

Roll No	
---------	--

**Tatyasaheb Kore Institute of Engineering & Technology, Warananagar
(An Autonomous Institute)**

F.Y. B. Tech (Semester - I), In Semester Examination –I, September 2023

ENGINEERING CHEMISTRY

Day and Date: Monday, 25 September 2023

Course Code: FY102

Time : 9:15 am to 10:15 am

Marks: 30

**Instructions: i) Use of only non programmable calculator is allowed.
ii) Figures to the right indicate full marks.**

Q.1 Attempt any 3 from the following questions.

Unit No CO M

- a) What is acidity? Give determination of acidity and its significance.
- b) Explain ion exchange method of desalination with neat and labeled diagram.
- c) Define green chemistry. Give any two principles of green chemistry and it's any two applications.
- d) Calculate temporary, permanent and total hardness of given water sample having following impurities and write the conclusion based on the hardness of given water sample.

CaSO ₄	12.00 ppm
CaCO ₃	81.00 ppm
NaCl	101.00 ppm
Mg(HCO ₃) ₂	70.30 ppm
CaCl ₂	111.05 ppm

MgCl ₂	17.00 ppm
Ca(HCO ₃) ₂	51.00 ppm
MgCO ₃	100.00 ppm
KNO ₃	65.00 ppm
MgSO ₄	45.50 ppm

1 CO1 5

Q.2 Attempt any 3 from the following questions.

- a) What is amino acid? Give its classification with any four properties.
- b) Define nucleic acid? Give the structure of DNA.
- c) What are carbohydrates? Give its classification with functions.
- d) Give the functions of following cell organelle

2 CO2 5

2 CO2 5

2 CO2 5

2 CO2 5

1. Ribosome

2. Endoplasmic reticulum

3. Mitochondria

4. Chloroplast

5. cell wall