

**I B. Tech II Semester Supplementary Examinations July/August -2021****ENGINEERING CHEMISTRY**

(Com. to CE, ME, Agri E)

Time: 3 hours

Max. Marks: 75

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**Answer any five Questions one Question from Each Unit**  
**All Questions Carry Equal Marks**

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1. a) Write the structure, preparation and applications of Thiokol rubber. (8M)  
b) What are conducting and bio degradable polymers? (7M)

**Or**

2. a) Write the preparation, properties and application of Buna-S rubber (8M)  
b) Give an account on fiber reinforced plastics. (7M)
3. a) How batteries are classified and differentiate them. Give the characteristics of a battery. (8M)  
b) Give an account on zinc air cells and lithium ion batteries. (7M)

**Or**

4. a) Define corrosion and explain the theories of corrosion. (8M)  
b) Write a short note on differential aeration corrosion and explain the factors influencing the rate of corrosion. (7M)
5. a) i) Briefly describe about graphene and fullerenes and write their applications. (8M)  
ii) Explain how nanoparticles are prepared through sol gel method.  
b) What are carbon nanotubes. Write about their types, preparations and applications. (7M)

**Or**

6. a) Write Definition, Mechanism and Properties of lubricants. (8M)  
b) What are the constituents of cement and give an account on LSF and AR. (7M)
7. a) How to synthesise petrol through Fischer Tropsch and Bergius process. (8M)  
b) Explain calorific value and write about the fuel gas analysis by Orsat apparatus (7M)

**Or**

8. a) What is diesel knocking and petrol knocking? Give an account on octane and cetane rings. (8M)
- b) Write an about on LPG and CNG. (7M)
9. a) Mention and explain hardness of water and determine of hardness of water using complexometric method. (8M)
- b) What are the steps involved in purification of water and write about break point chlorination- desalination process. (7M)
- Or**
10. a) Briefly describe softening of hard water. (8M)
- b) Specify the treatment of industrial waste water and portable water (7M)