

I B. Tech I Semester Supplementary Examinations, April - 2022**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 **ALL** the questions in **Part-A** is Compulsory
3. Answer any **THREE** Questions from **Part-B**
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PART -A

1. a) What are the specifications required for potable water. (3M)
- b) What is electrode potential? (4M)
- c) Give reason why small anodic area causes intense corrosion. (4M)
- d) Give reason why PVC is soft and flexible whereas Bakelite is hard and brittle. (4M)
- e) Why is LCV value lower than HCV? Give reason (3M)
- f) Discuss the applications of photovoltaic cells. (4M)

PART -B

2. a) Explain vulcanization. How is Thiokol prepared? (8M)
- b) What is combustion? A coal sample is found to contain C = 81%, H = 5%, O = 2%, N = 10%, and remaining ash. Calculate the amount of minimum air required for complete combustion of 1 kg of coal sample. (8M)
3. a) State the principle of reverse osmosis. (8M)
- b) Explain the working of primary cell taking dry cell as example. (8M)
4. a) Write notes on natural gas and LPG. (8M)
- b) Discuss how glass fiber reinforced plastics are prepared and list their properties. (8M)
5. a) Discuss the various metal oxide layers formed during dry corrosion. (8M)
- b) Explain ion-exchange process for demineralization of hard water. Mention its advantages. (8M)
6. a) Write a short note on fuel cell. Mention its advantages. (8M)
- b) Explain the different types of polymerizations with examples. (8M)
7. a) Write the preparation and applications of fullerenes. (8M)
- b) Explain (i) hot dipping (ii) electroplating (8M)

