

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
BE- SEMESTER 1st / 2nd EXAMINATION (NEW SYLLABUS) – SUMMER - 2017

Subject Code: 2110001

Date: 30/05/2017

Subject Name: Chemistry

Time: 2:30 PM to 05:00 PM

Total Marks: 70

Instructions:

1. Question No. 1 is compulsory. Attempt any four out of remaining Six questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

Q.1	Objective Question (MCQ)	MARKS
	(a)	07
	1. The number of coordinate bonds formed by EDTA with metal cation (a) 4 (b) 5 (c) 6 (d) 7	
	2. Galvanizing is the process of coating iron or steel sheets with a thin coat of (a) Cu (b) Zn (c) Pb (d) Brass	
	3. Sooty flame suggests presence of (a) Aromatic compound (b) Aliphatic (c) Alicyclic (d) All	
	4. Bhopal Gas tragedy occurred in the year (a) 1982 (b) 1984 (c) 1986 (d) 1988	
	5. Monomer of Polyester fibre is (a) Dimethyl terephthalate (b) Diethylene terphthalate (c) Ethylene glycol (d) Diethylene glycol terphthalate	
	6. In fractional distillation of petroleum fuel oil is obtained at around (a) 110 ⁰ c (b) 220 ⁰ c (c) 330 ⁰ c (d) 440 ⁰ c	
	7. Which acid is present in lemon? (a). Malic acid (b) Citric acid (c). lactic acid (d). Tartaric acid	
	(b)	07
	1. ----- is responsible for temporary hardness of water.	
	2. ----- is the chemical formula of rust.	
	3. ----- catalyst supports better polymerization of unsaturated dienes and trienes.	
	4. Dutch Metal contains Cu----% & Zn -----%	
	5. ----ppm = -----mg/L.	
	6. _____calorimeter is used to determine calorific value of a liquid fuel.	
	7. Melting point of Benzoic acid..... ⁰ C	

- Q.2** (a) Explain how enzymes are useful in industries? **03**
 (b) Discuss manufacture of ethyl alcohol from molasses by fermentation? **04**
 (c) Write a short note on Acid – Base Conductometric titration? **07**
- Q.3** (a) What is biogas? How it can be prepared in a village? **03**
 (b) Discuss the manufacturing of portland cement. Draw diagrams where ever required. **04**
 (c) Explain what changes in properties of raw rubber occur on its vulcanization. Draw diagrams to make clear the structural changes? **07**
- Q.4** (a) Write a short note on standards of cements. **03**
 (b) Define fibre? List various types of fibres and differentiate them on the basis of their physical properties. **04**
 (c) Discuss the classification, properties and application of abrasives. **07**
- Q.5** (a) What do you mean by alloy? Illustrate with suitable examples the purpose of alloy making. **03**
 (b) Write a short note on:
 (1) Annealing (2) Hardening **04**
 (c) What is corrosion? Differentiate chemical and electrochemical corrosion **07**
- Q.6** (a) Define fuel. What are the characteristics of good fuel? **03**
 (b) What do you mean by molecular formula of a compound? **04**
 The empirical formula of the dibasic organic acid is CHO_2 . If its molecular weight is 90.2, what is its molecular formula.
 (c) Discuss Break point chlorination and its advantages. **07**
- Q.7** (a) Explain why in the deionization process water is first passed through the cation exchanger and then through the anion exchanger. **03**
 (b) How formation of scale and sludge in boilers can be prevented. **04**
 (c) Compare the salient features of zeolite process and lime-soda process used in water treatment. **07**
