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

**B.Tech I Year II Semester Supplementary Examinations February-2022**

**ENGINEERING CHEMISTRY**  
(Common to AGE, CE, EEE & ME)

Time: 3 hours

Max. Marks: 60

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

**UNIT-I**

- 1 Define fuel cell. Explain the construction, uses and disadvantages of Methanol-Oxygen fuel cell. 12M

**OR**

- 2 a Write a note on Galvanic cell with suitable examples? 6M  
b Explain in detail about Lithium ion batteries. 6M

**UNIT-II**

- 3 Describe the Ion exchange process for demineralization of water. What are its advantages and disadvantages? Give its regeneration process. 12M

**OR**

- 4 Describe the permutit process for softening of water. What are the advantages and disadvantages of permutit process? 12M

**UNIT-III**

- 5 a Write a note on synthetic petrol by Fischer-Tropsch process. 6M  
b Write a short note on Aniline point & Neutralization number. 6M

**OR**

- 6 Describe the method employed for the refining of petroleum with a neat sketch. 12M

**UNIT-IV**

- 7 a Explain the preparation and uses of Bakelite. 6M  
b What is polymer? Discuss the Preparation, Properties and uses of Teflon. 6M

**OR**

- 8 a Distinguish between Thermoplastics and thermosetting plastics. 6M  
b Explain the procedures used in the processing of natural rubber. 6M

**UNIT-V**

- 9 a Explain in detail about setting and hardening of Portland cement. 6M  
b Write a short note on properties and applications of Fullerenes and carbon nanotubes? 6M

**OR**

- 10 What are Refractories? Explain the classification, properties and failures of Refractories. 12M

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