

**I B. Tech II Semester Supplementary Examinations, Nov/Dec - 2019**  
**APPLIED CHEMISTRY**

(Com. 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**
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**PART -A**

1. a) What are elastomers? Give examples. (2M)
- b) Explain why e.m.f of cell cannot be calculated by single electrode potential. (2M)
- c) What is meant by electroless plating? (2M)
- d) What is CNG? Why is CNG preferred more in vehicles nowadays? (2M)
- e) Explain the use of BET method in nanomaterials. (2M)
- f) Differentiate ferri and ferromagnetism. (2M)
- g) Write the reactions occurring at anode and cathode in methanol-oxygen fuel cell. (2M)

**PART -B**

2. a) Explain the use of additives in compounding of rubber. (7M)
- b) Discuss conducting polymers. (7M)
3. a) What are rocket fuels? Explain its types and advantages. (7M)
- b) Explain the working of bomb calorimeter with a neat sketch. (7M)
4. a) Explain (i) passivity of metals (ii) pitting corrosion. (7M)
- b) Explain (i) Li cells (ii) galvanic cell. (7M)
5. a) Discuss the properties and applications of fullerenes. (7M)
- b) Explain sol-gel method for preparation of nanomaterials. (7M)
6. a) Explain any two methods for preparation of semiconductors. (7M)
- b) Discuss close packing of atoms in fcc and bcc. (7M)
7. a) What are photovoltaic cells? Explain the working of solar cells. (7M)
- b) Explain tidal energy. (7M)