COURSE OUTCOME MAPPING

MAPPING COURSE OUTCOMES LEADING TO THE ATTAINMENT OF PROGRAM OUTCOMES:

COURSE TITLE: FOOD AND HUMAN NUTRITION (semester 1) 2023-24 batch **COURSE CODE: FT18101** **CREDITS: 4**
DEPARTMENT: FOOD TECHNOLOGY AND MANAGEMENT
PROGRAMME OUTCOMES(B.Sc) Or POs : • **PO1. Scientific Knowledge.** Apply the knowledge of Science, Mathematics, Engineering& Technology fundamentals to solve the complex problems**.** • **PO2**. **Design/development of solutions**: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

- **PO3.Problem analysis:** Identify, formulate, research literature, and analyze complex scientific problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- **PO4.Modern tool usage:** Create, select and apply appropriate techniques, resources, modern technology and IT tools to complex science and technological activities.
- **PO5. Environment and sustainability:** Understand the impact of professional science and technological solutions in societal and environmental contexts and for sustainable development.
- **PO6.Individual and team work:** Function objectively as an individual and as a member in diverse teams.
- **PO7. Communication:** Communicate effectively on complex science & technology activities with society at large and able to write effective reports and documentation.
- **PO8. Life-long learning:** Recognise the need and ability to engage in independent and lifelong learning in the context of technological change.

PROGRAMME SPECIFIC OUTCOME (DEPARTMENT WISE):

PSO1: Understand the concept of food science, nutrition and dietetics

PSO2: Analyse the relationships between various nutrients and physiological disorders and various diet therapies

PSO3: Apply the knowledge of processing and preservation techniques in increasing the shelf life of food products

PSO4: Think critically about marketing and management strategies related to food.

	COURSE OUTCOMES	BLOOM'S TAXONOMY LEVEL
CO1	Describe the general classification, examples, deficiencies, functions of nutrients	I
CO2	Classify the different vitamins and minerals and their requirements	II
CO3	Create various diet plans for various age groups	VI
CO4	Analyze the assessment of nutritional status	IV
CO5	Compare different international agencies in overcoming malnutrition	V

TABLE 1: CO, PO, PSO MAPPING

outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PS01	PS02	PS03	PS04
C01	**S**	**H**		**H**	**H**		**H**		**H**	**S**		
C02	**S**	**H**		**S**			**H**		**H**	**S**		
C03	**H**	**H**	**S**		**H**		**H**		**H**	**S**		**S**
C04	**H**	**H**	**S**	**H**	**S**		**H**	**S**	**H**	**S**		**S**

C05	**H**	**H**		**H**	**S**		**H**	**H**	**S**	**H**		**H**

H: Highly Supportive **S: Supportive**

Table 2: COURSE OUTCOME ATTAINMENT

co	mid exam 1		mid exam 2		group discussion		assignment		viva		Attendence	
	pass%	Attainment level	pass%	Attainment level	pass%	Attainment level	pass%	Attainment level	pass%	Attainment level	pass%	Attainment level
CO1	91.7	3.0			100.0	3.0	100.0	3.0	100.0	3.0	64.6	0.0
CO2	91.7	3.0			100.0	3.0			100.0	3.0	64.6	0.0
CO3	91.7	3.0	100.0	3.0	100.0	3.0			100.0	3.0	64.6	0.0
CO4			100.0	3.0	100.0	3.0			100.0	3.0	64.6	0.0

CO5			100.0	3.0	100.0	3.0			100.0	3.0	64.6	0.0

AVERAGE	AVERAGE
0	0.924

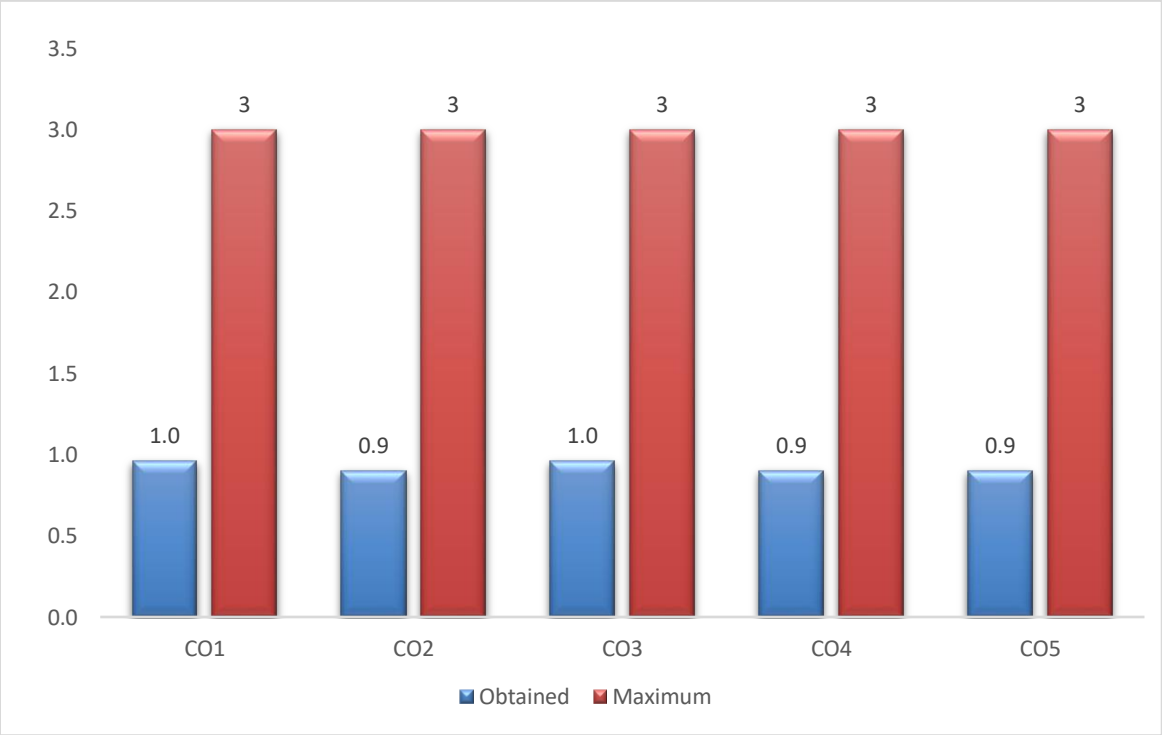

Table 3: PROGRAMME OUTCOME MAPPING

OUTCOME	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO
CO1		H 0.96		H 0.96	H 0.96		H 0.96	
CO2		H 0.9					H 0.9	
CO3	H 0.96	H 0.96			H 0.96		H 0.96	
CO4	H 0.9	H 0.9		H 0.9			H 0.9	
CO5	H 0.9	H 0.9		H 0.9			H 0.9	H
AVERAGE OF COS FOR POS	0.92	0.924		0.92	0.96		0.924	0.
AVERAGE OF POS	0.92	0.9168		0.906667	0.96		0.9168	
AVERAGE	0.920044444							

COURSE OUTCOME MAPPING

MAPPING COURSE OUTCOMES LEADING TO THE ATTAINMENT OF PROGRAM OUTCOMES:

COURSE TITLE: FOOD CHEMISTRY **(semester 1)** **2023-24 batch**

COURSE CODE: FT18102

CREDITS: 1

DEPARTMENT: FOOD TECHNOLOGY AND MANAGEMENT

PROGRAMME OUTCOMES(B.Sc) Or POs :

- **PO1. Scientific Knowledge.** Apply the knowledge of Science, Mathematics, Engineering& Technology fundamentals to solve the complex problems**.**
- **PO2**. **Design/development of solutions**: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
- **PO3.Problem analysis:** Identify, formulate, research literature, and analyze complex scientific problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- **PO4.Modern tool usage:** Create, select and apply appropriate techniques, resources, modern technology and IT tools to complex science and technological activities.

- **PO5. Environment and sustainability:** Understand the impact of professional science and technological solutions in societal and environmental contexts and for sustainable development.
- **PO6.Individual and team work:** Function objectively as an individual and as a member in diverse teams.
- **PO7. Communication:** Communicate effectively on complex science & technology activities with society at large and able to write effective reports and documentation.
- **PO8. Life-long learning:** Recognise the need and ability to engage in independent and lifelong learning in the context of technological change.

PROGRAMME SPECIFIC OUTCOME (DEPARTMENT WISE):

PSO1: Understand the concept of food science, nutrition and dietetics

PSO2: Analyse the relationships between various nutrients and physiological disorders and various diet therapies

PSO3: Apply the knowledge of processing and preservation techniques in increasing the shelf life of food products

PSO4: Think critically about marketing and management strategies related to food.

	COURSE OUTCOMES	**BLOOM'S TAXONOMY LEVEL**

CO1	Evaluate the importance and role of carbohydrates in food.	V(EVALUATE)
CO2	Analyze the functional properties of proteins in food.	IV(ANALYSE)
CO3	Explain the oxidative reactions of lipids in food.	III(APPLY)
CO4	Classify the enzymes of importance in food	II
CO5	Evaluate the role of water in food.	V(EVALUATE)

TABLE 1: CO, PO, PSO MAPPING

outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PS01	PS02	PS03	PS04
C01	**H**	**H**	**H**	**S**	**S**	**S**	**S**	**S**	**H**	**S**	**H**	**S**
C02	**H**	**H**	**H**	**S**	**S**	**S**	**S**	**S**	**H**	**S**	**H**	**S**
C03	**H**	**H**	**H**	**S**	**S**	**S**	**S**	**S**	**H**	**S**	**H**	**S**
C04	**H**	**H**	**H**	**S**	**S**	**S**	**S**	**S**	**H**	**S**	**H**	**S**
C05	**H**	**H**	**H**	**S**	**H**	**S**	**S**	**S**	**H**	**S**	**H**	**S**

H: Highly Supportive **S: Supportive**

Table 2: COURSE OUTCOME ATTAINMENT

co	mid exam 1		mid exam 2		group discussion		assignment		viva		Attendence	
	pass%	Attainment level	pass%	Attainment level	pass%	Attainment level	pass%	Attainment level	pass%	Attainment level	pass%	Attainme level
CO1	60.4	0.0			100.0	3.0	62.5	0.0	100.0	3.0	72.9	1.0
CO2	60.4	0.0			100.0	3.0			100.0	3.0	72.9	1.0
CO3	60.4	0.0	81.3	2.0	100.0	3.0			100.0	3.0	72.9	1.0
CO4			81.3	2.0	100.0	3.0			100.0	3.0	72.9	1.0
CO5			81.3	2.0	100.0	3.0			100.0	3.0	72.9	1.0

AVERAGE	AVERAGE
0	0.756

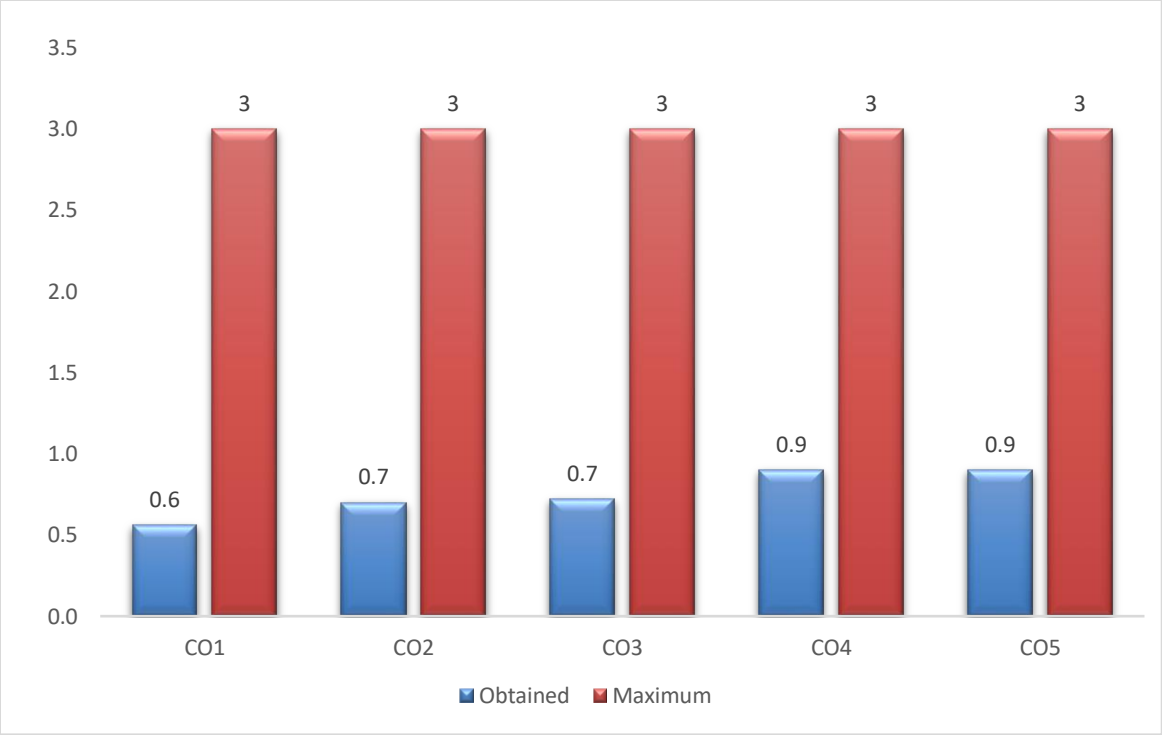

Table 3: PROGRAMME OUTCOME MAPPING

OUTCOME	PO1		PO2		PO3		PO4	PO5		PO6	PO7
CO1	H	0.56	H	0.56	H	0.56					
CO2	H	0.7	H	0.7	H	0.7					
CO3	H	0.72	H	0.72	H	0.72					
CO4	H	0.9	H	0.9	H	0.9					
CO5	H	0.9	H	0.9	H	0.9		H	0.9		

AVERAGE OF COS FOR POS	0.756	0.756	0.756		0.9		
AVERAGE OF POS	0.7952	0.7952	0.7952		0.9		
AVERAGE	0.8214						

COURSE OUTCOME MAPPING

MAPPING COURSE OUTCOMES LEADING TO THE ATTAINMENT OF PROGRAM OUTCOMES:

COURSE TITLE: MICROBIOLOGY OF FOOD AND WATER (SEMESTER-1)2023-24 batch **COURSE CODE: FT22103** **CREDITS: 4**
PROGRAMME OUTCOMES(B.Sc) Or POs :

- **PO1. Scientific Knowledge.** Apply the knowledge of Science, Mathematics, Engineering& Technology fundamentals to solve the complex problems**.**
- **PO2**. **Design/development of solutions**: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
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PO8. Life-long learning: Recognise the need and ability to engage in independent and lifelong learning in the context of technological change.

PROGRAMME SPECIFIC OUTCOME (DEPARTMENT WISE):

PSO1: Understand the concept of food science, nutrition and dietetics

PSO2: Analyse the relationships between various nutrients and physiological disorders and various diet therapies

PSO3: Apply the knowledge of processing and preservation techniques in increasing the shelf life of food products

PSO4: Think critically about marketing and management strategies related to food.

	COURSE OUTCOMES	**BLOOM'S TAXONOMY LEVEL**
CO1	Identify different microorganisms associated with food	II (Understanding)
CO2	Evaluate the microbial estimation in food	V(Evaluating)
CO3	Analyze microorganisms associated with various food groups	IV(Analyzing)
CO4	Evaluate the various food preservation techniques	V(Evaluating)
CO5	Explain various food borne illnesses	II (Understanding)

Table 1: CO, PO, PSO MAPPING

outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PS01	PS02	PS03
C01	H	H	H	H	H		H	H	H	S	H
C02	H	H	H	H		S	H	S		H	H
C03	H	H	H	H	H		H	S	H	H	H
C04	H	H	H	H	S	S	H	S		H	H
C05	H	H	H	H	S		S	H	S	H	H

H: Highly Supportive **S: Supportive**

Table 2: COURSE OUTCOME ATTAINMENT

co	mid exam 1		mid exam 2		group discussion		assignment		viva		Attendence	
	pass%	Attainment level	pass%	Attainment level	pass%	Attainment level	pass%	Attainment level	pass%	Attainment level	pass%	Attainme level
CO1	47.9	0.0			100.0	3.0	100.0	3.0	81.3	2.0	62.5	0.0
CO2	47.9	0.0			100.0	3.0			81.3	2.0	62.5	0.0
CO3	47.9	0.0	91.7	3.0	100.0	3.0			81.3	2.0	62.5	0.0
CO4			91.7	3.0	100.0	3.0			81.3	2.0	62.5	0.0
CO5			91.7	3.0	100.0	3.0			81.3	2.0	62.5	0.0

AVERAGE	AVERAGE
0	0.676

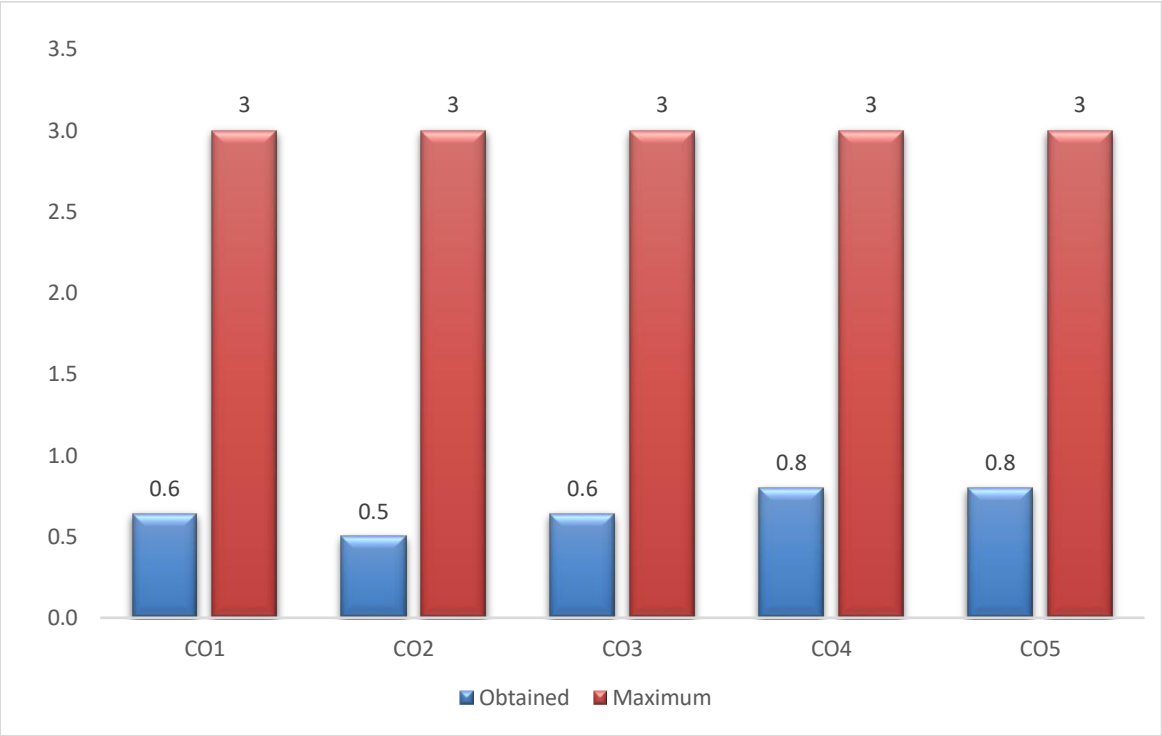

Table 3: PROGRAMME OUTCOME MAPPING

OUTCOME	PO1		PO2		PO3		PO4		PO5		PO6	PO7
CO1	H	0.64	H	0.64	H	0.64	H	0.64	H	0.64		H
CO2	H	0.5	H	0.5	H	0.5	H	0.5				H
CO3	H	0.64	H	0.64	H	0.64	H	0.64	H	0.64		H
CO4	H	0.8	H	0.8	H	0.8	H	0.8				H
CO5	H	0.8	H	0.8	H	0.8	H	0.8				
AVERAGE OF COS FOR POS	0.676		0.676		0.676		0.676		0.64			0.645
AVERAGE OF POS		0.6832		0.6832		0.6832		0.6832		0.64		
AVERAGE	0.682721429											

COURSE OUTCOME MAPPING

MAPPING COURSE OUTCOMES LEADING TO THE ATTAINMENT OF PROGRAM OUTCOMES:

COURSE TITLE: TECHNOLOGY OF FOOD PERSERVATION(SEMESTER-1)2023-24 batch

COURSE CODE: FT19104

CREDITS: 4

DEPARTMENT: FOOD TECHNOLOGY AND MANAGEMENT

PROGRAMME OUTCOMES(B.Sc) Or POs :

- **PO1. Scientific Knowledge.** Apply the knowledge of Science, Mathematics, Engineering& Technology fundamentals to solve the complex problems**.**
- **PO2**. **Design/development of solutions**: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
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PO8. Life-long learning: Recognise the need and ability to engage in independent and lifelong learning in the context of technological change.

