

I B. Tech I Semester Supplementary Examinations, May/June - 2019
ENGINEERING CHEMISTRY

(Com. to CE,ME,CSE,PCE,IT,Chem E,Aero E,AME,Min E,PE,Metal E,Textile Engg)

Time: 3 hours

Max. Marks: 70

- Note: 1. Question paper consists of two parts (**Part-A** and **Part-B**)
2. Answering the question in **Part-A** is Compulsory
3. Answer any **THREE** Questions from **Part-B**
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PART -A

1. a) Explain why hot lime soda process is better than cold lime soda process. (3M)
- b) Explain specific and molar conductance. Mention their units. (3M)
- c) Explain hot dipping method. (4M)
- d) What are polymers? Explain types of polymerization. (5M)
- e) Discuss natural gas. (4M)
- f) Explain the application of nanomaterials in fuel cells. (3M)

PART -B

2. a) Explain electro dialysis method. (8M)
- b) Discuss compounding of rubber. (8M)
3. a) What are primary and secondary batteries? Give examples. Explain H₂-O₂ fuel cell. (8M)
- b) Define cracking. Give example. Describe thermal cracking? (8M)
4. a) Explain chemical theory of corrosion. (8M)
- b) Discuss the need of green chemistry. Explain aqueous phase method of green synthesis. (8M)
5. a) Explain the properties of polymers. (8M)
- b) Discuss conductometric titrations of (i) strong acid weak base (ii) strong acid strong base. (8M)
6. a) Explain proximate analysis of fuel. (8M)
- b) Discuss (i) electroplating (ii) cathodic protection. (8M)
7. a) Discuss arc discharge and laser ablation method for preparation of CNTs. (8M)
- b) Explain the EDTA method for estimation of hard water. (8M)