

Code No: R13104

**R13****SET - 1****I B. Tech I Semester Supplementary Examinations, May. - 2018****ENGINEERING CHEMISTRY**

(Com. to CE,ME,CSE,PCE,IT,Chem E,Aero E,AME,Min E,PE,Metal E,Textile Engg)

Time: 3 hours

Max. Marks: 70

Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B**)2. Answer **ALL** the question in **Part-A**3. Answer any **THREE** Questions from **Part-B**

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**PART -A**

1. a) Define reverse osmosis. Write its advantages. (3M)
- b) Differentiate electrolytic cell and electrochemical cell. (4M)
- c) Explain the role of purity in corrosion. (3M)
- d) How does the presence of bulky groups on polymer chains affect the properties of polymer? (3M)
- e) What is the reason for the knocking in engines? (4M)
- f) Explain how laser ablation method is used for manufacture of carbon nanotubes. (5M)

**PART -B**

2. a) Explain ion exchange process for softening of hard water. (8M)
- b) Write the applications of Kohlrausch law. (8M)
3. a) Explain how nature of metal-oxide play important role in oxidation corrosion process. (8M)
- b) Explain stereoregular polymers and their significance. (8M)
4. a) Write the advantages and disadvantages of gaseous fuels. (8M)
- b) Write the engineering applications of biodegradable polymers and conducting polymers. (8M)
5. a) Explain the working of photovoltaic cell and solar reflectors. (8M)
- b) Explain tinning and electroless plating. (8M)
6. a) Explain the working of H<sub>2</sub>-O<sub>2</sub> fuel cell and its applications. (8M)
- b) Explain ultimate analysis of coal. (8M)
7. a) Discuss the properties, preparation and applications of PVC and Styrene Butadiene Rubber. (8M)
- b) What is potable water? How can the water purified by sterilization and disinfection process? (8M)