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**SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)****B.Tech I Year II Semester (R16) Regular Examinations May/June 2017****ENGINEERING CHEMISTRY**

(Common to EEE, ME & CE)

(For Students admitted in 2016 only)

Time: **3 hours**Max. Marks: **60**(Answer all Five Units **5 X 12 = 60** Marks)**UNIT-I**

- 1 a. Write a short note on lead acid batteries. 6M
b. Explain construction and working of methanol-oxygen fuel cell. 6M

OR

- 2 Explain the various factors influence the corrosion of metals. 12M

UNIT-II

- 3 a. Distinguish between hard water and soft water. 2M
b. How do you estimate the total hardness of water by EDTA method? 10M

OR

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

UNIT-III

- 5 a. What are the characteristics of good fuel? 4M
b. Describe how synthetic petrol is synthesized from Bergius process. 8M

OR

- 6 a. Define lubricant. Write the functions of lubricants. 6M
b. Write a short note on flash and fire point. 6M

UNIT-IV

- 7 a. Give the differences between addition and condensation polymerization. 6M
b. Discuss the preparation, properties and uses of TEFLON. 6M

OR

- 8 What are elastomers? Write the preparation and uses of BUNA-S rubber and thikol rubber. 12M

UNIT-V

- 9 Define refractoriness. Explain thermal spalling, porosity, dimensional stability and thermal conductivity of the refractories. 12M

OR

- 10 a. Mention the applications of Super conductors in various fields. 4M
b. Write a short note on carbon nanotubes. 8M

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