PRN:		Course Code:	USS 305

Second year B. Sc. End Semester Examination Winter 2023

Microbiology - III

Day and Date: Tuesday, 05/12/2023 Max Marks: 100

Time: 2.00 to 5.00 PM Duration: 3 hrs.

Instructions: 1) All the questions are compulsory.
2) Draw well labelled diagram wherever necessary.

				Bloom's Level	CLO
Q.1		**Attempt the following:**	**25**		
	a)	Explain different methods for measurement of growth in terms of cell number.	**8**	L1	CLO1
	b)	What does growth entail? Describe the different forms of growth.	**8**	L2	CLO2
	c)	Give an account on effect of salt and heavy metal on growth of bacteria.	**9**	L4	CLO1
		OR			
	c)	Explain in detail effect of temperature and pH on growth of bacteria.	**9**	L1	CLO3
Q.2		**Attempt the following:**	**25**		
	a)	Define oxidative phosphorylation and describe how oxidative phosphorylation produces ATP.	**8**	L1	CLO2
	b)	Define fermentations. Describe the different types of fermentation.	**8**	L2	CLO2
	c)	Describe HMP pathway of glucose metabolism.	**9**	L1	CLO2
		OR			
	c)	Describe ED pathway of glucose metabolism.	**9**	L1	CLO2
Q.3		**Attempt the following:**	**25**		
	a)	Describe in detail various methods of pasteurization of milk.	**8**	L1	CLO3
	b)	Explain the sampling procedures used for the air's microbiological analysis.	**8**	L1	CLO3
	c)	Illustrate and explain the mechanism of bead bubbler device and give its advantages.	**9**	L4	CLO3
		OR			
	c)	Illustrate and explain the mechanism of sieve device and give its advantages.	**9**	L4	CLO3
Q.4		**Attempt the following:**	**25**		
	a)	Describe in detail screening for antibiotic producing organism.	**8**	L1	CLO4
	b)	Explain primary and secondary metabolites with examples.	**8**	L2	CLO4
	c)	Define fermenter. Explain in detail various parts of fermenter with suitable diagram.	**9**	L3	CLO4
		OR			
	c)	Write in detail 'components of fermentation media'.	**9**	L2	CLO4

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