

I B. Tech II Semester Supplementary Examinations, January/February - 2023**APPLIED CHEMISTRY**

(Common to CSE, IT, EIE, ECE, ECom E)

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 (14 Marks)

1. a) Give reason for the need of natural rubber to be vulcanized. [2M]
- b) What are primary and secondary fuels? Give examples. [2M]
- c) Explain Pilling-Bedworth's rule. [2M]
- d) What are type-I superconductors? [2M]
- e) State Hall's effect. [2M]
- f) List the advantages of ocean thermal energy. [2M]
- g) Explain addition polymerization. Give examples. [2M]

PART –B (56 Marks)

2. a) Explain emulsion polymerization. [7M]
- b) Discuss the preparation of PVC. How does plasticized PVC differ from PVC? List their applications. [7M]
3. a) Explain fluid bed catalytic cracking method for obtaining gasoline. [7M]
- b) Explain knocking? Discuss why knocking occurs in diesel and petrol engines. [7M]
4. a) Discuss chemical reduction method for preparation of nanomaterials. [7M]
- b) Explain phase transfer method of green synthesis. [7M]
5. a) Discuss the working of calomel electrode. [7M]
- b) Discuss cathodic protection. [7M]
6. a) Discuss structures of rock salt and cesium chloride. [7M]
- b) Explain chalcogen photoconductors. [7M]
7. a) Explain construction and working of geothermal power plant. [7M]
- b) Discuss the working and advantages of hydrogen-oxygen fuel cell. [7M]