PROGRAMME SPECIFIC OUTCOME (DEPARTMENT WISE):

PSO1: Understand the concept of food science, nutrition and dietetics

PSO2: Analyse the relationships between various nutrients and physiological disorders and various diet therapies

PSO3: Apply the knowledge of processing and preservation techniques in increasing the shelf life of food products

PSO4: Think critically about marketing and management strategies related to food.

	COURSE OUTCOMES	**BLOOM'S TAXONOMY LEVEL**
CO1	Classify different microorganisms based on various factors	II(Understanding)

CO2	Categorize the changes occurring during low temperature preservation	IV(Analyzing)
CO3	Categorize the changes occurring during high temperature preservation	IV(Analyzing)
CO4	Explain the various factors affecting preservation by drying method	IV(Analyzing)
CO5	Apply various methods of food preservation using recent technologies	VI(Creating)

Table 1: CO, PO, PSO MAPPING

outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PS01	PS02	PS03	PS04
C01	**H**	**H**	**H**	**H**	**H**		**S**	**S**	**H**	**H**	**H**	**S**
C02	**H**	**H**	**H**	**H**	**H**		**S**	**S**	**H**	**H**	**H**	**S**
C03	**H**	**H**	**H**	**H**	**H**		**S**	**S**	**H**	**H**	**H**	**S**
C04	**H**	**H**	**H**	**H**	**H**		**S**	**S**	**H**	**H**	**H**	**S**
C05	**H**	**H**	**H**	**H**	**H**		**S**	**S**	**H**	**H**	**H**	**S**

H: Highly Supportive **S: Supportive**

Table 2: COURSE OUTCOME ATTAINMENT

co	mid exam 1		mid exam 2		group discussion		assignment		viva		Attendence	
	pass%	Attainment level	pass%	Attainment level	pass%	Attainment level	pass%	Attainment level	pass%	Attainment level	pass%	Attainme level
CO1	66.7	1.0			100.0	3.0	100.0	3.0	100.0	3.0	66.7	1.0
CO2	66.7	1.0			100.0	3.0			100.0	3.0	66.7	1.0
CO3	66.7	1.0	85.4	3.0	100.0	3.0			100.0	3.0	66.7	1.0
CO4			85.4	3.0	100.0	3.0			100.0	3.0	66.7	1.0
CO5			85.4	3.0	100.0	3.0			100.0	3.0	66.7	1.0

AVERAGE	AVERAGE
0	0.912

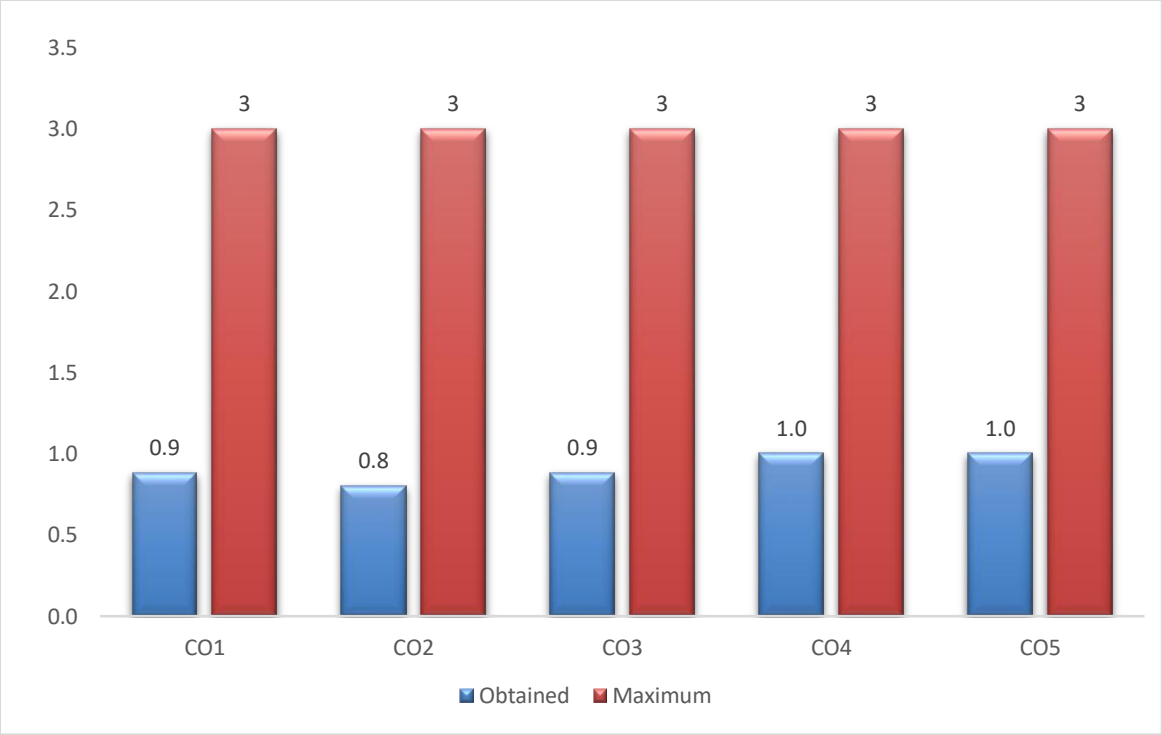

Table 3: PROGRAMME OUTCOME MAPPING

OUTCOME	PO1		PO2		PO3		PO4		PO5		PO6	PO7
CO1	H	0.88	H	0.88	H	0.88	H	0.88	H	0.88		
CO2	H	0.8	H	0.8	H	0.8	H	0.8	H	0.8		
CO3	H	0.88	H	0.88	H	0.88	H	0.88	H	0.88		
CO4	H	1	H	1	H	1	H	1	H	1		
CO5	H	1	H	1	H	1	H	1	H	1		

AVERAGE OF COS FOR POS	0.912	0.912	0.912	0.912	0.912		
AVERAGE OF POS	0.9184	0.9184	0.9184	0.9184	0.9184		
AVERAGE	0.9184						

COURSE OUTCOME MAPPING

MAPPING COURSE OUTCOMES LEADING TO THE ATTAINMENT OF PROGRAM OUTCOMES:

COURSE TITLE: FOOD ADDITIVES AND TOXICOLOGY (semester 2) 2023-24 batch

COURSE CODE: FT18202

CREDITS: 4

DEPARTMENT: B.SC FOOD TECHNOLOGY AND MANAGEMENT

PROGRAMME OUTCOMES(B.Sc) Or POs :

- **PO1. Scientific Knowledge.** Apply the knowledge of Science, Mathematics, Engineering& Technology fundamentals to solve the complex problems**.**
- **PO2**. **Design/development of solutions**: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
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- **PO5. Environment and sustainability:** Understand the impact of professional science

and technological solutions in societal and environmental contexts and for sustainable development.

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PROGRAMME SPECIFIC OUTCOME (DEPARTMENT WISE):

PSO1:understand the concept of food science, nutrition and dietetics

PSO2:analyse the relationships between various nutrients and physiological disorders and various diet therapies

PSO3:apply the knowledge of processing and preservation techniques in increasing the shelf life of food products

PSO4: Think critically about marketing and management strategies related to food.

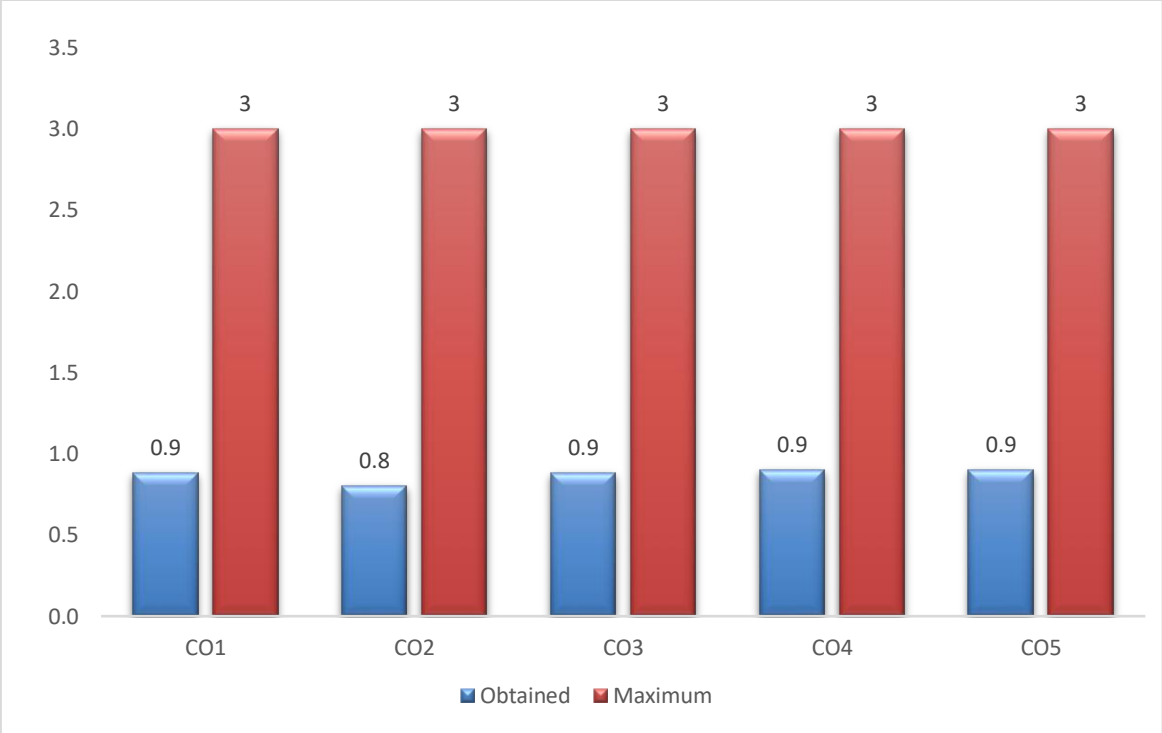
	COURSE OUTCOMES	BLOOM'S TAXONOMY LEVEL
CO1	Explain structure and properties of plant and animal pigments	III(APPLY)
CO2	Classify different food additives and their role in food industry	II(UNDERSTAND)
CO3	Identify the various food colours and flavours and their use in food industry	IV(ANALYSE)
CO4	To evaluate the microbial agents in the food industry	V(EVALUATE)
CO5	Apply the knowledge of role of antioxidants and sweeteners in foods	III(APPLY)

TABLE 1: CO, PO, PSO MAPPING

outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PS01	PS02	PS03	PS04
C01	**H**	**S**	**S**	**S**	**S**		**S**	**H**	**H**	**H**	**H**	**S**
C02	**H**	**H**	**S**	**S**	**H**	**S**	**S**	**H**	**H**	**H**	**H**	**S**
C03	**H**	**S**	**S**	**S**	**S**	**S**	**S**	**H**	**H**	**H**	**H**	**S**
C04	**H**	**S**	**S**	**S**	**S**		**S**	**H**	**H**	**H**	**H**	**S**
C05	**H**	**S**	**S**	**S**	**S**	**S**	**S**	**H**	**H**	**H**	**H**	**S**

co	mid exam 1		mid exam 2		group discussion		assignment		viva		Attendence	
	pass%	Attainment level	pass%	Attainment level	pass%	Attainment level	pass%	Attainment level	pass%	Attainment level	pass%	Attainment level
CO1	78.7	2.0			100.0	3.0	95.7	3.0	100.0	3.0	38.3	0.0
CO2	78.7	2.0			100.0	3.0			100.0	3.0	38.3	0.0
CO3	78.7	2.0	91.5	3.0	100.0	3.0			100.0	3.0	38.3	0.0
CO4			91.5	3.0	100.0	3.0			100.0	3.0	38.3	0.0
CO5			91.5	3.0	100.0	3.0			100.0	3.0	38.3	0.0

AVERAGE	AVERAGE
0	0.872



OUTCOME	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	H 0.88						

CO2	H	0.8	H	0.8			H	0.8
CO3	H	0.88						
CO4	H	0.9						
CO5	H	0.9						
AVERAGE OF COS FOR POS	0.872		0.8				0.8	
AVERAGE OF POS		0.8704		0.8				0.8
AVERAGE		0.8352						

COURSE OUTCOME MAPPING

MAPPING COURSE OUTCOMES LEADING TO THE ATTAINMENT OF PROGRAM OUTCOMES:

COURSE TITLE: FOOD PROCESS ENGINEERING-1 (semester 2) 2023-24 batch **COURSE CODE:** **FT18203 CREDITS: 5**
DEPARTMENT: B.SC FOOD TECHNOLOGY AND MANAGEMENT

PROGRAMME OUTCOMES(B.Sc) Or POs :

- **PO1. Scientific Knowledge.** Apply the knowledge of Science, Mathematics, Engineering& Technology fundamentals to solve the complex problems**.**
- **PO2**. **Design/development of solutions**: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
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- **PO4. Modern tool usage:** Create, select and apply appropriate techniques, resources, modern technology and IT tools to complex science and technological activities.
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- **PO6.Individual and team work:** Function objectively as an individual and as a member in diverse teams.
- **PO7. Communication:** Communicate effectively on complex science & technology activities with society at large and able to write effective reports and documentation.
- **PO8. Life-long learning:** Recognise the need and ability to engage in independent and lifelong learning in the context of technological change.

PROGRAMME SPECIFIC OUTCOME (DEPARTMENT WISE):

PSO1: Understand the concept of food science, nutrition and dietetics

PSO2: Analyse the relationships between various nutrients and physiological disorders and various diet therapies

PSO3: Apply the knowledge of processing and preservation techniques in increasing the shelf life of food products

PSO4: Think critically about marketing and management strategies related to food.

