

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-III • EXAMINATION – WINTER 2013****Subject Code: 130102****Date: 28-11-2013****Subject Name: Chemistry for Aeronautical Engineering****Time: 02.30 pm - 05.00 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)** What is desalination? Name the different methods of desalination. Explain anyone in detail. **07**
- (b)** Define carbonate and non- carbonate hardness of water. List the various disadvantages of hard water of domestic use. **07**
- Q.2 (a)** Give classification of steel with properties and uses. **07**
- (b)** Discuss the various factors affecting rate of corrosion. **07**
- OR**
- (b)** Give classification of coal by rank wise with schematic diagram. **07**
- Q.3 (a)** What is vulcanization of rubber? Why natural rubber needs vulcanization? How is it carried out? Mention its advantages. **07**
- (b)** Discuss classification of polymers. **07**
- OR**
- Q.3 (a)** Explain in details spinning process **07**
- (b)** Give classification of fibers. **07**
- Q.4 (a)** Explain in details manufacturing process of Refractories. **07**
- (b)** Explain in detail mechanism of Lubrication. **07**
- OR**
- Q.4 (a)** Explain the principle of UV & IR spectroscopy with their applications. **07**
- (b)** Give comparison between chemical and electrochemical corrosion. **07**
- Q.5 (a)** Explain in details any one organic coating with ingredients, properties and use. **07**
- (b)** Explain in details chemical conversion coatings. **07**
- OR**
- Q.5 (a)** Explain in detail Bio Energy and water energy with their advantages and disadvantages. **07**
- (b)** Discuss the classification of Insulator. **07**
