

--	--	--	--	--	--	--	--	--	--	--



GIET UNIVERSITY, GUNUPUR – 765022
M. Sc. (Third Semester) Examinations, December – 2022
20BTPC301 – Bioprocess Engineering technology
(Biotechnology)

Time: 3 hrs

Maximum: 70 Marks

(The figures in the right hand margin indicate marks.)

PART – A**(2 x 10 = 20 Marks)**

Q.1. Answer ALL Questions	CO#	Blooms Level
a. What do you mean by scale up and scale down?	CO3	2
b. What do you mean by chemostat and turbidostat?	CO3	2
c. What are food additives? Give examples?	CO4	2
d. Differentiate between batch and continuous culture?	CO3	3
e. What is the necessity of water recycling in fermentation process?	CO4	2
f. What is biotransformation? Give examples of it?	CO3	2
g. Name two techniques used in cell immobilization?	CO3	3
h. What is strain improvement?	CO1	2
i. What do you mean by flocculation?	CO4	2
j. Name two process of food preservation?	CO4	3

PART – B**(10 x 5 = 50 Marks)**Answer ANY FIVE questions

	Marks	CO#	Blooms Level
2. a. Explain about effluent treatment and its disposal?	5	CO5	3
b. Explain about microbial growth and its kinetics?	5	CO1	3
3.a. Discuss any two process of cell immobilization and its application?	5	CO3	3
b. Discuss about mechanism of strain improvement for increased yield of products?	5	CO1	
4. a. Write notes on fermentation economics?	5	CO3	2
b. Explain how different parameters are measuring and controlling in bioprocess technology?	5	CO3	3
5.a. Write notes on continuous fermentation?	5	CO3	2
b. Discuss about the role of microbes in pickling, producing colours, flavours, and alcoholic beverages?	5	CO4	3
6. a. Discuss about the role of bacteriocins from lactic acid bacteria, its production and applications in food preservation?	5	CO4	3
b. Write notes on centrifugation techniques?	5	CO4	2
7.a. Discuss about isolation, screening and maintenance of industrially important microbes?	5	CO1	3
b. Discuss about fermentation as a method of preparing and preserving foods?	5	CO4	3
8. a. Discuss about media formulation and optimization?	5	CO3	3
b. Explain about effluent treatment and its disposal?	5	CO4	3

--- End of Paper ---