

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-III (NEW) EXAMINATION – WINTER 2023

Subject Code:3130407

Date:25-01-2024

Subject Name:Chemistry for Biotechnology

Time:10:30 AM TO 01:00 PM

Total Marks:70

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Simple and non-programmable scientific calculators are allowed.

		Marks
Q.1	(a) Define the following terms with suitable examples Hydrocarbons Organic reactions Cations	03
	(b) Write a short note on Nucleophile and Electrophile.	04
	(c) Explain organic reactions with its classification and examples.	07
Q.2	(a) Define the following terms with suitable examples Standard solution Complexometric Titration Neutralization	03
	(b) Write a short note on various types of hydrocarbons.	04
	(c) Explain electrophilic aromatic substitution reaction with example.	07
	OR	
	(c) Explain nucleophilic aromatic substitution reaction with example.	07
Q.3	(a) Define the following terms with suitable examples Nitration Redox Reaction Reduction	03
	(b) Write a short note on Unit Processes	04
	(c) Explain various types of reactive intermediates in detail.	07
	OR	
Q.3	(a) Define the following terms with suitable examples Carboxylic acids Esters Acid amides	03
	(b) Write a short note on Esterification.	04
	(c) Explain Geometrical Isomerism in detail with examples.	07
Q.4	(a) Define the following terms with suitable examples Optical activity Racemic mixture Isomer	03
	(b) Write a short note on: Enantiomers and Diastereomers.	04
	(c) Explain optical activity in Lactic Acid and Tartaric Acid.	07
	OR	
Q.4	(a) Define the following terms with suitable examples Drugs Anti pyritic drugs	03

Analgesics

- (b) Write a short note on: Types of drugs with suitable examples. **04**
- (c) Explain steps of Drug preparation and delivery. **07**

Q.5 (a) Define the following terms with suitable examples **03**

Chromogen

Colour

Pigment

- (b) Write a short note on: Theory of Colour. **04**

- (c) Explain different types of Dyes and Pigments. **07**

OR

Q.5 (a) Define the following terms with suitable examples **03**

UV Spectroscopy

Chromatography

Conductance

- (b) Write a short note on: Types of Chromatography. **04**

- (c) Explain applications of various types of instrumental methods. **07**
