23FPB314N

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BVoc DEGREE EXAMINATION DECEMBER 2025
(Third Semester)

Branch - **FOOD PROCESSING TECHNOLOGY**

FOOD MICROBIOLOGY AND FERMENTATION TECHNOLOGY

Time: Three Hours Maximum: 75 Marks

SECTION-A (10 Marks)

Answer **ALL** questions

ALL questions carry **EQUAL** marks (10 × 1 = 10)

Module No.	Question No.	Question	K Level	CO
1	1	Which of the following the statement deals with the study of Food microbiology a) Plant diseases b) Microorganisms in food production, spoilage, and safety c) Animal physiology d) Chemical composition of food	K1	CO1
	2	Show the intrinsic factor influencing microbial growth in food is: a) Temperature b) Relative humidity c) Water activity d) Presence of other microorganisms	K2	
2	3	Choose the microorganism spoilage in canned foods a) Molds b) Yeasts c) Thermophilic bacteria d) Viruses	K1	CO2
	4	Infer the method effectively prevents microbial spoilage in dairy products a) Freezing b) Pasteurization c) Dehydration d) Salting	K2	
3	5	Recall the symptoms of food poisoning with Staphylococcus aureus infection a) Nausea, vomiting, diarrhea b) Fever c) Headache d) Muscle spasms	K1	CO3
	6	Show the microorganism responsible for production of Mycotoxins a) Bacteria b) Viruses c) Fungi (molds) d) Protozoa	K2	
4	7	Find type of fermentation takes place in yogurt production a) Acetic acid fermentation b) Lactic acid fermentation c) Citric Acid fermentation d) Oxalic acid fermentation	K1	CO4
	8	Relate the desirable organisms in fermentation are: a) Pathogenic bacteria b) Spoilage molds c) Lactic acid bacteria and yeasts d) Viruses	K2	
5	9	Choose the function of downstream processing a) To prepare the raw materials for fermentation b) To cultivate microorganisms in a bioreactor c) To purify and recover the desired product from the fermentation broth d) To sterilize the equipment	K1	CO5
	10	Infer which instrument used to maintain aseptic conditions in fermentation a) Centrifuge b) Spectrophotometer c) Laminar flow hood (or sterile bioreactor system with filters) d) Microscope	K2	

Cont...

SECTION - B (35 Marks)

Answer **ALL** questions

ALL questions carry **EQUAL** Marks (5 × 7 = 35)

Module No.	Question No.	Question	K Level	CO
1	11.a.	Outline the classification and morphology of microorganisms involved in foods	K2	CO1
		(OR)		
	11.b.	Classify the intrinsic and extrinsic factors influencing microbial growth in foods.		
2	12.a.	Identify the causes and prevention of spoilage in fruits and vegetables	K3	CO2
		(OR)		
	12.b.	Apply the contamination in fish and meat products during processing and storage		
3	13.a.	Identify the bacterial agents responsible for foodborne illness and their control measures	K3	CO3
		(OR)		
	13.b.	Construct the role of toxins in food poisoning and intoxication		
4	14.a.	List out the fermentation and discuss the types of fermentation processes	K4	CO4
		(OR)		
	14.b.	Analyze the role of starter cultures and their preparation methods.		
5	15.a.	Categorize the basic design of fermentor to suggest improvements in aeration and agitation	K4	CO5
		(OR)		
	15.b.	Analyze the role of downstream processing steps (separation, purification, concentration) in ensuring product quality		

SECTION -C (30 Marks)

Answer **ANY THREE** questions

ALL questions carry **EQUAL** Marks (3 × 10 = 30)

Module No.	Question No.	Question	K Level	CO
1	16	Examine the general characteristics, classification, and industrial importance of microorganisms in food processing	K4	CO1
2	17	Distinguish the types of food spoilage and explain preventive measures in various food commodities.	K4	CO2
3	18	List on bacterial and non-bacterial agents of foodborne diseases and their preventive measures	K4	CO3
4	19	Simplify the basic principles of fermentation, media composition, and sterilization techniques used	K4	CO4
5	20	Estimate the impact of fermentor design on microbial growth and metabolite yield in food processing.	K4	CO5

Z-Z-Z END