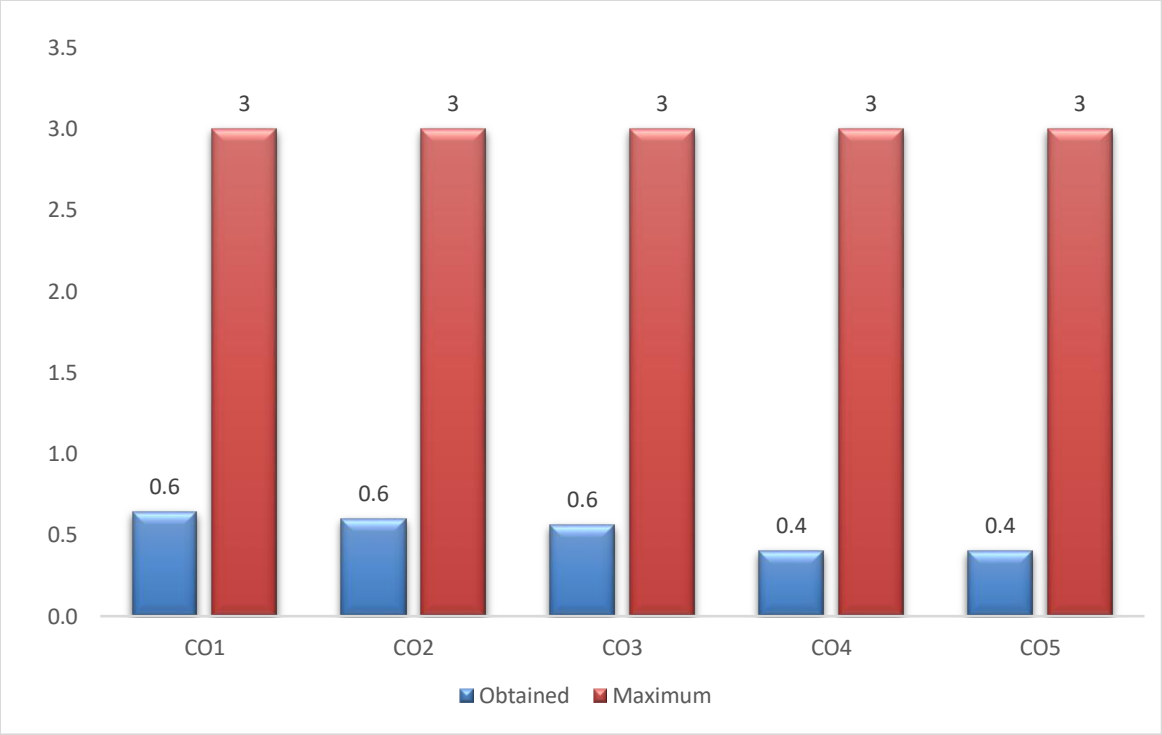
	COURSE OUTCOMES	**BLOOM'S TAXONOMY LEVEL**
CO1	To understand system of measurements	II(UNDERSTAND)
CO2	To develop and appraise the principles of material balance in food processing	III(APPLY)
CO3	To compare the heating properties of various types of steam	V(EVALUATE)
CO4	To analyze the changes in thermodynamic properties of gases and vapors	IV(ANALYSE)

CO5	To describe various mechanical refrigeration systems	IV(ANALYSE)

outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PS01	PS02	PS03	PS04
C01	**H**	**H**	**H**	**H**	**H**	**S**	**H**	**H**	**S**	**S**	**H**	**S**
C02	**H**	**H**	**H**	**H**	**H**	**S**	**S**	**S**	**H**	**S**	**H**	**S**
C03	**H**	**H**	**H**	**H**	**H**	**S**	**S**	**H**	**H**	**H**	**S**	**S**
C04	**H**	**H**	**H**	**H**	**H**	**S**	**S**	**H**	**H**	**S**	**H**	**S**
C05	**H**	**H**	**H**	**H**	**H**	**S**	**S**	**H**	**H**	**S**	**H**	**S**

co	mid exam 1		mid exam 2		group discussion		assignment		viva		Attendence	
	pass%	Attainment level	pass%	Attainment level	pass%	Attainment level	pass%	Attainment level	pass%	Attainment level	pass%	Attainn level
CO1	97.9	3.0			87.5	3.0	83.3	2.0	62.5	0.0	29.2	0.0
CO2	97.9	3.0			87.5	3.0			62.5	0.0	29.2	0.0
CO3	97.9	3.0	70.8	1.0	87.5	3.0			62.5	0.0	29.2	0.0
CO4			70.8	1.0	87.5	3.0			62.5	0.0	29.2	0.0
CO5			70.8	1.0	87.5	3.0			62.5	0.0	29.2	0.0

AVERAGE	AVERAGE
0	0.52



OUTCOME	PO1		PO2		PO3		PO4		PO5		PO6	PO7
CO1	H	0.64	H	0.64	H	0.64	H	0.64	H	0.64		H
CO2	H	0.6	H	0.6	H	0.6	H	0.6	H	0.6		
CO3	H	0.56	H	0.56	H	0.56	H	0.56	H	0.56		
CO4	H	0.4	H	0.4	H	0.4	H	0.4	H	0.4		
CO5	H	0.4	H	0.4	H	0.4	H	0.4	H	0.4		

AVERAGE OF COS FOR POS	0.52	0.52	0.52	0.52	0.52		0.64
AVERAGE OF POS	0.496	0.496	0.496	0.496	0.496		
AVERAGE	0.512142857						

COURSE OUTCOME MAPPING

MAPPING COURSE OUTCOMES LEADING TO THE ATTAINMENT OF PROGRAM OUTCOMES:

COURSE TITLE: FOOD BIOCHEMISTRY (semester 2) 2023-24 batch **COURSE CODE:** **FT22208** **CREDITS:4**
DEPARTMENT: B.SC FOOD TECHNOLOGY AND MANAGEMENT

PROGRAMME OUTCOMES(B.Sc) Or POs :

- **PO1. Scientific Knowledge.** Apply the knowledge of Science, Mathematics, Engineering& Technology fundamentals to solve the complex problems**.**
- **PO2**. **Design/development of solutions**: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
- **PO3.Problem analysis:** Identify, formulate, research literature, and analyze complex scientific problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- **PO4. Modern tool usage:** Create, select and apply appropriate techniques, resources, modern technology and IT tools to complex science and technological activities.
- **PO5. Environment and sustainability:** Understand the impact of professional science and technological solutions in societal and environmental contexts and for sustainable development.
- **PO6.Individual and team work:** Function objectively as an individual and as a member in diverse teams.
- **PO7. Communication:** Communicate effectively on complex science & technology activities with society at large and able to write effective reports and documentation.
- **PO8. Life-long learning:** Recognise the need and ability to engage in independent and lifelong learning in the context of technological change.

PROGRAMME SPECIFIC OUTCOME (DEPARTMENT WISE):

PSO1:understand the concept of food science, nutrition and dietetics

PSO2:analyse the relationships between various nutrients and physiological disorders and various diet therapies

PSO3:apply the knowledge of processing and preservation techniques in increasing the shelf life of food products

PSO4: Think critically about marketing and management strategies related to food.

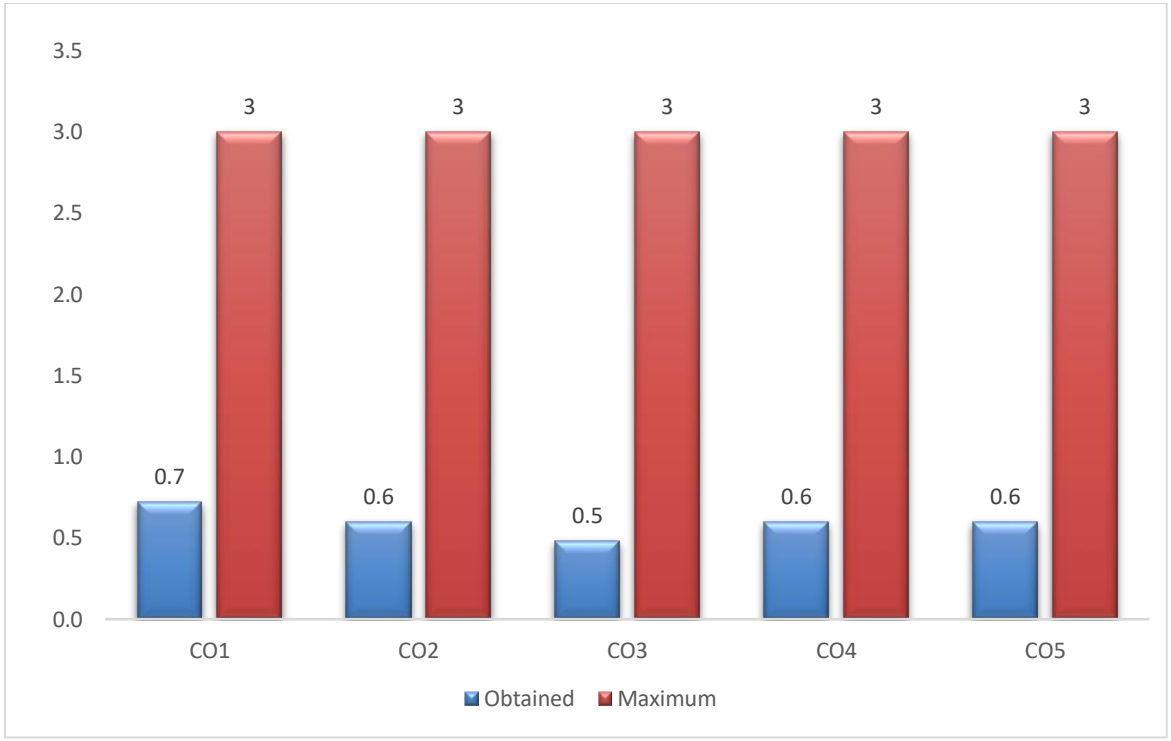
	COURSE OUTCOMES	**BLOOM'S TAXONOMY LEVEL**
CO1	Evaluate various analytical methods	V (Evaluate)
CO2	Classify carbohydrates and different metabolic pathways	II (Understand)
CO3	Classify lipids and fatty acids and synthesis of fatty acids	II (Understand)

CO4	Distinguish transamination and deamination	VI (Create)
CO5	Demonstrate protein biosynthesis	II (Understand)

outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PS01	PS02	PS03	PS04
C01	H	H	H	H	H	S	H	H	S	S		
C02	H	H	H	S	H	S	H	H	S	S		
C03	H	H	H	S	H	S	H	H	S	S		
C04	H	H	H	S	H	S	H	H	S	S		
C05	H	H	H	S	H	S	H	H	S	S		

co	mid exam 1		mid exam 2		group discussion		assignment		viva		Attendence	
	pass%	Attainment level	pass%	Attainment level	pass%	Attainment level	pass%	Attainment level	pass%	Attainment level	pass%	Attainme level
CO1	56.3	0.0			100.0	3.0	100.0	3.0	100.0	3.0	64.6	0.0
CO2	56.3	0.0			100.0	3.0			100.0	3.0	64.6	0.0
CO3	56.3	0.0	62.5	0.0	100.0	3.0			100.0	3.0	64.6	0.0
CO4			62.5	0.0	100.0	3.0			100.0	3.0	64.6	0.0
CO5			62.5	0.0	100.0	3.0			100.0	3.0	64.6	0.0

AVERAGE	AVERAGE
0	0.6


3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
3
3
3
3
3
0.7
0.6
0.5
0.6
0.6
CO1
CO2
CO3
CO4
CO5
Obtained
Maximum

OUTCOME	PO1		PO2		PO3		PO4		PO5		PO6	PO7	
CO1	H	0.72	H	0.72	H	0.72	H	0.72	H	0.72		H	0.72
CO2	H	0.6	H	0.6	H	0.6			H	0.6		H	0.6
CO3	H	0.48	H	0.48	H	0.48			H	0.48		H	0.48
CO4	H	0.6	H	0.6	H	0.6			H	0.6		H	0.6
CO5	H	0.6	H	0.6	H	0.6			H	0.6		H	0.6
AVERAGE OF COS FOR POS	0.6		0.6		0.6		0.72		0.6			0.6	
AVERAGE OF POS		0.576		0.576		0.576		0.72		0.576			0.57
AVERAGE	0.596571429												

COURSE OUTCOME MAPPING

MAPPING COURSE OUTCOMES LEADING TO THE ATTAINMENT OF PROGRAM OUTCOMES:

COURSE TITLE: TECHNOLOGY OF ANIMAL BASED FOODS

(SEMESTER-4) 2023-24 batch

COURSE CODE:

FT20401 CREDITS:

4

DEPARTMENT: B.SC FOOD TECHNOLOGY AND MANAGEMENT

PROGRAMME OUTCOMES(B.Sc) Or POs :

- **PO1. Scientific Knowledge.** Apply the knowledge of Science, Mathematics, Engineering& Technology fundamentals to solve the complex problems**.**
- **PO2**. **Design/development of solutions**: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
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- **PO7. Communication:** Communicate effectively on complex science & technology activities with society at large and able to write effective reports and documentation.

- **PO8. Life-long learning:** Recognise the need and ability to engage in independent and lifelong learning in the context of technological change.

PROGRAMME SPECIFIC OUTCOME (DEPARTMENT WISE):

PSO1:understand the concept of food science, nutrition and dietetics

PSO2:analyse the relationships between various nutrients and physiological disorders and various diet therapies

PSO3:apply the knowledge of processing and preservation techniques in increasing the shelf life of food products

PSO4: Think critically about marketing and management strategies related to food.

	COURSE OUTCOMES	**BLOOM'S TAXONOMY LEVEL**
CO1	Conduct survey on the sources of meat and meat products in India	II (Understanding)
CO2	Differentiate the various changes in meat processing	IV(Analyzing)
CO3	Develop various preservation methods in meat	IV(Analyzing)

CO4	Understand various processing methods in meat	V(Evaluating)
CO5	Prepare fish products by different preservation methods	IV(Analyzing)

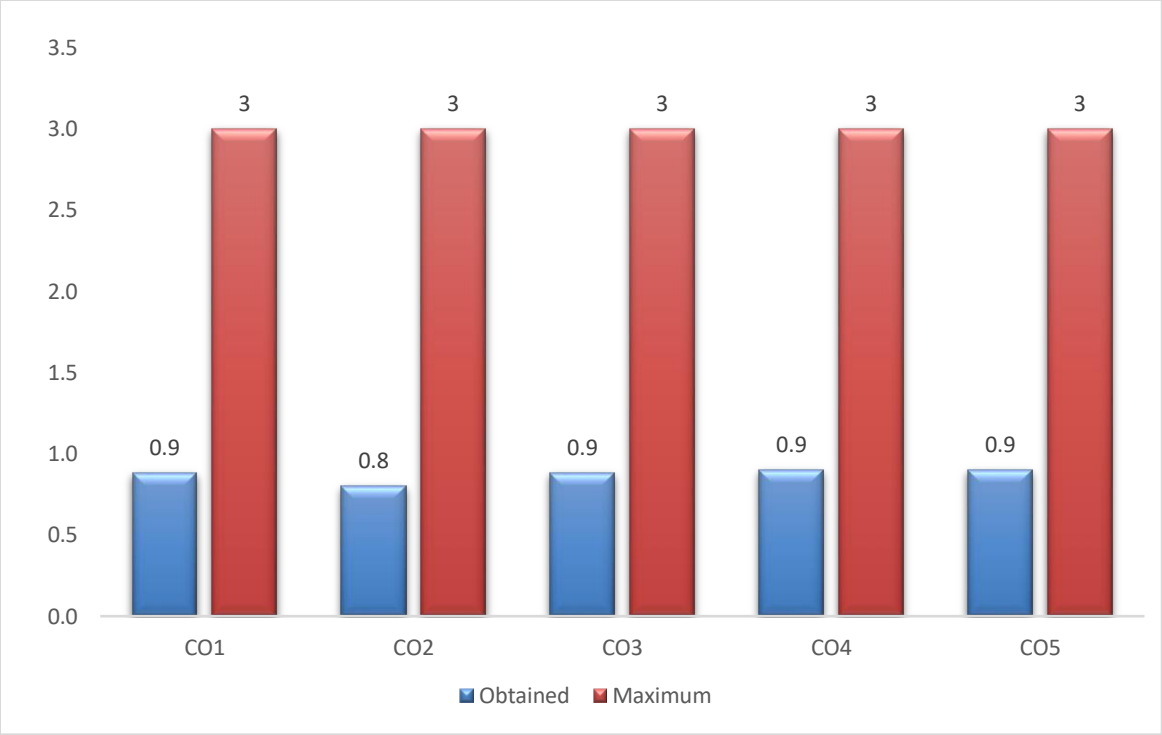
outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PS01	PS02	PS03
C01	**H**		**H**	**S**			**S**	**H**		**S**	**S**
C02	**H**		**H**	**H**			**H**	**S**		**S**	
C03	**H**		**H**	**H**	**H**		**H**	**H**			**H**
C04	**H**		**H**	**H**	**S**		**H**	**H**		**S**	
C05	**H**		**H**	**H**	**H**		**H**	**H**			

H: Highly Supportive

S: Supportive

co	mid exam 1		mid exam 2		group discussion		assignment		viva		Attendence	
	pass%	Attainment level	pass%	Attainment level	pass%	Attainment level	pass%	Attainment level	pass%	Attainment level	pass%	Attainme level
CO1	82.4	2.0			100.0	3.0	100.0	3.0	100.0	3.0	35.3	0.0
CO2	82.4	2.0			100.0	3.0			100.0	3.0	35.3	0.0
CO3	82.4	2.0	86.3	3.0	100.0	3.0			100.0	3.0	35.3	0.0
CO4			86.3	3.0	100.0	3.0			100.0	3.0	35.3	0.0
CO5			86.3	3.0	100.0	3.0			100.0	3.0	35.3	0.0

AVERAGE	AVERAGE
0	0.872



OUTCOME	PO1		PO2	PO3		PO4		PO5		PO6	PO7
CO1	H	0.88		H	0.88						
CO2	H	0.8		H	0.8	H	0.8				H
CO3	H	0.88		H	0.88	H	0.88	H	0.88		H
CO4	H	0.9		H	0.9	H	0.9				H
CO5	H	0.9		H	0.9	H	0.9	H	0.9		H

AVERAGE OF COS FOR POS	0.872		0.872	0.87	0.89		0.87
AVERAGE OF POS	0.8704		0.8704	0.87	0.89		
AVERAGE	0.877216667						

COURSE OUTCOME MAPPING

MAPPING COURSE OUTCOMES LEADING TO THE ATTAINMENT OF PROGRAM OUTCOMES:

COURSE TITLE: TECHNOLOGY OF OILS AND FATS **(SEMESTER-4) 2023-24 batch** **COURSE CODE:** **FT23403 CREDITS:** **4**
DEPARTMENT: B.SC FOOD TECHNOLOGY AND MANAGEMENT

PROGRAMME OUTCOMES(B.Sc) Or POs :

- **PO1. Scientific Knowledge.** Apply the knowledge of Science, Mathematics, Engineering& Technology fundamentals to solve the complex problems**.**
- **PO2**. **Design/development of solutions**: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
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- **PO6.Individual and team work:** Function objectively as an individual and as a member in diverse teams.
- **PO7. Communication:** Communicate effectively on complex science & technology activities with society at large and able to write effective reports and documentation.
- **PO8. Life-long learning:** Recognise the need and ability to engage in independent and lifelong learning in the context of technological change.

PROGRAMME SPECIFIC OUTCOME (DEPARTMENT WISE):

PSO1:understand the concept of food science, nutrition and dietetics

PSO2:analyse the relationships between various nutrients and physiological disorders and various diet therapies

PSO3:apply the knowledge of processing and preservation techniques in increasing the shelf life of food products

PSO4: Think critically about marketing and management strategies related to food.

