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GIET UNIVERSITY, GUNUPUR - 765022
M. Sc (Third Semester Regular) Examinations, December - 2023
22BTPC301 - Bioprocess Engineering and 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	K2
b. What do you mean by chemostat and turbidostat?	CO3	K2
c. What are food additives? Give examples.	CO4	K2
d. Name two techniques used in cell immobilization.	CO3	K3
e. What is the importance of fermented foods?	CO4	K2
f. What is biotransformation? Give examples of it.	CO3	K2
g. Define media formulation.	CO3	K3
h. What is the function of baffles in fermentation process?	CO1	K2
i. What is bioconversion? Give examples?	CO3	K2
j. What do you mean by flocculation?	CO4	K2

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

	Marks	CO #	Blooms Level
2. a. Write notes on continuous fermentation.	5	CO2	K2
b. Discuss any two process of cell immobilization and its application.	5	CO3	K3
3.a. Discuss about isolation, screening and maintenance of industrially important microbes.	5	CO1	K3
b. Write notes separation of insoluble products through filtration technique.	5	CO4	K2
4. a. Write notes on centrifugation techniques.	5	CO4	K2
b. Explain the concept of water usage and recycling.	5	CO4	K3
5.a. Write notes on ultra and micro filtration technique.	5	CO4	K2
b. Explain about fermentation as a method of preparing and preserving foods.	5	CO4	K3
6. a. Explain how different parameters are measuring and controlling in bioprocess technology.	5	CO3	K3
b. Discuss about media formulation and its optimization.	5	CO3	K3

7.a.	Discuss about effluent treatment.	5	CO4	K3
b.	Explain about microbial growth and its kinetics.	5	CO1	K3
8. a.	Discuss about the cheese making process by proteases and various other enzyme in food processing.	5	CO4	K3
b.	Discuss about the role of bacteriocins from lactic acid bacteria, its production and applications in food preservation.	5	CO4	K3