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Total Number of Pages: 02

B.TECH
BSCC1208

4th semester Back Examination 2016-17

CHEMISTRY- II

BRANCH(S): BIOTECH,CHEM

Time: 3 Hours

Max Marks: 70

Q.CODE: Z996

**Answer Question No.1 which is compulsory and any five from the rest.
The figures in the right hand margin indicate marks.**

- Q1 Answer the following questions: (2 x 10)**
- a) Corrosion is a spontaneous process. Comment.
 - b) What do you mean by conducting polymer? Give two examples of conducting polymer.
 - c) Why is net calorific value less than gross calorific value?
 - d) What is Pilling-Bed worth rule? What is its significance?
 - e) What are chemical batteries and why they are so named?
 - f) How does iron corrode in neutral or alkaline medium?
 - g) What is the difference between thermosetting and thermoplastic polymers?
 - h) What is coking coal?
 - i) Write the name of monomers of PAN and Nylon6,6.
 - j) Define temporary hardness of water.
- Q2 a) Describe the principle and procedure involved in zeolite process for treatment of water? What are the limitation of this process? (5)**
- b) What do you mean by the wet corrosion ? What are the factors which influence it? (5)**
- Q3 a) What do you mean by the cracking? Discuss various types of method involve in cracking. (5)**

- b) Suggest some chemicals reagent for removal of DO and CO₂ from water which is better and why (5)
- Q4** What do you mean by the softening of water? Discuss various internal processes for softening of water along with example. (10)
- Q5** a) What are Nano materials? Describe their properties. (5)
b) What do you mean by addition polymerization and condensation polymerization process? Explain with example of each. (5)
- Q6** a) What do you mean by the boiler corrosion? What are factors responsible for it how it can be eliminated? (5)
b) 50 ml of standard hard water (1ml = 1 mg CaCO₃) required 90 ml of EDTA solution for detection of end-point. 50 ml of water sample required 18 ml of EDTA solution and 50ml of the boiled water sample required 11ml EDTA solution. Calculate the carbonate and non-carbonate hardness of the water sample (5)
- Q7** a) What do you mean by sterilization of water? How it is carried out by Bleaching powder. (5)
b) Define Octane and Cetane numbers. What are their significances? (5)
- Q8** **Write short notes on TWO** (5 x 2)
a) Water Gas. and producer Gas
b) Differential aeration corrosion
c) Refining of petroleum