	COURSE OUTCOMES	**BLOOM'S TAXONOMY LEVEL**
CO1	Explain composition and classification of fats and oils	II(Understand)
CO2	Create knowledge on various characteristics of fats	VI(Creating)
CO3	Explain the various steps involved in processing of fats	II(Understand)

CO4	Create value added products from fats	VI(Creating)
CO5	To show how to utilize the by-products from oil refining industries	II(Understand)

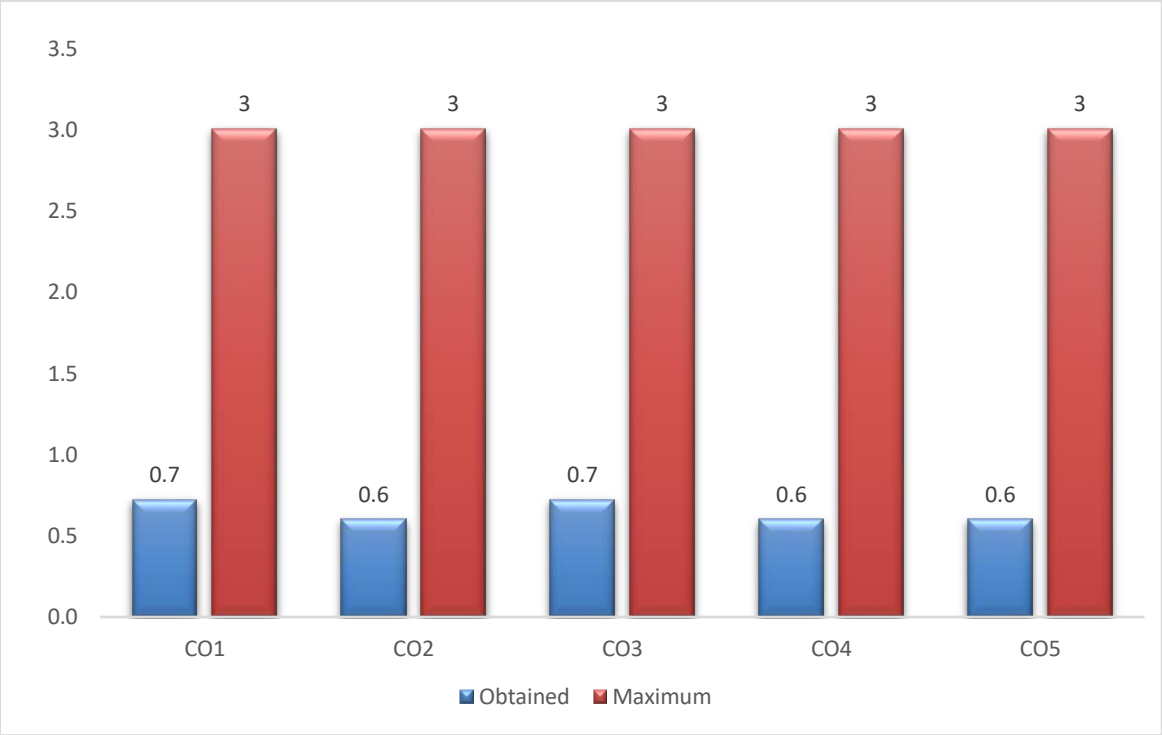
outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PS01	PS02	PS03
C01	**H**	**H**	**H**	**H**	**S**	**S**	**S**	**H**	**H**	**H**	**H**
C02	**H**	**H**	**H**	**H**	**H**	**S**	**S**	**H**	**H**	**H**	**H**
C03	**H**	**H**	**H**	**H**	**H**	**S**	**S**	**S**	**H**	**H**	**H**
C04	**H**	**H**	**H**	**H**	**S**	**S**	**S**	**S**	**H**	**H**	**H**
C05	**H**	**H**	**H**	**H**	**H**	**S**	**S**	**S**	**H**	**H**	**H**

H: Highly Supportive

S: Supportive

co	mid exam 1		mid exam 2		group discussion		assignment		viva		Attendence	
	pass%	Attainment level	pass%	Attainment level	pass%	Attainment level	pass%	Attainment level	pass%	Attainment level	pass%	Attainme level
CO1	90.2	3.0			100.0	3.0	88.2	3.0	58.8	0.0	35.3	0.0
CO2	90.2	3.0			100.0	3.0			58.8	0.0	35.3	0.0
CO3	90.2	3.0	86.3	3.0	100.0	3.0			58.8	0.0	35.3	0.0
CO4			86.3	3.0	100.0	3.0			58.8	0.0	35.3	0.0
CO5			86.3	3.0	100.0	3.0			58.8	0.0	35.3	0.0

AVERAGE	AVERAGE
0	0.648



OUTCOME	PO1		PO2		PO3		PO4		PO5		PO6	PO7
CO1	H	0.72	H	0.72	H	0.72	H	0.72				
CO2	H	0.6	H	0.6	H	0.6	H	0.6	H	0.6		
CO3	H	0.72	H	0.72	H	0.72	H	0.72	H	0.72		

CO4	H	0.6	H	0.6	H	0.6	H	0.6				
CO5	H	0.6	H	0.6	H	0.6	H	0.6	H	0.6		
AVERAGE OF COS FOR POS	0.648		0.648		0.648		0.648		0.64			
AVERAGE OF POS		0.6336		0.6336		0.6336		0.6336		0.64		
AVERAGE	0.634066667											

COURSE OUTCOME MAPPING

MAPPING COURSE OUTCOMES LEADING TO THE ATTAINMENT OF PROGRAM OUTCOMES:

COURSE TITLE: BAKING SCIENCE AND TECHNOLOGY (SEMESTER-4) 2023-24 batch

COURSE CODE:

FT20404

CREDITS:

4

DEPARTMENT: B.SC FOOD TECHNOLOGY AND TECHNOLOGY

PROGRAMME OUTCOMES(B.Sc) Or POs :

- **PO1. Scientific Knowledge.** Apply the knowledge of Science, Mathematics, Engineering& Technology fundamentals to solve the complex problems**.**
- **PO2**. **Design/development of solutions**: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
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PROGRAMME SPECIFIC OUTCOME (DEPARTMENT WISE):

PSO1:understand the concept of food science, nutrition and dietetics

PSO2:analyse the relationships between various nutrients and physiological disorders and various diet therapies

PSO3:apply the knowledge of processing and preservation techniques in increasing the shelf life of food products

PSO4: Think critically about marketing and management strategies related to food.

	COURSE OUTCOMES	**BLOOM'S TAXONOMY LEVEL**
CO1	To plan the ingredients used in bread making	VI (Create)
CO2	To develop bread making process	VI (Create)
CO3	To produce different types of biscuits	III(Apply)

CO4	To construct the recipe for cakes	VI (Create)
CO5	To prepare wafers, frozen dough products and flat breads	III(Apply)

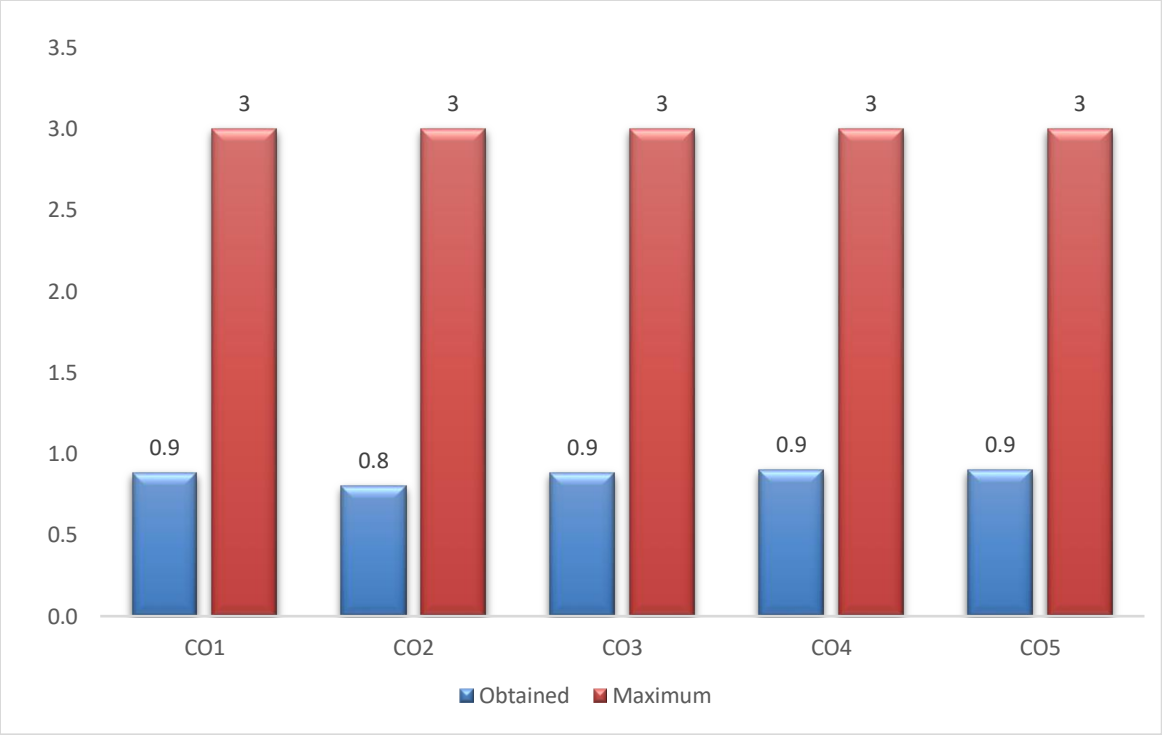
outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PS01	PS02	PS03
C01	S	H						S	H		H
C02	S	H		H				H	H		H
C03		H		S				S	H		H
C04		H		S		S			H		H
C05		S		S					H		H

H: Highly Supportive

S: Supportive

co	mid exam 1		mid exam 2		group discussion		assignment		viva		Attendence	
	pass%	Attainment level	pass%	Attainment level	pass%	Attainment level	pass%	Attainment level	pass%	Attainment level	pass%	Attainme level
CO1	84.3	2.0			100.0	3.0	100.0	3.0	100.0	3.0	43.1	0.0
CO2	84.3	2.0			100.0	3.0			100.0	3.0	43.1	0.0
CO3	84.3	2.0	94.1	3.0	100.0	3.0			100.0	3.0	43.1	0.0
CO4			94.1	3.0	100.0	3.0			100.0	3.0	43.1	0.0
CO5			94.1	3.0	100.0	3.0			100.0	3.0	43.1	0.0

AVERAGE	AVERAGE
0	0.872



OUTCOME	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1		H 0.88					
CO2		H 0.8		H 0.8			

CO3		H	0.88				
CO4		H	0.9				
CO5							
AVERAGE OF COS FOR POS		0.865		0.8			
AVERAGE OF POS			0.86125		0.8		
AVERAGE	0.820416667						

COURSE OUTCOME MAPPING

MAPPING COURSE OUTCOMES LEADING TO THE ATTAINMENT OF PROGRAM OUTCOMES:

COURSE TITLE: FOOD PACKAGING (SEMESTER-4) 2023-24 batch **COURSE CODE: FT23405 CREDITS: 4**
DEPARTMENT: B.SC FOOD TECHNOLOGY AND MANAGEMENT

PROGRAMME OUTCOMES(B.Sc) Or POs :

- **PO1. Scientific Knowledge.** Apply the knowledge of Science, Mathematics, Engineering& Technology fundamentals to solve the complex problems**.**
- **PO2**. **Design/development of solutions**: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
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PROGRAMME SPECIFIC OUTCOME (DEPARTMENT WISE):

PSO1:understand the concept of food science, nutrition and dietetics

PSO2:analyse the relationships between various nutrients and physiological disorders and various diet therapies

PSO3:apply the knowledge of processing and preservation techniques in increasing the shelf life of food products

PSO4: Think critically about marketing and management strategies related to food.

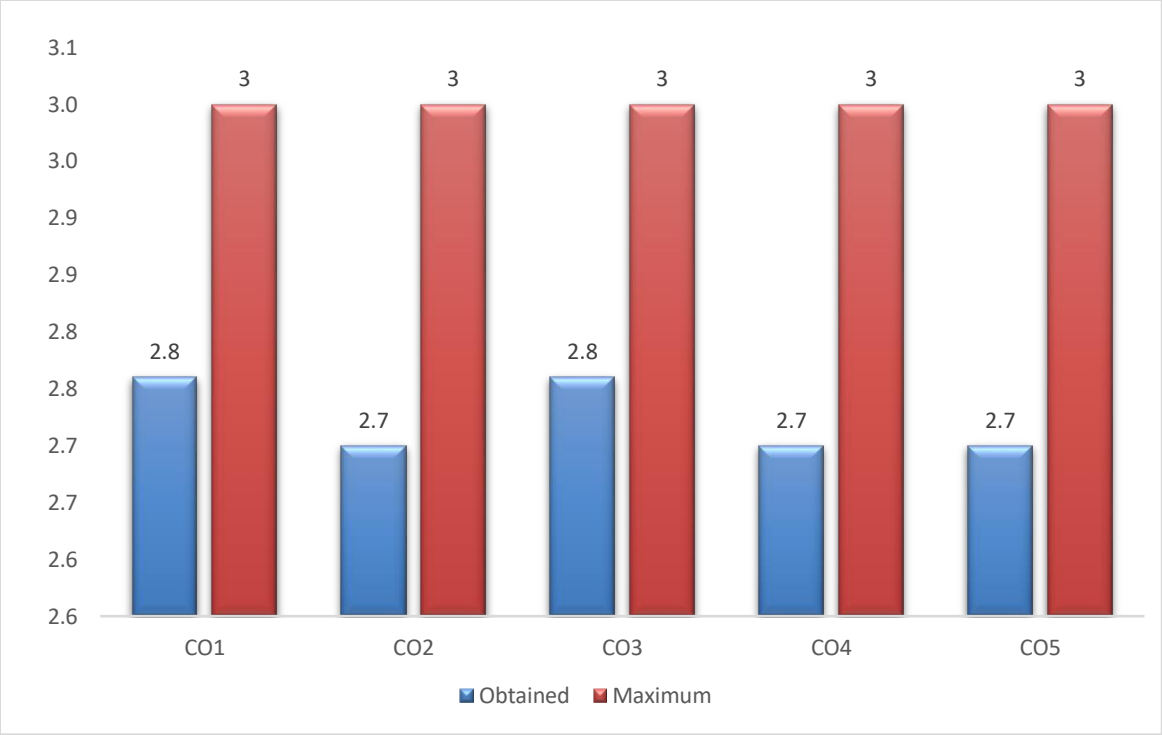
	COURSE OUTCOMES	**BLOOM'S TAXONOMY LEVEL**
CO1	Identify the importance, functions and design of packaging	IV(Analyzing)
CO2	Classify the food packaging material(paper& metal)	IV(Analyzing)

CO3	Explain the packaging materials(plastic & glass) and their properties	III(Apply)
CO4	Evaluate the packaging material, package performance and packaging equipment	V(Evaluating)
CO5	Compare the recent trends in packaging	V(Evaluating)

outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PS01	PS02	PS03
C01		H						H	H	S	
C02			H		H						S
C03	H		H					H	H	H	
C04	H	H			H				H		H
C05	H		H	H			H				

co	mid exam 1		mid exam 2		group discussion		assignment		viva		Attendence	
	pass%	Attainment level	pass%	Attainment level	pass%	Attainment level	pass%	Attainment level	pass%	Attainment level	pass%	Attainme level
CO1	88.2	3.0			100.0	3.0	100.0	3.0	100.0	3.0	52.9	0.0
CO2	88.2	3.0			100.0	3.0			100.0	3.0	52.9	0.0
CO3	88.2	3.0	86.3	3.0	100.0	3.0			100.0	3.0	52.9	0.0
CO4			86.3	3.0	100.0	3.0			100.0	3.0	52.9	0.0
CO5			86.3	3.0	100.0	3.0			100.0	3.0	52.9	0.0

AVERAGE	AVERAGE
3	2.724



OUTCOME	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1		H 2.76					

CO2					H	2.7			H	2.7		
CO3	H	2.76			H	2.76						
CO4	H	2.7	H	2.7					H	2.7		
CO5	H	2.7			H	2.7	H	2.7				H
AVERAGE OF COS FOR POS	2.72		2.73		2.72		2.7		2.7			2.7
AVERAGE OF POS		2.72		2.715		2.72		2.7		2.7		
AVERAGE	2.716428571											

COURSE OUTCOME MAPPING

MAPPING COURSE OUTCOMES LEADING TO THE ATTAINMENT OF PROGRAM OUTCOMES:

COURSE TITLE: FOOD PLANT SANITATION AND WASTE MANAGEMENT (SEMESTER-4) 2023-24 batch

COURSE

CODE:FT18406

CREDITS: 3

DEPARTMENT: B.SC FOOD TECHNOLOGY AND MANAGEMENT

PROGRAMME OUTCOMES(B.Sc) Or POs :

- **PO1. Scientific Knowledge.** Apply the knowledge of Science, Mathematics, Engineering& Technology fundamentals to solve the complex problems**.**
- **PO2**. **Design/development of solutions**: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
- **PO3.Problem analysis:** Identify, formulate, research literature, and analyze complex scientific problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- **PO4. Modern tool usage:** Create, select and apply appropriate techniques, resources, modern technology and IT tools to complex science and technological activities.
- **PO5. Environment and sustainability:** Understand the impact of professional science and technological solutions in societal and environmental contexts and for sustainable development.
- **PO6.Individual and team work:** Function objectively as an individual and as a member in diverse teams.
- **PO7. Communication:** Communicate effectively on complex science & technology activities with society at large and able to write effective reports and documentation.

- **PO8. Life-long learning:** Recognise the need and ability to engage in independent and lifelong learning in the context of technological change.

PROGRAMME SPECIFIC OUTCOME (DEPARTMENT WISE):

PSO1:understand the concept of food science, nutrition and dietetics

PSO2:analyse the relationships between various nutrients and physiological disorders and various diet therapies

PSO3:apply the knowledge of processing and preservation techniques in increasing the shelf life of food products

PSO4: Think critically about marketing and management strategies related to food.

