

Seat No.: \_\_\_\_\_

Enrolment No. \_\_\_\_\_

## GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-1/2 (NEW) EXAMINATION – WINTER 2017

Subject Code: 2110001

Date: 01 /01/2018

Subject Name: Chemistry

Time: 10:30 AM TO 01:00 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.	Purest form of natural water is: (A)River water(B)Sea water(C)Rain water(D)Lake water	
2.	Temporary hardness in water can be removed by: (A)Filtration(B)Boiling(C)Sedimentation(D)None of these	
3.	PH of acid solution is: (A)14(B)7(C)Less than 7(D)More than 7	
4.	Sterilization of water can be done by using: (A)Oxygen(B)Ozone(C)Caustic potash(D)Hydrogen peroxide	
5.	Which of the following contain highest percentage of volatile matter? (A)Peat(B)Lignite(C)Bituminous coal(D)Anthracite	
6.	Which of the following is a biogas? (A)Producer gas(B)Natural gas(C)Water gas(D)Coal gas	
7.	Which of the following is used as a jet engine fuel? (A)LPG(B)Kerosene(C)Power alcohol(D)Coal	
(b)		07
1.	High polymers are: (A)Liquids(B)Gaseous(C)Solids(D)colloidal	
2.	Phenol-Formaldehyde resin is commercially known as: (A)PVC(B)Elastomer(C)Bakelite(D)Nylon	
3.	Raw rubber on vulcanization becomes: (A)Plastic(B)Tacky(C)Soft(D)Less elastic	
4.	PVC is: (A)Inflammable(B)Non-inflammable(C)Thermoset(D)Elastomer	
5.	Corrosion is an example of : (A)Oxidation(B)Reduction(C)Electrolysis(D)Erosion	
6.	During galvanic corrosion the more noble metals acts as: (A)Anode(B)Cathode(C)Anode as well as Cathode(D)Corroding metal	
7.	RCC is not used in: (A)Beams(B)Bridges(C)Girders(D)Painting walls	
Q.2	(a) What is Hardness? Explain Temporary and Permanent hardness.	03
	(b) Explain cold lime soda process for the treatment of water.	04
	(c) Explain permutit process by giving its advantage and disadvantage.	07
Q.3	(a) Define heat treatment. Explain the relevant heat treatment process.	03
	(b) Explain any one method of coal analysis.	04
	(c) What is bio gas? Discuss the manufacturing process of bio gas.	07
Q.4	(a) Give the characteristics of good fuel.	03

- (b) Define the step polymerization by giving suitable example. **04**
- (c) Describe the mechanism of electrochemical corrosion by hydrogen evolution and oxygen absorption. **07**
- Q.5** (a) How is corrosion prevented by cathodic protection? Explain. **03**  
(b) What is solar energy? State its main use. **04**  
(c) Explain the manufacturing process of lime with its properties. **07**
- Q.6** (a) Explain the properties of Refractories. **03**  
(b) Explain setting and hardening process of Portland cement. **04**  
(c) Explain the manufacturing process of ethyl alcohol by fermentation **07**
- Q.7** (a) Write a note on insulating materials. **03**  
(b) Explain break- point chlorination. **04**  
(c) What is the composition of Portland cement? Discuss the manufacturing process of Portland cement. **07**

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