



GUJARAT TECHNOLOGICAL UNIVERSITY

Program Name: Bachelor of Vocation

Level: Under Graduate

Branch: Food Processing and Quality Control

Subject Code: BV01009081

Subject Name: Food Microbiologist

w. e. f. Academic Year:	2024-25
Semester:	1
Category of the Course:	On Job Training Elective

Prerequisite:	NA
Rationale:	A Food Microbiologist is responsible for ensuring quality of food products through microbiological analysis of raw materials, packaging materials, finished products, shelf-life samples and market complaint samples through microbiological procedures such as sampling, preparing culture media, sterilization of culture media, etc.

Course Outcome:

After Completion of the Course, Student will able to:

No	Course Outcomes
01	Apply knowledge of food processing techniques to real-world scenarios
02	Assess the nutritional impact of various food processing methods.
03	Implement quality control measures to ensure food safety and quality.
04	Understand and apply food safety regulations and standards.

Teaching and Examination Scheme:

Teaching Scheme (in Hours)			Total Credits L+T+ (PR/2)	Assessment Pattern and Marks				Total Marks
L	T	PR	C	Theory		Tutorial / Practical		
				ESE (E)	PA / CA (M)	PA/CA (I)	ESE (V)	
0	0	12	6	0	0	100	100	200

Course Content:

Unit No.	Content	No. of Hours	% of Weightage
	Prepare and maintain work area and lab equipment This unit is about preparing and maintaining work area and laboratory equipment's for microbiological analysis of food		



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	products.		
1.	<ul style="list-style-type: none">• Prepare and maintain work area for microbiological analysis of food products• Prepare and maintain laboratory equipment for microbiological analysis of food products	50	25
2.	<p>Carry out microbiological analysis of food products</p> <p>This unit is about microbiological analysis of food products through preparation of culture media, sampling, inoculation, incubation, counting, isolation, analyzing test results and reporting.</p> <ul style="list-style-type: none">• Prepare culture media for microbiological analysis• Sample for microbiological analysis• Inoculate and incubate samples for microbiological analysis• Estimate and calculate microbial count• Isolate and preserve pure microbial culture• Analyze results and provide recommendations	50	25
3.	<p>Monitor food safety system Description</p> <p>This unit is about monitoring food safety system in food processing unit to produce products meeting organization and regulatory standards.</p> <ul style="list-style-type: none">• Monitor housekeeping• Implement and monitor food safety in food processing unit• Monitor and implement personal hygiene standards	50	25
	<p>Complete documentation and record keeping related to microbiological analysis</p> <p>This unit is about documenting and maintaining records on microbiological analysis of raw materials, production sample, finished products, control sample, market complaint samples, and food safety and hygiene system related to production of food products.</p>		



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4.	<ul style="list-style-type: none">Document and maintain records on microbiological analysis of raw materials for production of food productsDocument and maintain records on microbiological analysis of production sample, finished products, control sample and market complaint samples for production of food productsDocument and maintain records on food safety and hygiene system for food processing unit	50	25
Total		200	100

Suggested Specification Table with Marks (Theory):

Distribution of Theory Marks					
R Level	U Level	A Level	N Level	E Level	C Level
20	20	15	15	15	15

Where R: Remember; U: Understanding; A: Application, N: Analyze and E: Evaluate C: Create (as per Revised Bloom's Taxonomy)

References/Suggested Learning Resources:

Food Microbiologist (NSQF Level 6)

(b) Open-source software and website:

- Food Safety and Standards Authority of India (FSSAI):** <https://fssai.gov.in/>
Offers guidelines, safety standards, and updates on food regulations and quality control in India.
- Open Food Facts:** <https://world.openfoodfacts.org/>
An open-source database with information on food products, ingredients, and nutrition, contributed by a global community.
- European Food Safety Authority (EFSA):** <https://www.efsa.europa.eu/>
European-based resources on food safety research, risk assessments, and food quality guidelines.
- International Food Information Council (IFIC):** <https://foodinsight.org/>
Provides science-based information on food safety, nutrition, and health.

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