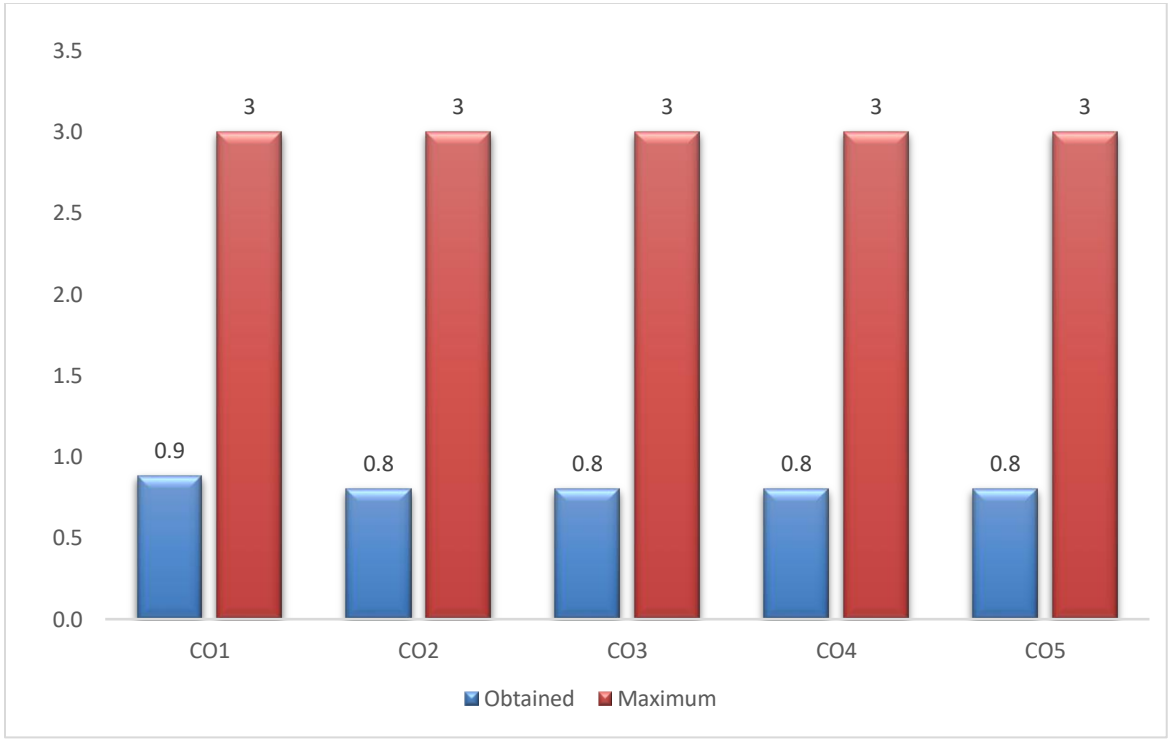
	COURSE OUTCOMES	**BLOOM'S TAXONOMY LEVEL**
CO1	Plan food plant layout and equipment design	VI(Creating)

CO2	Evaluate food plant hygiene and sanitation	V(Evaluating)
CO3	Classify the waste water treatment systems	IV (Analysing)
CO4	Differentiate the different biological treatment of waste water	IV (Analysing)
CO5	Explain the utilization of food industry wastes	III (Applying)

outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PS01	PS02	PS03
C01	**H**	**S**	**S**	**S**	**H**		**S**	**H**	**H**		**S**
C02	**S**	**S**	**S**	**S**	**S**		**S**	**S**	**H**	**S**	**S**
C03	**H**	**H**	**S**	**S**	**S**	**S**	**S**	**H**	**H**	**S**	
C04	**H**	**S**	**S**	**S**	**S**	**S**	**S**	**H**	**H**	**H**	**H**
C05	**H**	**S**	**S**	**S**	**S**	**S**	**H**	**H**	**H**	**S**	**S**

co	mid exam 1		mid exam 2		group discussion		assignment		viva		Attendence	
	pass%	Attainment level	pass%	Attainment level	pass%	Attainment level	pass%	Attainment level	pass%	Attainment level	pass%	Attainme level
CO1	78.4	2.0			100.0	3.0	100.0	3.0	100.0	3.0	52.9	0.0
CO2	78.4	2.0			100.0	3.0			100.0	3.0	52.9	0.0
CO3	78.4	2.0	84.3	2.0	100.0	3.0			100.0	3.0	52.9	0.0
CO4			84.3	2.0	100.0	3.0			100.0	3.0	52.9	0.0
CO5			84.3	2.0	100.0	3.0			100.0	3.0	52.9	0.0

AVERAGE	AVERAGE
0	0.816


3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
3
3
3
3
3
0.9
0.8
0.8
0.8
0.8
CO1
CO2
CO3
CO4
CO5
Obtained
Maximum

OUTCOME	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	H 0.88				H 0.88		
CO2							
CO3	H 0.8	H 0.8					
CO4	H 0.8						
CO5	H 0.8						H
AVERAGE OF COS FOR POS	0.82	0.8			0.88		0.8
AVERAGE OF POS	0.805	0.8			0.88		
AVERAGE	0.818						

COURSE OUTCOME MAPPING

MAPPING COURSE OUTCOMES LEADING TO THE ATTAINMENT OF PROGRAM OUTCOMES:

COURSE TITLE: EXTRUSION TECHNOLOGY

(SEMESTER-6) 2023-24 batch

COURSE CODE:

FT18601A CREDITS:

4

DEPARTMENT: B.SC FOOD TECHNOLOGY AND MANAGEMENT

PROGRAMME OUTCOMES(B.Sc) Or POs :

- **PO1. Scientific Knowledge.** Apply the knowledge of Science, Mathematics, Engineering& Technology fundamentals to solve the complex problems**.**
- **PO2**. **Design/development of solutions**: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
- **PO3.Problem analysis:** Identify, formulate, research literature, and analyze complex scientific problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- **PO4. Modern tool usage:** Create, select and apply appropriate techniques, resources, modern technology and IT tools to complex science and technological activities.
- **PO5. Environment and sustainability:** Understand the impact of professional science and technological solutions in societal and environmental contexts and for sustainable development.
- **PO6.Individual and team work:** Function objectively as an individual and as a member in diverse teams.
- **PO7. Communication:** Communicate effectively on complex science & technology activities with society at large and able to write effective reports and documentation.
- **PO8. Life-long learning:** Recognise the need and ability to engage in independent and lifelong learning in the context of technological change.

PROGRAMME SPECIFIC OUTCOME (DEPARTMENT WISE):

PSO1:understand the concept of food science, nutrition and dietetics

PSO2:analyse the relationships between various nutrients and physiological disorders and various diet therapies

PSO3:apply the knowledge of processing and preservation techniques in increasing the shelf life of food products

PSO4: Think critically about marketing and management strategies related to food.

	COURSE OUTCOMES	**BLOOM'S TAXONOMY LEVEL**
CO1	Compare the advantages and disadvantages of extrusion	IV(Analyzing)

CO2	Design single and double screw extruder	VI (Creating)
CO3	Differentiate the chemical and nutritional changes occur in food during extrusion	IV(Analyzing)
CO4	Make the different processing of snack foods and animal foods by using extrusion	IV(Analyzing)
CO5	Prepare the RTE cereals and texturized vegetable protein	III(Applying)

outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PS01	PS02	PS03
C01		H		H			H	H	H	S	
C02		H					H		H		S
C03		H	H				S	H	H		H
C04	H	S					H		H	H	
C05							H	H	H		

co	mid exam 1		mid exam 2		group discussion		assignment		viva		Attendence	
	pass%	Attainment level	pass%	Attainment level	pass%	Attainment level	pass%	Attainment level	pass%	Attainment level	pass%	Attainme level
CO1	81.0	2.0			100.0	3.0	100.0	3.0	100.0	3.0	61.9	0.0
CO2	81.0	2.0			100.0	3.0			100.0	3.0	61.9	0.0
CO3	81.0	2.0	81.0	2.0	100.0	3.0			100.0	3.0	61.9	0.0
CO4			81.0	2.0	100.0	3.0			100.0	3.0	61.9	0.0
CO5			81.0	2.0	100.0	3.0			100.0	3.0	61.9	0.0

AVERAGE	AVERAGE
0	0.816

OUTCOME	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1		H 0.88		H 0.88			H
CO2		H 0.8					H
CO3		H 0.8	H 0.8				
CO4	H 0.8						H
CO5							H
AVERAGE OF COS FOR POS	0.8	0.826666667	0.8	0.88			0.82
AVERAGE OF POS	0.8	0.808889	0.8	0.88			
AVERAGE	0.81712963						

COURSE OUTCOME MAPPING

MAPPING COURSE OUTCOMES LEADING TO THE ATTAINMENT OF PROGRAM OUTCOMES:

COURSE TITLE: TECHNOLOGY OF SPICES AND CONDIMENTS **(SEMESTER- 6) 2023-24 batch** **COURSE CODE: FT21601B** **CREDITS: 4**
DEPARTMENT: B.SC FOOD TECHNOLOGY AND MANAGEMENT

PROGRAMME OUTCOMES(B.Sc) Or POs :

- **PO1. Scientific Knowledge.** Apply the knowledge of Science, Mathematics, Engineering& Technology fundamentals to solve the complex problems**.**
- **PO2**. **Design/development of solutions**: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
- **PO3.Problem analysis:** Identify, formulate, research literature, and analyze complex scientific problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- **PO4. Modern tool usage:** Create, select and apply appropriate techniques, resources, modern technology and IT tools to complex science and technological activities.
- **PO5. Environment and sustainability:** Understand the impact of professional science and technological solutions in societal and environmental contexts and for sustainable development.
- **PO6.Individual and team work:** Function objectively as an individual and as a member in diverse teams.
- **PO7. Communication:** Communicate effectively on complex science & technology activities with society at large and able to write effective reports and documentation.
- **PO8. Life-long learning:** Recognise the need and ability to engage in independent and lifelong learning in the context of technological change.

PROGRAMME SPECIFIC OUTCOME (DEPARTMENT WISE):

PSO1:understand the concept of food science, nutrition and dietetics

PSO2:analyse the relationships between various nutrients and physiological disorders and various diet therapies

PSO3:apply the knowledge of processing and preservation techniques in increasing the shelf life of food products

PSO4: Think critically about marketing and management strategies related to food.

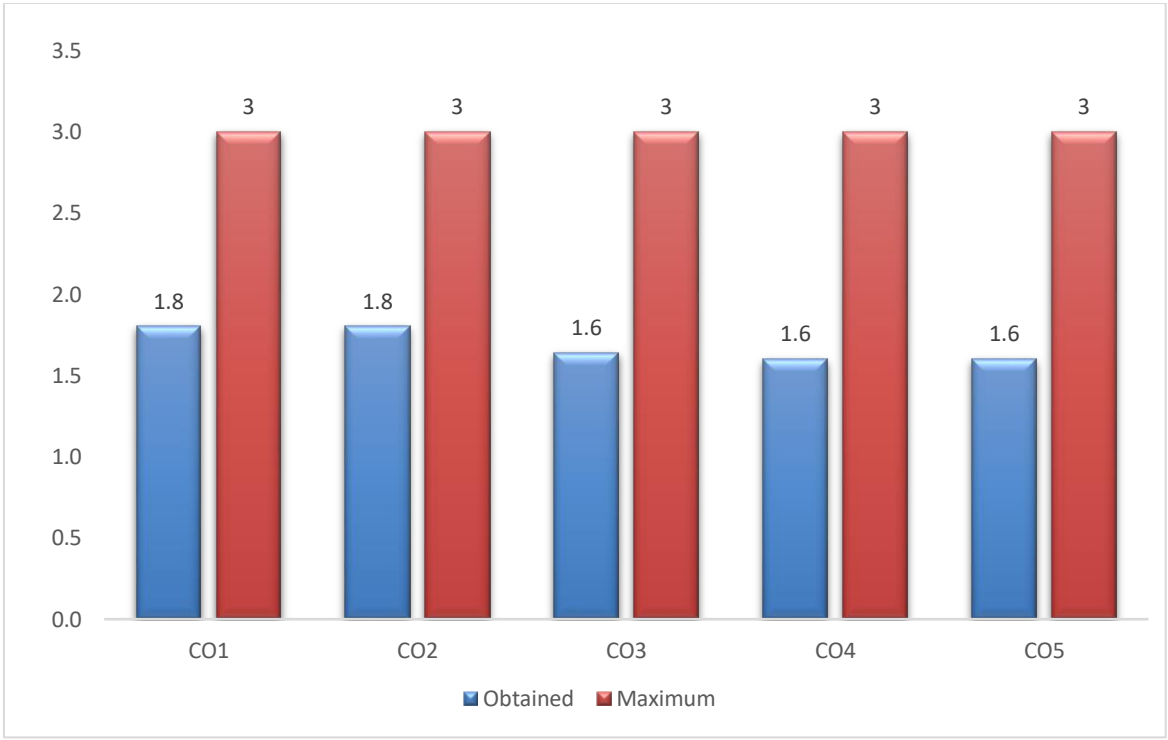
	COURSE OUTCOMES	**BLOOM'S TAXONOMY LEVEL**
CO1	Differentiate spices and condiments and their importance	IV(Analyzing)

CO2	Identify various components present in spices and condiments	IV(Analyzing)
CO3	Processing of major Indian spices	VI(Creating)
CO4	Produce various spice oils	VI(Creating)
CO5	Analyse various spices and condiments and their shelf life	IV(Analyzing)

outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PS01	PS02	PS03
C01	S	H	S	S				S	H		H
C02		H		H				H	H		H
C03	S	H		S					H		H
C04		S		H				S	H		H
C05		S	S	S					H		H

co	mid exam 1		mid exam 2		group discussion		assignment		viva		Attendence	
	pass%	Attainment level	pass%	Attainment level	pass%	Attainment level	pass%	Attainment level	pass%	Attainment level	pass%	Attainme level
CO1	86.4	3.0			100.0	3.0	100.0	3.0	100.0	3.0	90.9	3.0
CO2	86.4	3.0			100.0	3.0			100.0	3.0	90.9	3.0
CO3	86.4	3.0	72.7	1.0	100.0	3.0			100.0	3.0	90.9	3.0
CO4			72.7	1.0	100.0	3.0			100.0	3.0	90.9	3.0
CO5			72.7	1.0	100.0	3.0			100.0	3.0	90.9	3.0

AVERAGE	AVERAGE
1	1.688


3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
3
3
3
3
3
1.8
1.8
1.6
1.6
1.6
CO1
CO2
CO3
CO4
CO5
Obtained
Maximum

OUTCOME	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1		H 1.8					
CO2		H 1.8		H 1.8			
CO3		H 1.64					
CO4				H 1.6			
CO5							
AVERAGE OF COS FOR POS		1.746666667		1.7			
AVERAGE OF POS		1.728889		1.7			
AVERAGE	1.742962963						

COURSE OUTCOME MAPPING

MAPPING COURSE OUTCOMES LEADING TO THE ATTAINMENT OF PROGRAM OUTCOMES:

COURSE TITLE: TECHNOLOGY OF NON FERMENTED BEVERAGES **(semester 6) 2023-24 batch** **COURSE CODE:** **FT18503B CREDITS:** **4**
DEPARTMENT: B.SC FOOD TECHNOLOGY AND MANAGEMENT

PROGRAMME OUTCOMES(B.Sc) Or POs :

- **PO1. Scientific Knowledge.** Apply the knowledge of Science, Mathematics, Engineering& Technology fundamentals to solve the complex problems**.**
- **PO2**. **Design/development of solutions**: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
- **PO3.Problem analysis:** Identify, formulate, research literature, and analyze complex scientific problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
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- **PO6.Individual and team work:** Function objectively as an individual and as a member in diverse teams.
- **PO7. Communication:** Communicate effectively on complex science & technology activities with society at large and able to write effective reports and documentation.
- **PO8. Life-long learning:** Recognise the need and ability to engage in independent and lifelong learning in the context of technological change.

PROGRAMME SPECIFIC OUTCOME (DEPARTMENT WISE):

PSO1: Understand the concept of food science, nutrition and dietetics

PSO2: Analyse the relationships between various nutrients and physiological disorders and

various diet therapies

PSO3: Apply the knowledge of processing and preservation techniques in increasing the shelf life of food products

PSO4: Think critically about marketing and management strategies related to food.

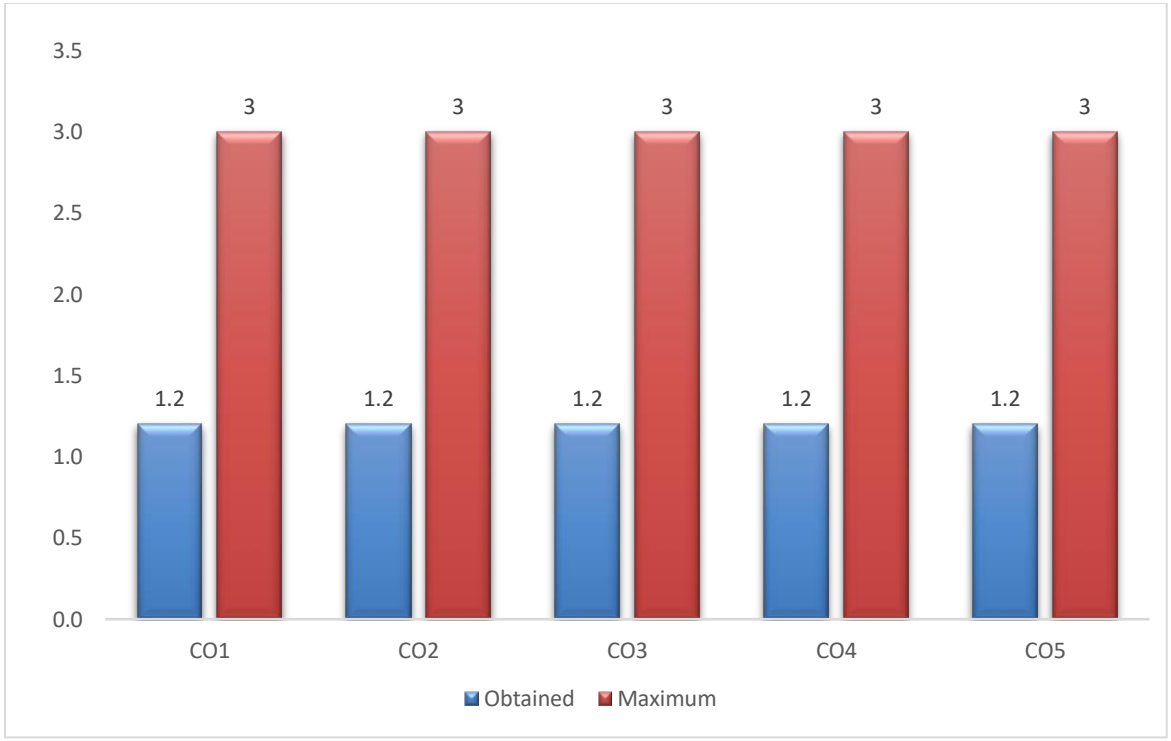
	COURSE OUTCOMES	**BLOOM'S TAXONOMY LEVEL**
CO1	Explain introduction and classification of beverages	II(UNDERSTAND)
CO2	Preparation and preservation of fruit juices	V(EVALUATE)

CO3	Formulation and composition of beverages	IV(ANALYSE)
CO4	Processing of non-fermented beverages	VI(CREATE)
CO5	Explain the importance of non fermented beverages	II(UNDERSTAND)

outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PS01	PS02	PS03
C01	**S**	**H**	**S**	**H**		**S**	**S**	**H**	**H**	**H**	**H**
C02	**H**	**H**	**H**	**H**		**S**	**S**	**H**	**H**	**H**	**H**
C03	**H**	**H**	**H**	**H**	**H**	**S**	**S**	**H**	**H**	**H**	**H**
C04	**S**	**S**	**S**	**H**	**S**	**S**	**S**	**H**	**H**	**H**	**H**
C05	**S**		**S**	**H**	**S**	**S**	**S**	**H**	**H**	**H**	**H**

co	mid exam 1		mid exam 2		group discussion		assignment		viva		Attendence	
	pass%	Attainment level	pass%	Attainment level	pass%	Attainment level	pass%	Attainment level	pass%	Attainment level	pass%	Attainme level
CO1	100.0	3.0			100.0	3.0	100.0	3.0	100.0	3.0	95.5	3.0
CO2	100.0	3.0			100.0	3.0			100.0	3.0	95.5	3.0
CO3	100.0	3.0	100.0	3.0	100.0	3.0			100.0	3.0	95.5	3.0
CO4			100.0	3.0	100.0	3.0			100.0	3.0	95.5	3.0
CO5			100.0	3.0	100.0	3.0			100.0	3.0	95.5	3.0

AVERAGE	AVERAGE
0	1.2


3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
3
3
3
3
3
1.2
1.2
1.2
1.2
1.2
CO1
CO2
CO3
CO4
CO5
Obtained
Maximum

OUTCOME	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1		H 1.2		H 1.2			
CO2	H 1.2	H 1.2	H 1.2	H 1.2			
CO3	H 1.2	H 1.2	H 1.2	H 1.2	H 1.2		
CO4				H 1.2			
CO5				H 1.2			
AVERAGE OF COS FOR POS	1.2	1.2	1.2	1.2	1.2		
AVERAGE OF POS	1.2	1.2	1.2	1.2	1.2		
AVERAGE	1.2						

COURSE OUTCOME MAPPING

MAPPING COURSE OUTCOMES LEADING TO THE ATTAINMENT OF PROGRAM OUTCOMES:

COURSE TITLE: FOOD PRODUCT DEVELOPEMENT

(SEMESTER-6) 2023-24 batch

COURSE CODE: **FT21602A**	**CREDITS:** **4**
DEPARTMENT: B.SC FOOD TECHNOLOGY AND MANAGEMENT	

PROGRAMME OUTCOMES(B.Sc) Or POs :

- **PO1. Scientific Knowledge.** Apply the knowledge of Science, Mathematics, Engineering& Technology fundamentals to solve the complex problems**.**
- **PO2**. **Design/development of solutions**: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
- **PO3.Problem analysis:** Identify, formulate, research literature, and analyze complex scientific problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- **PO4. Modern tool usage:** Create, select and apply appropriate techniques, resources, modern technology and IT tools to complex science and technological activities.
- **PO5. Environment and sustainability:** Understand the impact of professional science and technological solutions in societal and environmental contexts and for sustainable development.
- **PO6.Individual and team work:** Function objectively as an individual and as a member in diverse teams.
- **PO7. Communication:** Communicate effectively on complex science & technology activities with society at large and able to write effective reports and documentation.
- **PO8. Life-long learning:** Recognise the need and ability to engage in independent and lifelong learning in the context of technological change.

