIONS: DEC 2014

(Regulation 2013)

Second Semester

U13CHT202 :APPLIED CHEMISTRY

(Common to AERO/AUTO/ME&MCT)

Time: Three Hours

Maximum Marks: 100

Answer all the Questions:-

PART A (10 x 1 = 10 Marks)

- Metallurgical coke is prepared by
 - Bergius method
 - Thomson method
 - Otto Hoffman method
 - Chemical reduction method
- Calorific Value of fuel determined by using _____
- Which of the following is not a property of lubricant
 - Aniline Point
 - Viscosity Index
 - Porosity
 - Carbon residue
- The MOH's scale of hardness of emery is _____
- If corroding environment is acidic, the gas liberated at the cathode area
 - N₂
 - H₂
 - O₂
 - Cl₂
- In differential aeration corrosion more aerated area is _____
- Calgon is
 - Calcium hexa meta phosphate
 - Sodium hexa meta phosphate
 - Magnesium Phosphate
 - Di Sodium Hydrogen Phosphate
- Sodium di hydrogen phosphate used as a conditioning agent for _____ water
- The temperature at which two solid phases and one liquid phase are in equilibrium is called
 - Eutectic point
 - Triple point
 - Freezing point
 - Melting point
- The first successful metal filament was made from _____

PART B (10 x 2 = 20 Marks)

(Not more than 40 words)

11. What is cracking of petroleum?
12. Define Calorific Value.
13. How silicon carbide is manufactured?
14. Classify the lubricant with example.
15. What is pitting corrosion?
16. Give the functions of pigments.
17. Differentiate scale and sludge?
18. What is desalination?
19. State phase rule.
20. How the metal powder is prepared by electrolytic process?

PART C (5 x 14 = 70 Marks)

(Not more than 400 words)

Q.No. 21 is Compulsory

21. Describe the process of domestic water treatment.
22. a) (i) Write in detail about the proximate analysis of coal. (7)
(ii) Explain the manufacture of synthetic petrol by Fischer Tropsch method. (7)
- (OR)**
- b) (i) Describe the manufacture, average composition and uses of producer gas (7)
(ii) Discuss the analysis of flue gas by Orsat apparatus (7)
23. a) (i) Write in detail about the various natural abrasive materials. (7)
(ii) Give the preparation and properties of magnesite bricks and zirconia bricks (7)
- (OR)**
- b) Discuss how the various properties of lubricants is determined.
24. a) (i) Discuss the mechanism of electrochemical corrosion (7)
(ii) Explain how the corrosion can be controlled by sacrificial anodic method. (7)

(OR)

- b) (i) Explain the various factors influence the rate of corrosion (7)
(ii) What are the objectives of electroplating? Describe the method of Electroplating of copper. (7)
25. a) (i) Explain the Lead-Silver system with a neat phase diagram. (7)
(ii) Discuss the advantages and limitations of powder metallurgy. (7)
- (OR)**
- b) (i) Write a note on preparation of metal powder by mechanical pulverization and atomization process. (7)
(ii) How phase diagram is constructed from thermal analysis(data). (7)
