

I B. Tech I Semester Supplementary Examinations, December- 2021
ENGINEERING CHEMISTRY

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

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 **FOUR** Questions from **Part-B**

~~~~~

**PART -A**

1. a) Explain atactic and isotactic polymers. (2M)
- b) Give two reasons stating CNG better than LPG. (2M)
- c) Explain passivity. (2M)
- d) What are liquid crystals? (2M)
- e) What is meant by alkalinity? (2M)
- f) What are fuel cells? Give examples. (2M)
- g) What are rocket fuels? (2M)

**PART -B**

2. a) Write notes on extrinsically conducting polymers. (7M)
- b) Discuss how elasticity and mechanical strength show effect on polymers. (7M)
3. a) Discuss fixed bed catalytic method for preparation of petroleum. (7M)
- b) Explain (i) octane knocking (ii) biodiesel (7M)
4. a) Explain the working of calomel electrode with neat labeled diagram. (7M)
- b) Discuss (i) galvanic corrosion (ii) influence of position of metals in galvanic series on corrosion. (7M)
5. a) Discuss chemical reduction method for preparation of nanomaterials. (7M)
- b) What are superconductors? Explain the types of superconductors. (7M)
6. a) Discuss disinfection and sterilization of water. (7M)
- b) Define hardness of water? Explain the EDTA method for determination of it. (7M)
7. a) Explain the reasons for failure of refractories. (7M)
- b) Explain methanol-oxygen fuel cells. (7M)