

Code No: R13204

**R13****SET-1****I B. Tech II Semester Supplementary Examinations, April/May – 2019****ENGINEERING CHEMISTRY**

(Com. to ECE, EEE, EIE, Bio-Tech, E Com E, Agri 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 Compulsory3. Answer any **THREE** Questions from **Part-B****PART -A**

1. a) What is portable water? What are the specifications of potable water? (4M)
- b) Define battery. Discuss its types. (3M)
- c) Explain the role of humidity and pH on rate of corrosion. (4M)
- d) Distinguish high density and low density polyethylene. (3M)
- e) What is combustion? A sample of coal has the following composition: C=50%, H=10%, O= 20% and remaining ash. Calculate the amount of minimum air required for combustion of 5 kg of coal sample. (4M)
- f) Explain how polymers can act as conductors. (4M)

**PART -B**

2. a) Explain extrusion and compression moulding techniques of plastics. (8M)
- b) Write the characteristics and disadvantages of gaseous fuels. (8M)
3. a) Explain the principle of reverse osmosis for desalination of water. (8M)
- b) What is an ion selective electrode? Discuss the principle of glass electrode. (8M)
4. a) Explain, how moisture, volatile matter and ash are determined. Explain their importance in coal. (8M)
- b) Explain setting and hardening of cement. (8M)
5. a) Distinguish between electroplating and electroless plating. (8M)
- b) Explain how dissolved oxygen, carbon dioxide effect corrosion in boilers. How can their effect be minimized? (8M)
6. a) Define Kohlraush Law. Explain its applications. (8M)
- b) Explain stereoregular polymers and their significance. (8M)
7. a) What is fiber reinforced plastics? Explain how bullet proof plastics are prepared and their uses. (8M)
- b) Explain the role of various constituents present in paints. (8M)