PROGRAMME SPECIFIC OUTCOME (DEPARTMENT WISE):

PSO1: Understand the concept of food science, nutrition and dietetics

PSO2: Analyse the relationships between various nutrients and physiological disorders and

various diet therapies

PSO3: Apply the knowledge of processing and preservation techniques in increasing the shelf life of food products

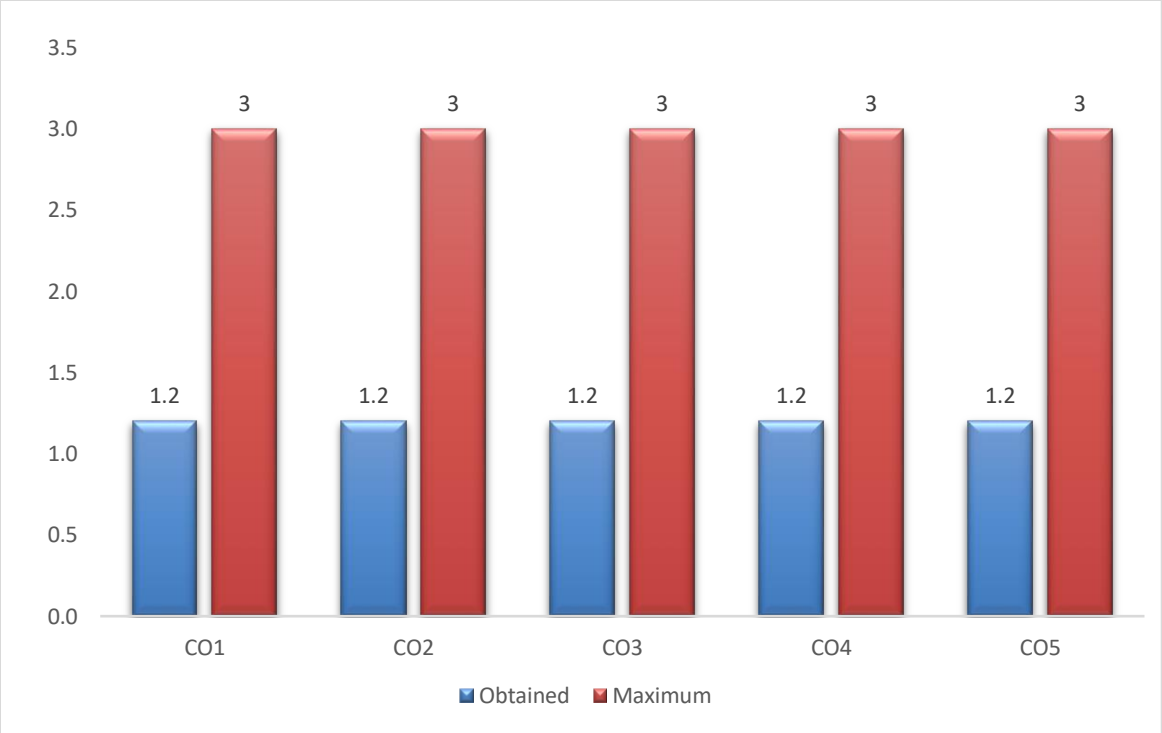
PSO4: Think critically about marketing and management strategies related to food.

	COURSE OUTCOMES	BLOOM'S TAXONOMY LEVEL
CO1	Explain the concept involved in food product development	II(UNDERSTAND)
CO2	Demonstrate various stages of food product development	II(UNDERSTAND)
CO3	Identify role and behaviour of consumers in food product development	IV(ANALYSE)
CO4	Explain the design and management of product development process	II(UNDERSTAND)
CO5	Create awareness on improving product success	VI(CREATE)

outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PS01	PS02	PS03
C01	**H**	**S**	**S**	**H**	**S**			**S**	**H**	**H**	**S**
C02	**H**	**H**	**S**	**H**	**H**		**S**		**S**	**H**	**H**
C03	**H**	**S**	**H**	**S**	**H**	**S**	**S**		**H**	**H**	**S**
C04	**H**	**H**	**H**	**H**	**S**	**S**	**S**	**S**	**H**	**S**	**H**
C05	**H**	**H**	**H**	**H**	**H**	**S**	**S**		**H**	**S**	**S**

co	mid exam 1		mid exam 2		group discussion		assignment		viva		Attendence	
	pass%	Attainment level	pass%	Attainment level	pass%	Attainment level	pass%	Attainment level	pass%	Attainment level	pass%	Attainme level
CO1	90.5	3.0			100.0	3.0	100.0	3.0	100.0	3.0	100.0	3.0
CO2	90.5	3.0			100.0	3.0			100.0	3.0	100.0	3.0
CO3	90.5	3.0	100.0	3.0	100.0	3.0			100.0	3.0	100.0	3.0
CO4			100.0	3.0	100.0	3.0			100.0	3.0	100.0	3.0
CO5			100.0	3.0	100.0	3.0			100.0	3.0	100.0	3.0

AVERAGE	AVERAGE
0	1.2



OUTCOME	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	H 1.2			H 1.2			
CO2	H 1.2	H 1.2		H 1.2	H 1.2		
CO3	H 1.2		H 1.2		H 1.2		
CO4	H 1.2	H 1.2	H 1.2	H 1.2			
CO5	H 1.2	H 1.2	H 1.2	H 1.2	H 1.2		

AVERAGE OF COS FOR POS	1.2	1.2	1.2	1.2	1.2		
AVERAGE OF POS	1.2	1.2	1.2	1.2	1.2		
AVERAGE	1.2						

COURSE OUTCOME MAPPING

MAPPING COURSE OUTCOMES LEADING TO THE ATTAINMENT OF PROGRAM OUTCOMES:

COURSE TITLE: Dairy Technology **(SEMESTER-3) 2023-24 batch** **COURSE** **CODE:F T 2 3 3 0 1** **CREDITS: 3**
DEPARTMENT: B.SC FOOD TECHNOLOGY AND MANAGEMENT

PROGRAMME OUTCOMES(B.Sc) Or POs :

- **PO1. Scientific Knowledge.** Apply the knowledge of Science, Mathematics, Engineering& Technology fundamentals to solve the complex problems**.**
- **PO2**. **Design/development of solutions**: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
- **PO3.Problem analysis:** Identify, formulate, research literature, and analyze complex scientific problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- **PO4. Modern tool usage:** Create, select and apply appropriate techniques, resources, modern technology and IT tools to complex science and technological activities.
- **PO5. Environment and sustainability:** Understand the impact of professional science and technological solutions in societal and environmental contexts and for sustainable development.
- **PO6.Individual and team work:** Function objectively as an individual and as a member in diverse teams.
- **PO7. Communication:** Communicate effectively on complex science & technology activities with society at large and able to write effective reports and documentation.
- **PO8. Life-long learning:** Recognise the need and ability to engage in independent and lifelong learning in the context of technological change.

PROGRAMME SPECIFIC OUTCOME (DEPARTMENT WISE):

PSO1: Understand the concept of food science, nutrition and dietetics

PSO2: Analyse the relationships between various nutrients and physiological disorders and

various diet therapies **PSO3:** Apply the knowledge of processing and preservation techniques in increasing the shelf life of food products **PSO4:** Think critically about marketing and management strategies related to food.

	COURSE OUTCOMES	**BLOOM'S TAXONOMY LEVEL**
CO1	To study the composition and manufacture of dairy products	II(UNDERSTAND)

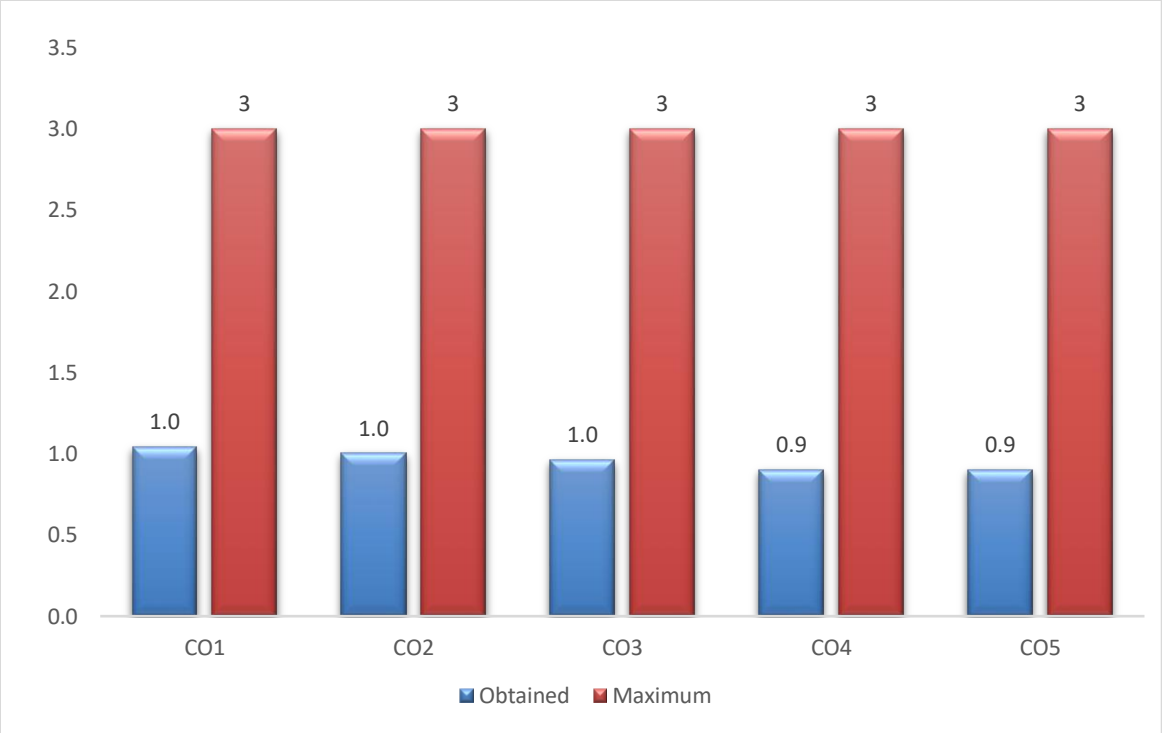
CO2	To study the composition and manufacture of dairy products	II(UNDERSTAND)
CO3	To study the composition and manufacture of dairy products	II(UNDERSTAND)
CO4	To study the composition and manufacture of dairy products	II(UNDERSTAND)
CO5	To study the composition and manufacture of dairy products	II(UNDERSTAND)

outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PS01	PS02	PS03	PS04
C01	**H**	**H**	**H**	**H**	**H**		**H**	**H**	**H**	**H**	**H**	**S**
C02	**H**	**H**	**H**	**S**	**H**		**H**	**H**	**H**	**H**	**H**	**S**
C03	**H**	**H**	**H**	**H**	**H**		**H**	**H**	**H**	**H**	**H**	**S**
C04	**H**	**H**	**H**	**H**	**H**		**H**	**H**	**H**	**H**	**H**	**S**
C05	**H**	**H**	**H**	**H**	**H**		**H**	**H**	**H**	**H**	**H**	**S**

H: Highly Supportive
S:
Supportive

co	mid exam 1		mid exam 2		group discussion		assignment		viva		
	pass%	Attainment level	pass%	Attainment level	pass%	Attainment level	pass%	Attainment level	pass%	Attainment level	
CO1	88.5	3.0			100.0	3.0	100.0	3.0	100.0	3.0	
CO2	88.5	3.0			100.0	3.0			100.0	3.0	
CO3	88.5	3.0	80.8	2.0	100.0	3.0			100.0	3.0	
CO4			80.8	2.0	100.0	3.0			100.0	3.0	
CO5			80.8	2.0	100.0	3.0			100.0	3.0	

AVERAGE	AVERAGE
0	0.96



CO1	H	1.04	H	1.04	H	1.04	H	1.04	H	1.04		H
CO2	H	1	H	1	H	1			H	1		H
CO3	H	0.96	H	0.96	H	0.96	H	0.96	H	0.96		H
CO4	H	0.9	H	0.9	H	0.9	H	0.9	H	0.9		H
CO5	H	0.9	H	0.9	H	0.9	H	0.9	H	0.9		H
AVERAGE OF COS FOR POS	0.96		0.96		0.96		0.95		0.96			0.9

AVERAGE OF POS	0.944	0.944	0.944	0.9275	0.944		
AVERAGE	0.941642857						

COURSE OUTCOME MAPPING

MAPPING COURSE OUTCOMES LEADING TO THE ATTAINMENT OF PROGRAM OUTCOMES:

COURSE TITLE: Food Process Engineering-II

(SEMESTER-3) 2023-24 batch

COURSE

CODE:FT18302

CREDITS: 4

DEPARTMENT: B.SC FOOD TECHNOLOGY AND MANAGEMENT

PROGRAMME OUTCOMES(B.Sc) Or POs :

- **PO1. Scientific Knowledge.** Apply the knowledge of Science, Mathematics, Engineering& Technology fundamentals to solve the complex problems**.**
- **PO2**. **Design/development of solutions**: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
- **PO3.Problem analysis:** Identify, formulate, research literature, and analyze complex scientific problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- **PO4. Modern tool usage:** Create, select and apply appropriate techniques, resources, modern technology and IT tools to complex science and technological activities.
- **PO5. Environment and sustainability:** Understand the impact of professional science and technological solutions in societal and environmental contexts and for sustainable development.
- **PO6.Individual and team work:** Function objectively as an individual and as a member in diverse teams.
- **PO7. Communication:** Communicate effectively on complex science & technology activities with society at large and able to write effective reports and documentation.

- **PO8. Life-long learning:** Recognise the need and ability to engage in independent and lifelong learning in the context of technological change.

PROGRAMME SPECIFIC OUTCOME (DEPARTMENT WISE):

PSO1: Understand the concept of food science, nutrition and dietetics

PSO2: Analyse the relationships between various nutrients and physiological disorders and

various diet therapies **PSO3:** Apply the knowledge of processing and preservation techniques in increasing the shelf life of food products **PSO4:** Think critically about marketing and management strategies related to food.

