

I B. Tech II Semester Supplementary Examinations, Nov/Dec - 2017
ENGINEERING CHEMISTRY-II
(Com. to All Branches)

Time: 3 hours

Max. Marks: 75

Answer any **FIVE** Questions
All Questions carry **Equal** Marks

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1. a) What is the essential criterion needed to be a conducting polymer? Explain how a polymer can be converted to p-type conducting polymer. (8M)  
b) What is meant by tacticity? Explain the types of stereospecific polymers. (7M)
2. a) Explain any two moulding techniques for fabrication of plastics. (8M)  
b) What are bullet proof pastics? Explain how Kevlar is prepared. Give its properties. (7M)
3. a) Explain how rubber is prepared. How does natural rubber differ from vulcanized rubber? (8M)  
b) Write the preparation, properties and uses of BUNA-S. (7M)
4. a) What are fullerenes? How are they prepared? Give its properties. (8M)  
b) Give the applications of carbon nanotubes. (7M)
5. a) Discuss the effect of CO<sub>2</sub> and SO<sub>2</sub> on cement concrete. (8M)  
b) Discuss the classification of refractories with examples. (7M)
6. a) Explain the working of Internal combustion engine. (8M)  
b) Discuss the properties of lubricants. (7M)
7. a) Differentiate anodic and cathodic coatings. (8M)  
b) Discuss the effect of overvoltage, temperature, pH, anodic and cathodic ratio on corrosion. (7M)
8. a) Discuss the need of green chemistry. (8M)  
b) Discuss supercritical fluid extraction method in green chemistry. (7M)