



**LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034**

**M.Sc. DEGREE EXAMINATION – FOOD CHEMISTRY AND FOOD PROCESSING**

**THIRD SEMESTER – APRIL 2023**

**PFP 3301 – FOOD BIOTECHNOLOGY**

Date: 09-05-2023

Dept. No.

Max. : 100 Marks

Time: 09:00 AM - 12:00 NOON

**PART – A**

Q. No	Answer ALL the questions	(10×3 = 30 Marks)
1	Define fermentation.	
2	What is lactic acid fermentation?	
3	List any two uses of Spirulina.	
4	Mention the advantages of submerged over solid state fermentation.	
5	Define nutraceutical.	
6	What are Bt genes?	
7	Enumerate the roles of FDA.	
8	Mention the applications of Amylase in the baking industry.	
9	What is phycotoxin?	
10	Write a note on any three food toxins.	

**PART – B**

Answer ALL the questions		(5×8= 40 Marks)
11	(a) Explain the microbial growth curve with respect to Batch fermentation. (OR)	
	(b) Comment on the types of fermentation.	
12	(a) Write a note on production of kimchi and sauerkraut. (OR)	
	(b) Describe the extraction steps adopted for Algae.	
13	(a) Enumerate the production and effective downstreaming operations carried out for amino acids separation. (OR)	
	(b) Give a short account on transgenesis in algae	
14	(a) Discuss the different categories of mushroom toxins and their harmful effects. (OR)	
	(b) Give a note on HACCP.	
15	(a) Summarize on herbicide tolerant food crops. (OR)	
	(b) Justify the statement – Bt brinjal is not harmful for human health.	

**PART – C**

**Answer any TWO questions**

**(2×15 = 30 Marks)**

16	(a)	Describe the various types of Bioreactors.	(10)
	(b)	Elaborate on microbial biopolymers and bio colors.	(5)
17	(a)	Discuss the roles of fungal enzymes in dairy industry.	(8)
	(b)	Draft the protocol for small scale <i>in vitro</i> production of microbial enzymes.	(7)
18	(a)	Explain the technology used for production of golden rice.	(10)
	(b)	Write a detailed essay on heavy metal contamination and pesticide residues in food.	(5)
19	(a)	Summarize on natural toxins of plant origin.	(8)
	(b)	Discuss how algae are used as a source of nutraceutical.	(7)

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