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SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)

B.Tech I Year I Semester Supplementary Examinations December-2021

ENGINEERING CHEMISTRY

(Common to ECE, CSE & CSIT)

Time: 3 hours

Max. Marks: 60

(Answer all Five Units 5 x 12 = 60 Marks)

UNIT-I

- 1 a Describe the construction of lead-acid battery with the reactions occurring during discharge. **6M**
b Explain the working principle of methanol-oxygen fuel cell with reactions. **6M**

OR

- 2 a What is the process for Nickel plating? Explain its main objectives and uses. **6M**
b Discuss about Impressed Current Cathodic protection? **6M**

UNIT-II

- 3 Describe ion-exchange process for demineralization of water with a neat sketch. **12M**

OR

- 4 a Write a note on Calgon, phosphate, colloidal, sodium aluminate conditioning. **8M**
b Discuss about Boiler corrosion. **4M**

UNIT-III

- 5 a Describe the method employed for the refining of petroleum with neat diagram. **10M**
b Mention the merits and Demerits of power alcohol. **2M**

OR

- 6 a How viscosity of lubricating oil is determined by Redwood viscometer? **8M**
b Write the important functions of Lubricants. **4M**

UNIT-IV

- 7 a Discuss the mechanism of Cationic addition polymerization with suitable example. **7M**
b How is Teflon prepared? Give its properties and uses. **5M**

OR

- 8 a Discuss the functions of various ingredients used in the compounding of rubber? **7M**
b Write the preparation properties and engineering applications of styrene rubber. **5M**

UNIT-V

- 9 a Explain detailed about manufacture of Portland Cement. **10M**
b What are Refractories? **2M**

OR

- 10 a Explain in detail about principles of semiconductors. **6M**
b What are applications of nanomaterials in chemistry? **6M**

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