

**I B. Tech II Semester Supplementary Examinations, December - 2020****APPLIED CHEMISTRY**

(Com. to CSE, IT, EIE, ECE, E Com 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**

1. a) When does a micelle formed in emulsion polymerization? (2M)
- b) What is the catalyst used in Fisher-tropsch method of synthetic petrol. (2M)
- c) Explain irreversible cells with example. (2M)
- d) What is meant by xerogel and aerogel in sol-gel method? (2M)
- e) Explain inverse spinels with examples. (2M)
- f) What are solar cells? What are its applications? (2M)
- g) What is meant by forward bias in diodes? (2M)

**PART -B**

2. a) What are the limitations of plastics? Explain transfer moulding technique of plastics. (7M)
- b) Discuss the various additives added during compounding of rubber. (7M)
3. a) Discuss the working of bomb calorimeter. (7M)
- b) Explain how biodiesel is prepared? What are its advantages? (7M)
4. a) Discuss the uses of electrochemical series. (7M)
- b) Explain the factors that affect corrosion based on environment. (7M)
5. a) What are liquid crystals? Explain cholesteric and nematic liquid crystals and their applications. (7M)
- b) Explain any two method of green synthesis. (7M)
6. a) Discuss the structure of NaCl. (7M)
- b) Explain chalcogen photoconductors. (7M)
7. a) Explain the working of hydropower plant. (7M)
- b) What is a fuel cell? Explain the working of methanol-oxygen fuel cell. (7M)