

GUJARAT TECHNOLOGICAL UNIVERSITY**BE SEMESTER– 1st / 2nd • EXAMINATION – SUMMER 2016****Subject Code: 110001****Date: 31/05/2016****Subject Name: Chemistry****Time:02:30 PM to 05:00 PM****Total Marks: 70****Instructions:**

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

- Q.1 (a)** Define the following terms: **07**
 (1) Softening of water (2) Alloy (3) Corrosion (4) Calorific value of a fuel
 (5) Lubricant (6) Hydraulic cement (7) Polymer
- (b)** Choose the correct option: **07**
 (1) pH of the acid rain may be
 (a) 7 (b) 10 (c) less than 5.6 (d) 14
 (2) Which of the following fibers is used as medium for telecommunication?
 (a) Glass (b) Natural (c) Semi-synthetic (d) Synthetic
 (3) In aerobic fermentation which of the following is required?
 (a) Free oxygen (b) Alcohol (c) Both (d) None
 (4) Which of the following is a constituent of paint?
 (a) Pigment (b) Dyes (c) Both (d) None
 (5) Biomass energy is
 (a) Renewable (b) Non renewable (c) Conventional (d) All
 (6) Alumina is which type of refractory?
 (a) Acid (b) Basic (c) Neutral (d) None
 (7) Which of the following techniques is a separation technique?
 (a) Spectroscopy (b) Conductometry (c) Turbidity (d) Chromatography
- Q.2 (a)** Differentiate between dry and wet corrosion. **04**
(b) What are the functions of a lubricant? **03**
(c) Explain Reverse Osmosis method with its advantages. **07**
- Q.3 (a)** Write a note on classification of fuels with examples. **04**
(b) What are the properties and uses of wrought iron? **03**
(c) Explain manufacture process of Portland cement. **07**
- Q.4 (a)** What are the characteristics of good fibers? **04**
(b) Define : (1) Electroplating (2) Varnish (3) Lacquers **03**
(c) Give an account of different types of polymerization reactions with examples. **07**
- Q.5 (a)** Write a note on ozone layer depletion. **04**
(b) Write a note on resources of energy. **03**
(c) Explain in detail about biomembrane. **07**
- Q.6 (a)** Define insulators. What are the characteristics of an ideal thermal insulator? **04**
(b) Write a note on sludge formation in boilers. **03**
(c) Explain mechanism of electrochemical corrosion. **07**
- Q.7 (a)** Write a note on applications of rubber. **04**
(b) Why CNG is preferred over LPG? **03**
(c) Define pH. Write a note on crystallization method of purification of solid organic compounds. **07**