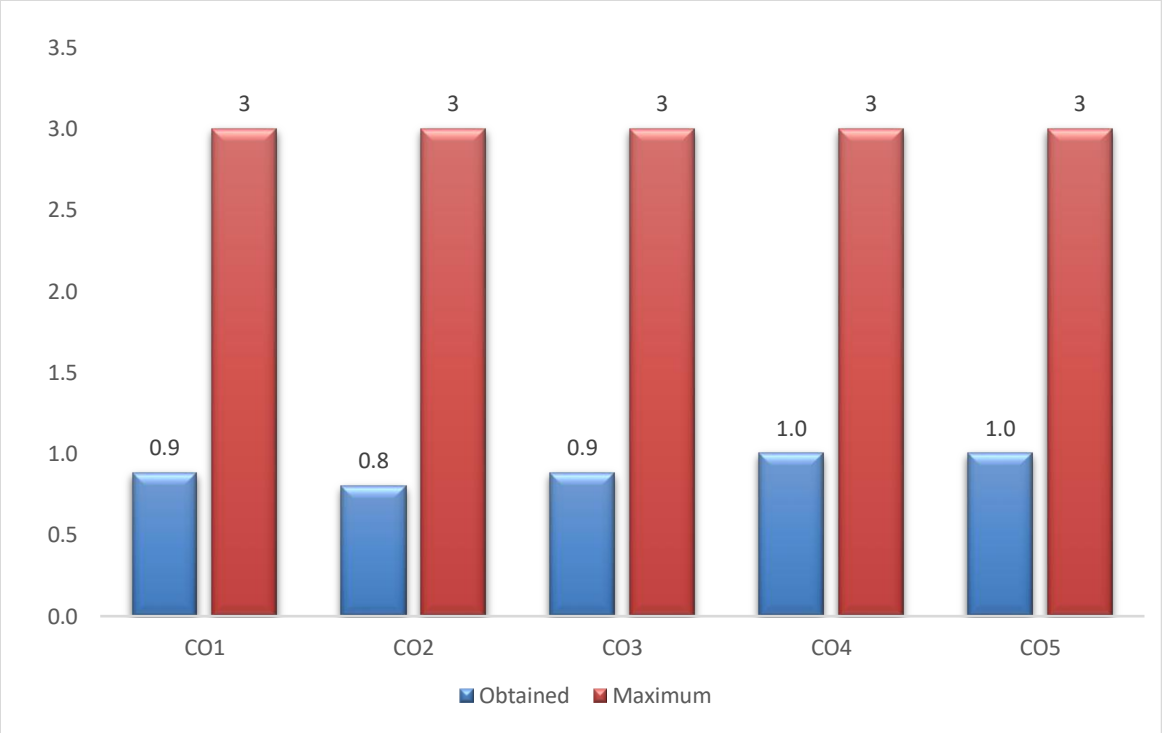
	COURSE OUTCOMES	**BLOOM'S TAXONOMY LEVEL**
CO1	To develop understanding of concept of viscosity and flow measuring instruments	II(UNDERSTAND)
CO2	To apply the laws of heat transfer to food processing	VI (CREATE)
CO3	To compare steady and non-steady state heat transfer	IV(Analyzing)
CO4	To identify the combine effects of heat transfer through evaporation and dehydration	IV(Analyzing)
CO5	To analyze different types of filtrations	IV(Analyzing)

outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PS01	PS02	PS03	PS04
CO1	H	H	H	H	S	S	S	H	H	S	S	S
CO2	H	H	H	H	S	S	S	H	H	S	S	S
CO3	H	H	H	H	S	S	S	H	H	S	S	S
CO4	H	H	H	H	S	S	S	H	H	S	S	S
CO5	H	H	H	H	S	S	S	H	H	S	S	S

H: Highly Supportive
S:
Supportive

co	mid exam 1		mid exam 2		group discussion		assignment		viva		Attendence		
	pass%	Attainment level	pass%	Attainment level	pass%	Attainment level	pass%	Attainment level	pass%	Attainment level	pass%	Attainment level	co wise ave
CO1	71.2	1.0			100.0	3.0	100.0	3.0	100.0	3.0	71.2	1.0	2
CO2	71.2	1.0			100.0	3.0			100.0	3.0	71.2	1.0	2
CO3	71.2	1.0	86.5	3.0	100.0	3.0			100.0	3.0	71.2	1.0	2
CO4			86.5	3.0	100.0	3.0			100.0	3.0	71.2	1.0	2
CO5			86.5	3.0	100.0	3.0			100.0	3.0	71.2	1.0	2

AVERAGE	AVERAGE
0	0.912



OUTCOME	PO1		PO2		PO3		PO4		PO5	PO6	PO
CO1	H	0.88	H	0.88	H	0.88	H	0.88			
CO2	H	0.8	H	0.8	H	0.8	H	0.8			
CO3	H	0.88	H	0.88	H	0.88	H	0.88			
CO4	H	1	H	1	H	1	H	1			
CO5	H	1	H	1	H	1	H	1			

AVERAGE OF COS FOR POS	0.912	0.912	0.912	0.912			
AVERAGE OF POS	0.9184	0.9184	0.9184	0.9184			
AVERAGE	0.9184						

COURSE OUTCOME MAPPING

MAPPING COURSE OUTCOMES LEADING TO THE ATTAINMENT OF PROGRAM OUTCOMES:

COURSE TITLE: Technology of Cereals, Pulses and Legumes

(SEMESTER-3) 2023-24 batch

COURSE

CODE:FT23303

CREDITS: 4

DEPARTMENT: B.SC FOOD TECHNOLOGY AND MANAGEMENT

PROGRAMME OUTCOMES(B.Sc) Or POs :

- **PO1. Scientific Knowledge.** Apply the knowledge of Science, Mathematics, Engineering& Technology fundamentals to solve the complex problems**.**
- **PO2**. **Design/development of solutions**: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
- **PO3.Problem analysis:** Identify, formulate, research literature, and analyze complex scientific problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- **PO4. Modern tool usage:** Create, select and apply appropriate techniques, resources, modern technology and IT tools to complex science and technological activities.
- **PO5. Environment and sustainability:** Understand the impact of professional science and technological solutions in societal and environmental contexts and for sustainable development.
- **PO6.Individual and team work:** Function objectively as an individual and as a member in diverse teams.
- **PO7. Communication:** Communicate effectively on complex science & technology activities with society at large and able to write effective reports and documentation.

- **PO8. Life-long learning:** Recognise the need and ability to engage in independent and lifelong learning in the context of technological change.

PROGRAMME SPECIFIC OUTCOME (DEPARTMENT WISE):

PSO1: Understand the concept of food science, nutrition and dietetics

PSO2: Analyse the relationships between various nutrients and physiological disorders and

various diet therapies **PSO3:** Apply the knowledge of processing and preservation techniques in increasing the shelf life of food products **PSO4:** Think critically about marketing and management strategies related to food.

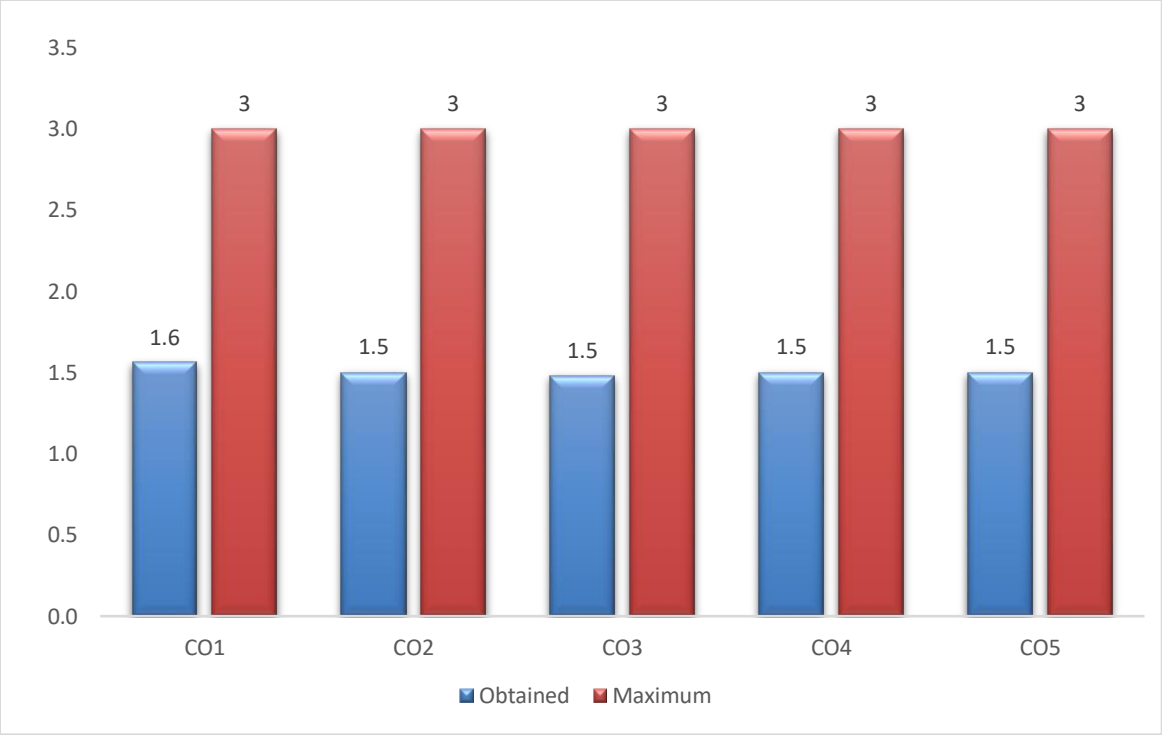
	COURSE OUTCOMES	**BLOOM'S TAXONOMY LEVEL**
CO1	Explain various methods involved in rice processing	II(UNDERSTAND)
CO2	Explain various milling operations in wheat	II(UNDERSTAND)
CO3	Differentiate steps involved in wet and dry milling of corn	IV(Analyzing)
CO4	Explain the processing of pulses, legumes and oil seeds	II(UNDERSTAND)
CO5	Explain the technology involved in various cereals, pulses and legume based products	II(UNDERSTAND)

outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PS01	PS02	PS03	PS04
CO1	H	S		H		S	H	H	H	S	H	
CO2	S	S	S	H		S	H	H	H	S	H	
CO3	H	H	S		H		H		H	S	H	S
CO4	H	H	S	H	S		H	S	H	S	H	S
CO5	H	H		H	S		H	H	S	H	H	S

H: Highly Supportive
S:
Supportive

co	mid exam 1		mid exam 2		group discussion		assignment		viva		Attendence		
	pass%	Attainment level	pass%	Attainment level	pass%	Attainment level	pass%	Attainment level	pass%	Attainment level	pass%	Attainment level	co wise ave
CO1	80.8	2.0			100.0	3.0	100.0	3.0	100.0	3.0	73.1	1.0	2
CO2	80.8	2.0			100.0	3.0			100.0	3.0	73.1	1.0	2
CO3	80.8	2.0	82.7	2.0	100.0	3.0			100.0	3.0	73.1	1.0	2
CO4			82.7	2.0	100.0	3.0			100.0	3.0	73.1	1.0	2
CO5			82.7	2.0	100.0	3.0			100.0	3.0	73.1	1.0	2

AVERAGE	AVERAGE
1	1.508



OUTCOME	PO1		PO2		PO3	PO4		PO5		PO6	PO
CO1	H	1.56				H	1.56				H
CO2						H	1.5				H
CO3	H	1.48	H	1.48				H	1.48		H
CO4	H	1.5	H	1.5		H	1.5				H
CO5	H	1.5	H	1.5		H	1.5				H

AVERAGE OF COS FOR POS	1.51	1.493333333		1.515	1.48		1.50
AVERAGE OF POS	1.4975	1.493333		1.50375	1.48		
AVERAGE	1.496475						

COURSE OUTCOME MAPPING

MAPPING COURSE OUTCOMES LEADING TO THE ATTAINMENT OF PROGRAM OUTCOMES:

COURSE TITLE: Technology of fruits & vegetables **(SEMESTER-3) 2023-24 batch** **COURSE** **CODE:FT20304** **CREDITS: 4**

DEPARTMENT: B.SC FOOD TECHNOLOGY AND MANAGEMENT

PROGRAMME OUTCOMES(B.Sc) Or POs :

- **PO1. Scientific Knowledge.** Apply the knowledge of Science, Mathematics, Engineering& Technology fundamentals to solve the complex problems**.**
- **PO2**. **Design/development of solutions**: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
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- **PO7. Communication:** Communicate effectively on complex science & technology activities with society at large and able to write effective reports and documentation.

- **PO8. Life-long learning:** Recognise the need and ability to engage in independent and lifelong learning in the context of technological change.

PROGRAMME SPECIFIC OUTCOME (DEPARTMENT WISE):

PSO1: Understand the concept of food science, nutrition and dietetics

PSO2: Analyse the relationships between various nutrients and physiological disorders and

various diet therapies **PSO3:** Apply the knowledge of processing and preservation techniques in increasing the shelf life of food products **PSO4:** Think critically about marketing and management strategies related to food.

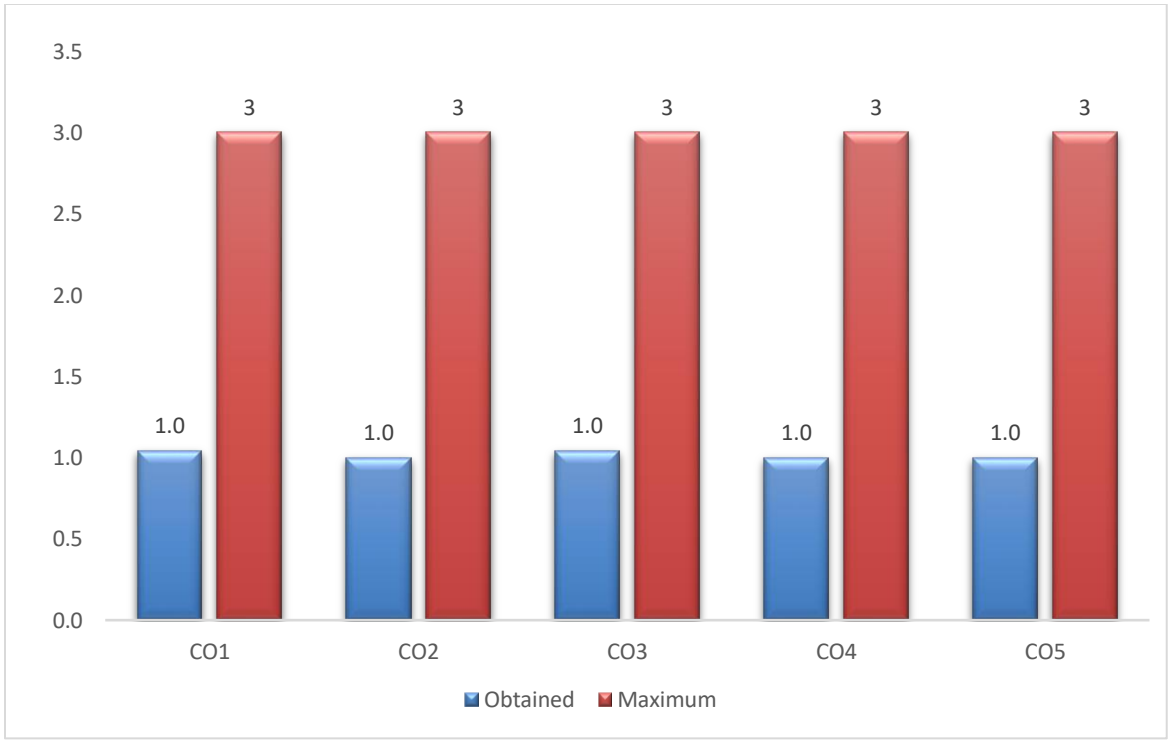
	COURSE OUTCOMES	**BLOOM'S TAXONOMY LEVEL**
CO1	Explain processing methods and role of fruits & vegetables in human diet	II(UNDERSTAND)
CO2	Tell about post harvest handling methods and treatments of fruits & vegetables	I
CO3	Explain process of canning, machinery and storage in foods	II(UNDERSTAND)
CO4	Prepare various products of fruits & vegetables	VI(CREATE)
CO5	Classify fruit beverages and methods of preservation	II(UNDERSTAND)

outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PS01	PS02	PS03	PS04
C01	H	S		H			H	H	H	S	H	S
C02	S	S	S	H			H	H	H	S	H	S
C03	H	H	S		H		H		H	S	S	S
C04	H	H	S	H	S		S	S	H	S	H	S
C05	H	H		H	S		S	H	S	H	H	S

H: Highly Supportive
S:
Supportive

co	mid exam 1		mid exam 2		group discussion		assignment		viva		Attendence		
	pass%	Attainment level	pass%	Attainment level	pass%	Attainment level	pass%	Attainment level	pass%	Attainment level	pass%	Attainment level	co wise ave
CO1	88.5	3.0			100.0	3.0	100.0	3.0	100.0	3.0	75.0	1.0	2
CO2	88.5	3.0			100.0	3.0			100.0	3.0	75.0	1.0	2
CO3	88.5	3.0	96.2	3.0	100.0	3.0			100.0	3.0	75.0	1.0	2
CO4			96.2	3.0	100.0	3.0			100.0	3.0	75.0	1.0	2
CO5			96.2	3.0	100.0	3.0			100.0	3.0	75.0	1.0	2

AVERAGE	AVERAGE
0	1.016


3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
3
3
3
3
3
1.0
1.0
1.0
1.0
1.0
CO1
CO2
CO3
CO4
CO5
Obtained
Maximum

OUTCOME	PO1	PO2	PO3	PO4	PO5	PO6	PO7	
CO1	H 1.04			H 1.04			H 1.04	H
CO2				H 1			H 1	H
CO3	H 1.04	H 1.04			H 1.04		H 1.04	
CO4	H 1	H 1		H 1				
CO5	H 1	H 1		H 1				H
AVERAGE OF COS FOR POS	1.02	1.013333333		1.01	1.04		1.026666667	1.
AVERAGE OF POS	1.015	1.013333		1.0025	1.04		1.022222	
AVERAGE	1.01625							

COURSE OUTCOME MAPPING

MAPPING COURSE OUTCOMES LEADING TO THE ATTAINMENT OF PROGRAM OUTCOMES:

COURSE TITLE: Food Storage and Infestation Control **(SEMESTER-5) 2023-24 batch** **COURSE** **CODE:FT24501** **CREDITS: 3**
DEPARTMENT: B.SC FOOD TECHNOLOGY AND MANAGEMENT

PROGRAMME OUTCOMES(B.Sc) Or POs :

- **PO1. Scientific Knowledge.** Apply the knowledge of Science, Mathematics, Engineering& Technology fundamentals to solve the complex problems**.**
- **PO2**. **Design/development of solutions**: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
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- **PO5. Environment and sustainability:** Understand the impact of professional science and technological solutions in societal and environmental contexts and for sustainable development.
- **PO6.Individual and team work:** Function objectively as an individual and as a member in diverse teams.
- **PO7. Communication:** Communicate effectively on complex science & technology activities with society at large and able to write effective reports and documentation.
- **PO8. Life-long learning:** Recognise the need and ability to engage in independent and lifelong learning in the context of technological change.

PROGRAMME SPECIFIC OUTCOME (DEPARTMENT WISE):

PSO1: Understand the concept of food science, nutrition and dietetics

PSO2: Analyse the relationships between various nutrients and physiological disorders and

various diet therapies **PSO3:** Apply the knowledge of processing and preservation techniques in increasing the shelf life of food products **PSO4:** Think critically about marketing and management strategies related to food.

