

I B. Tech I Semester Supplementary Examinations, May - 2018
ENGINEERING CHEMISTRY

(Com. to CE, ME, Aero E, Bio-Tech, Chem E, Min E, Metal E, PE, PChem E, Auto E)

Time: 3 hours

Max. Marks: 70

Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B**)

2. Answer **ALL** the questions in **Part-A**

3. Answer any **FOUR** Questions from **Part-B**

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**PART -A**

1. a) What is meant by compounding? (2M)
- b) What is the difference of synthetic petrol and cracked petrol? (2M)
- c) Write the drawbacks of dry cell. (2M)
- d) Write the importance of TEM in characterization of nanoparticles. (2M)
- e) Explain the cause of caustic embrittlement in water. (2M)
- f) What are the constituents of cement? (2M)
- g) How is biodiesel prepared? (2M)

**PART -B**

2. a) Define addition polymerization. Explain free radical mechanism of addition polymerization. (8M)
- b) Discuss any two techniques for fabrication of plastics. (6M)
3. a) Explain Bergius process for preparation of synthetic petrol. (6M)
- b) Explain Orsat process for flue gas analysis. (8M)
4. a) What are standard electrodes? Explain the working of standard electrode by taking an example. (8M)
- b) Differentiate anodic and cathodic coatings. (6M)
5. a) Explain sol-gel method in preparation of nanomaterials. (8M)
- b) Discuss the applications of superconductors. (6M)
6. a) Explain break point chlorination. (6M)
- b) Explain electrodialysis method for purification of brackish water. (8M)
7. a) Discuss any two mechanisms of lubricant. (8M)
- b) What are insulators? Explain thermal insulators. (6M)