

K-18/2110

Total No. of Sheets used 3

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Title of the paper: Microbial and Food Technology

Paper X

Time Allowed 3 Hrs

Maximum Marks 75

Serial No.	Candidate is required to attempt any two questions from Section-A and Section-B. Section C is compulsory.	Marks
SECTION-A		
Q.No.1	Discuss the fermentative production of: i) Thiamin (B-1)	7.5
	ii) L-aspartic acid	7.5
Q.No.2	What are edible vaccines? Discuss in detail the fermentative production of edible vaccines along with suitable flow diagram.	15
Q.No.3	i) Discuss the applications of microbial transformations in food sector	7.5
	ii) Write note on the fermentative production of xanthan gums	7.5
Q.No.4	What are various pharmaceutical products? Give examples. Also explain the process of fermentative production of penicillin along with flow diagram.	15
SECTION-B		
Q.No.5	i) Discuss in detail about the chemical methods for food preservation	7.5
	ii) Write detailed note on the utilization of waste from dairy industry	7.5
Q.No.6	Enlist various fermented dairy products. Discuss in detail the fermentative production of cultured dairy milk, along with microorganisms' involved and suitable flow diagram.	15
Q.No.7	Write short notes on: i) FSSA 2006	7.5
	ii) Production technology of cheese	7.5
Q. No. 8	What do you understand by immobilized whole cell technology? Discuss in detail the application of immobilized whole cell technology in dairy industry.	15
SECTION-C		
Q.No.9	i) What are the advantages of fermentation? ii) What are the seven principles of HACCP? iii) Enlist the type of wastes generated from citrus processing industry. iv) Write down the application of propionic acid in food industry. v) What microorganisms are involved in the fermentative production of bread? vi) What is the role of AGMARK in food sector? vii) Write down the principle of freeze drying. viii) Define F-value.	(10×1.5)=15

	<p>ix) What are Indian fermented foods?</p> <p>x) Enlist different types of transformation processes.</p>	
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