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SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)
B.Tech I Year II Semester (R16) Supplementary Examinations Dec 2017
ENGINEERING CHEMISTRY
(Common to CE, EEE & ME)

Time: 3 hours

Max. Marks: 60

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

UNIT-I

- 1 a. Define Rechargeable batteries? Write a short note on Ni-Cd batteries. 6M
 b. Explain Hydrogen-Oxygen fuel cell with cell reactions. 6M

OR

- 2 What is cathodic protection? Explain Sacrificial anode and impressed current cathodic protection. 12M

UNIT-II

- 3 a. Define hardness. What are the units to express hardness of water? 6M
 b. Explain scale and sludge formation in boilers. Mention any two prevention methods. 6M

OR

- 4 Describe the Permutit process for demineralization of water? what are the advantages and disadvantages of ion exchange process? 12M

UNIT-III

- 5 a. What is the significance of octane number? 4M
 b. Describe any one method used for the synthesis of Gasoline. 8M

OR

- 6 a. Write the functions of lubricants. 4M
 b. Determine the viscosity of lubricating oil by Redwood Viscometer 8M

UNIT-IV

- 7 a. Distinguish between thermoplastics and thermosetting plastics. 6M
 b. Write a note on compounding of rubber. 6M

OR

- 8 What are conducting polymers? How are they classified? write their engineering applications. 12M

UNIT-V

- 9 Explain the chemistry of the manufacture of cement by wet process 12M

OR

- 10 a. Write a short note on quantum dots. 4M
 b. Discuss properties of carbon nana tubes and Fullerenes. 8M

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