

**GUJARAT TECHNOLOGICAL UNIVERSITY**

B.E. Sem-III Regular / Remedial Examination December 2010

**Subject code: 130102****Subject Name: Chemistry for Aeronautical Engineering**

Date: 15 /12 /2010

Time: 10.30 am – 01.00 pm

Total Marks: 70

**Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) Enlist the various methods for softening of water. Explain zeolite process in details. 07  
(b) Discuss the physical properties of metals with its examples. 07

- Q.2** (a) Describe factors influencing corrosion. 07  
(b) Write a short note on “ Heat treatment”. 07

**OR**

- (b) Which are the “Elementary principles of calculate amount of air required for combustion of unit quantity of fuel. 07

- Q.3** (a) Define lubricant and write a short note on “ Mechanism of lubrication”. 07  
(b) Define plastics and give their unique properties. 07

**OR**

- Q.3** (a) Write a note on : “Elastomers” 07  
(b) How polymers can be classified. Discuss classification on the basis of (i)Method of synthesis (ii) molecular forces. 07

- Q.4** (a) Explain the characteristics of good fibers. 07  
(b) What do you mean by chemical conversion coating? Describe phosphate coating and chromate coating in detail. 07

**OR**

- Q.4** (a) Write a short note on energy crisis and its management. 07  
(b) Give the properties and uses of common refractory bricks. 07

- Q.5** (a) What are dielectrics? Discuss their important characteristics. 07  
(b) Describe the application of UV spectroscopy. 07

**OR**

- Q.5** (a) Explain the comparisons between solid, liquid and gaseous fuel. 07  
(b) Write a short note on “Artificial abrasives”. 07

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