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I/IV B.Tech (Regular) DEGREE EXAMINATION

DECEMBER, 2018

Computer Science and Engineering

First Semester

Engineering Chemistry

Time: Three Hours

Maximum : 50 Marks

Answer Question No.1 compulsorily.

(1X10 = 10 Marks)

Answer ONE question from each unit.

(4X10=40 Marks)

(1X10=10 Marks)

1. Answer all questions

- What is alkalinity of water?
- Write any two examples for coagulants.
- What is meant by colloidal conditioning?
- Define entropy.
- What is "Pilling-Bedworth rule"?
- Define Anti knocking agent. Give an example
- Define calorific value of fuel.
- Write the main constituents of LPG.
- What is Markownikoff's rule?
- What is conducting polymer?

## UNIT – I

- 2.a Distinguish between hard water and soft water. 3M
- 2.b Explain the following i).Boiler corrosion ii). prevention methods of scale 7M

(OR)

- 3.a Explain any three disinfection methods. 5M
- 3.b Explain the method of treatment of brackish water by Electro dialysis. 5M

## UNIT – II

- 4.a Derive Nernst equation for single electrode potential. 4M
- 4.b Explain Chemical or Dry corrosion and its mechanism 6M

(OR)

- 5.a Explain how corrosion of a material is controlled by Cathodic protection method. 6M
- 5.b Write short note on Electro less plating of Nickel. 4M

## UNIT – III

- 6.a Discuss the determination of calorific value of solid fuel by Bomb calorimeter. 7M
- 6.b Write short note on cetane number 3M

(OR)

- 7.a Write short note on refining of crude petroleum. Write various fractions obtained from petroleum. 7M
- 7.b What are Bio Fuels? Write any one method for the preparation of Bio diesel. 3M

## UNIT – IV

- 8.a Explain with mechanism of  $SN^1$  and  $SN^2$  reactions 6M
- 8.b Explain a method of synthesis of "Aspirin" 4M

(OR)

- 9.a Distinguish between Thermoplastic and Thermosetting polymers 6M
- 9.b Explain the preparation and applications of any one of Biodegradable polymers. 4M