

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VI (NEW) EXAMINATION – SUMMER 2023****Subject Code:3160408****Date:12-07-2023****Subject Name:Food and Agriculture biotechnnology****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) Comment on tomato fruit ripening and its significance	03
	(b) Mention target genes that can be used to produce tomatoes with better shelf life and discuss the role of ethylene in the tomato ripening.	04
	(c) Describe Agrobacterium-mediated gene transfer method and its	07
Q.2	(a) What are bioactive peptides? Give examples	03
	(b) Distinguish between organic farming and traditional farming	04
	(c) Discuss in detail about types, advantages and uses of biofertilizer	07
	OR	
	(c) Explain the concept of organic farming with suitable example	07
Q.3	(a) Write a note on the nutritive value of foods	03
	(b) Discuss the production of high value proteins and peptides	04
	(c) Explain various Intrinsic & Extrinsic parameters of foods that affect microbial growth	07
	OR	
Q.3	(a) Give any three examples of biological toxins with source	03
	(b) Explain Radappertiation , Radicidation and Radurization of food	04
	(c) Explain the methods for food preservation	07
Q.4	(a) Explain Single Cell Protein (SCP) and its benefits	03
	(b) Explain food poisoning and microbial toxins	04
	(c) What are starters? Explain different types and their role.	07
	OR	
Q.4	(a) Briefly explain food laws and standards	03
	(b) Differentiate between natural sweetener and artificial sweetener	04
	(c) Describe in detail use of enzymes application in food industry with suitable example	07
Q.5	(a) Explain in details about HACCP and its full form	03
	(b) Write short note on food flavours and toxicants.	04
	(c) What do you understand by food quality assurance and standards?	07
	OR	
Q.5	(a) Explain Aims of food science and technology	03
	(b) Highlight the health benefits of probiotics	04
	(c) What are different food processing methods and unit operations? Discuss it in detail	07