	COURSE OUTCOMES	**BLOOM'S TAXONOMY LEVEL**
CO1	Understand the storage principles and storage structures	II(UNDERSTAND)
CO2	Create knowledge on losses in stored foods and factors affecting food storage	VI(CREATE)
CO3	Identify different biological agents associated with food grains	IV(ANALYZE)
CO4	Create knowledge on various pesticides and their formulations	VI(CREATE)
CO5	Understand the characteristics of fumigants and pest control methods	II(UNDERSTAND)

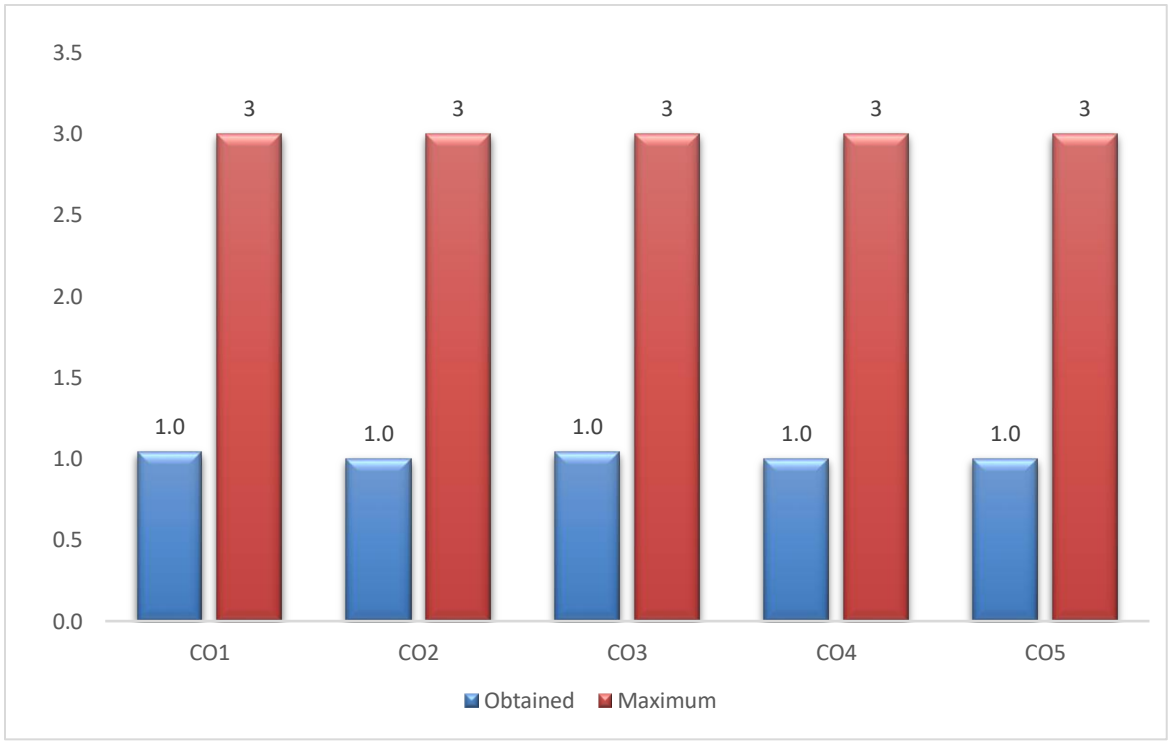
outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PS01	PS02	PS03	PS04
CO1	H	H	H	S	H		H	S	S	H	H	H
CO2	H	H	S	S	H		H	S	S	H	H	H
CO3	H	H	H	H	H		H	H	H	H	S	H
CO4	H	H	H	H	H		H	H	H	H	S	H
CO5	H	H	H	H	H		H	H	H	H	S	H

H: Highly Supportive

S: Supportive

co	mid exam 1		mid exam 2		group discussion		assignment		viva		Attendence	
	pass%	Attainment level	pass%	Attainment level	pass%	Attainment level	pass%	Attainment level	pass%	Attainment level	pass%	Attainm leve
CO1	97.7	3.0			100.0	3.0	100.0	3.0	100.0	3.0	65.1	1.0
CO2	97.7	3.0			100.0	3.0			100.0	3.0	65.1	1.0
CO3	97.7	3.0	86.0	3.0	100.0	3.0			100.0	3.0	65.1	1.0
CO4			86.0	3.0	100.0	3.0			100.0	3.0	65.1	1.0
CO5			86.0	3.0	100.0	3.0			100.0	3.0	65.1	1.0

AVERAGE	AVERAGE
0	1.016


3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
3
3
3
3
3
1.0
1.0
1.0
1.0
1.0
CO1
CO2
CO3
CO4
CO5
Obtained
Maximum

OUTCOME	PO1		PO2		PO3		PO4		PO5		PO6	PO7		
CO1	H	1.04	H	1.04	H	1.04			H	1.04		H	1.04	
CO2	H	1	H	1					H	1		H	1	
CO3	H	1.04	H	1.04	H	1.04	H	1.04	H	1.04		H	1.04	H
CO4	H	1	H	1	H	1	H	1	H	1		H	1	H
CO5	H	1	H	1	H	1	H	1	H	1		H	1	H
AVERAGE OF COS FOR POS	1.016		1.016		1.02		1.013333333		1.016			1.016		1.
AVERAGE OF POS		1.0112		1.0112		1.015		1.013333		1.0112			1.0112	
AVERAGE	1.012352381													

COURSE OUTCOME MAPPING

MAPPING COURSE OUTCOMES LEADING TO THE ATTAINMENT OF PROGRAM OUTCOMES:

COURSE TITLE: Technology of Fermented foods and Beverages **(SEMESTER-5) 2023-24 batch** **COURSE** **CODE:FT21503A** **CREDITS: 4**
DEPARTMENT: B.SC FOOD TECHNOLOGY AND MANAGEMENT

PROGRAMME OUTCOMES(B.Sc) Or POs :

- **PO1. Scientific Knowledge.** Apply the knowledge of Science, Mathematics, Engineering& Technology fundamentals to solve the complex problems**.**
- **PO2**. **Design/development of solutions**: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
- **PO3.Problem analysis:** Identify, formulate, research literature, and analyze complex scientific problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- **PO4. Modern tool usage:** Create, select and apply appropriate techniques, resources, modern technology and IT tools to complex science and technological activities.
- **PO5. Environment and sustainability:** Understand the impact of professional science and technological solutions in societal and environmental contexts and for sustainable development.
- **PO6.Individual and team work:** Function objectively as an individual and as a member in diverse teams.
- **PO7. Communication:** Communicate effectively on complex science & technology activities with society at large and able to write effective reports and documentation.
- **PO8. Life-long learning:** Recognise the need and ability to engage in independent and lifelong learning in the context of technological change.

PROGRAMME SPECIFIC OUTCOME (DEPARTMENT WISE):

PSO1: Understand the concept of food science, nutrition and dietetics

PSO2: Analyse the relationships between various nutrients and physiological disorders and

various diet therapies **PSO3:** Apply the knowledge of processing and preservation techniques in increasing the shelf life of food products **PSO4:** Think critically about marketing and management strategies related to food.

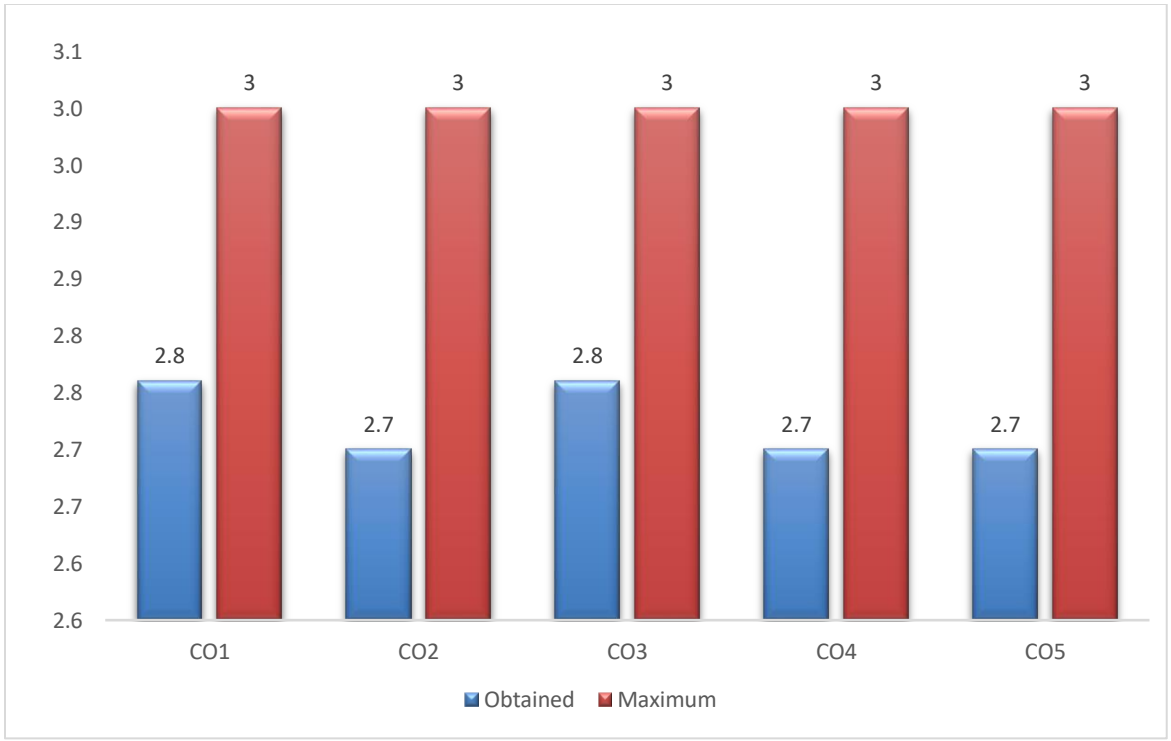
	COURSE OUTCOMES	**BLOOM'S TAXONOMY LEVEL**
CO1	Prepare various kinds of pickles	VI(CREATE)
CO2	Prepare different oriental and traditional fermented foods	VI(CREATE)
CO3	Differentiate natural & artificial sugars, colours, flavours and preservatives	IV(ANALYZE)
CO4	Classify fruit based, carbonated, synthetic beverages	II(UNDERSTAND)
CO5	Explain process of various alcoholic beverages	II(UNDERSTAND)

outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PS01	PS02	PS03	PS04
CO1	H	H	H	H	H		H	H	H	S	H	H
CO2	H	H	H	H		S	H	S		H	H	H
CO3	H	H	H	H	H		H	S	H	H	H	H
CO4	H	H	H	H	S	S	H	S		H	H	S
CO5	H	H	H	H	S		S	H	S	H	H	H

H: Highly Supportive
S: Supportive

co	mid exam 1		mid exam 2		group discussion		assignment		viva		Attendence		
	pass%	Attainment level	pass%	Attainment level	pass%	Attainment level	pass%	Attainment level	pass%	Attainment level	pass%	Attainment level	co wise ave
CO1	86.4	3.0			100.0	3.0	100.0	3.0	100.0	3.0	54.5	0.0	2
CO2	86.4	3.0			100.0	3.0			100.0	3.0	54.5	0.0	2
CO3	86.4	3.0	100.0	3.0	100.0	3.0			100.0	3.0	54.5	0.0	2
CO4			100.0	3.0	100.0	3.0			100.0	3.0	54.5	0.0	2
CO5			100.0	3.0	100.0	3.0			100.0	3.0	54.5	0.0	2

AVERAGE	AVERAGE
3	2.724


3.1
3.0
3.0
2.9
2.9
2.8
2.8
2.7
2.7
2.6
2.6
3
3
3
3
3
2.8
2.7
2.8
2.7
2.7
CO1
CO2
CO3
CO4
CO5
Obtained
Maximum

OUTCOME	PO1		PO2		PO3		PO4		PO5		PO6	PO7		
CO1	H	2.76	H	2.76	H	2.76	H	2.76	H	2.76		H	2.76	H
CO2	H	2.7	H	2.7	H	2.7	H	2.7				H	2.7	
CO3	H	2.76	H	2.76	H	2.76	H	2.76	H	2.76		H	2.76	
CO4	H	2.7	H	2.7	H	2.7	H	2.7				H	2.7	
CO5	H	2.7	H	2.7	H	2.7	H	2.7						H
AVERAGE OF COS FOR POS	2.724		2.724		2.724		2.724		2.76			2.73		
AVERAGE OF POS		2.7168		2.7168		2.7168		2.7168		2.76			2.7225	
AVERAGE	2.723528571													

COURSE OUTCOME MAPPING

MAPPING COURSE OUTCOMES LEADING TO THE ATTAINMENT OF PROGRAM OUTCOMES:

COURSE TITLE: Technology of Plant and Animal foods **(SEMESTER-5) 2023-24 batch** **COURSE** **CODE:FT21503B** **CREDITS: 4**
DEPARTMENT: B.SC FOOD TECHNOLOGY AND MANAGEMENT

PROGRAMME OUTCOMES(B.Sc) Or POs :

- **PO1. Scientific Knowledge.** Apply the knowledge of Science, Mathematics, Engineering& Technology fundamentals to solve the complex problems**.**
- **PO2**. **Design/development of solutions**: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
- **PO3.Problem analysis:** Identify, formulate, research literature, and analyze complex scientific problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- **PO4. Modern tool usage:** Create, select and apply appropriate techniques, resources, modern technology and IT tools to complex science and technological activities.
- **PO5. Environment and sustainability:** Understand the impact of professional science and technological solutions in societal and environmental contexts and for sustainable development.
- **PO6.Individual and team work:** Function objectively as an individual and as a member in diverse teams.
- **PO7. Communication:** Communicate effectively on complex science & technology activities with society at large and able to write effective reports and documentation.
- **PO8. Life-long learning:** Recognise the need and ability to engage in independent and lifelong learning in the context of technological change.

PROGRAMME SPECIFIC OUTCOME (DEPARTMENT WISE):

PSO1: Understand the concept of food science, nutrition and dietetics

PSO2: Analyse the relationships between various nutrients and physiological disorders and

various diet therapies **PSO3:** Apply the knowledge of processing and preservation techniques in increasing the shelf life of food products **PSO4:** Think critically about marketing and management strategies related to food.

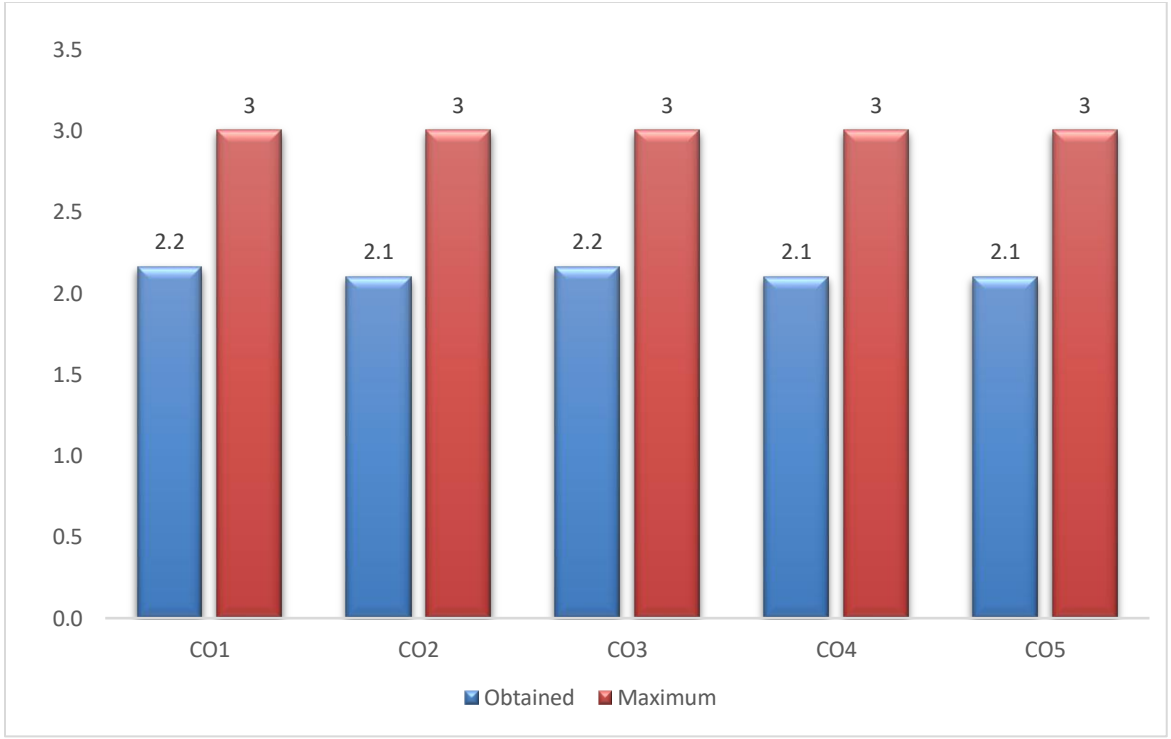
	COURSE OUTCOMES	**BLOOM'S TAXONOMY LEVEL**
CO1	Prepare and analyze various fruit based products	VI(CREATE)
CO2	Use various technologies for production of cereals legumes and oil seeds products	VI(CREATE)
CO3	Understand the processing of different spice products	II(UNDERSTAND)
CO4	Prepare various animal based products	VI(CREATE)
CO5	Understand the physical and changes in meat and egg	II(UNDERSTAND)

outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PS01	PS02	PS03	PS04
CO1	H	H	S	H	H		S		S		H	S
CO2	H	H	S	H	H		S		S		H	S
CO3	H	H	H	H	H		S	S	S		H	H
CO4	H	H	H	H	S		S	H	S	H	H	H
CO5	H	H	H	H	S		S	H	S	H	H	H

H: Highly Supportive
S: Supportive

co	mid exam 1		mid exam 2		group discussion		assignment		viva		Attendence	
	pass%	Attainment level	pass%	Attainment level	pass%	Attainment level	pass%	Attainment level	pass%	Attainment level	pass%	Attainm leve
CO1	90.5	3.0			100.0	3.0	100.0	3.0	100.0	3.0	38.1	0.0
CO2	90.5	3.0			100.0	3.0			100.0	3.0	38.1	0.0
CO3	90.5	3.0	90.5	3.0	100.0	3.0			100.0	3.0	38.1	0.0
CO4			90.5	3.0	100.0	3.0			100.0	3.0	38.1	0.0
CO5			90.5	3.0	100.0	3.0			100.0	3.0	38.1	0.0

AVERAGE	AVERAGE
2	2.124


3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
2.2
3
2.1
3
2.2
3
2.1
3
2.1
3
CO1
CO2
CO3
CO4
CO5
Obtained
Maximum

OUTCOME	PO1	PO2	PO3	PO4	PO5	PO6	PO7	
CO1	H 2.16	H 2.16		H 2.16	H 2.16			
CO2	H 2.1	H 2.1		H 2.1	H 2.1			
CO3	H 2.16	H 2.16	H 2.16	H 2.16	H 2.16			
CO4	H 2.1	H 2.1	H 2.1	H 2.1				H
CO5	H 2.1	H 2.1	H 2.1	H 2.1				H
AVERAGE OF COS FOR POS	2.124	2.124	2.12	2.124	2.14			
AVERAGE OF POS	2.1168	2.1168	2.12	2.1168	2.133333			
AVERAGE	2.117288889							

COURSE OUTCOME MAPPING

MAPPING COURSE OUTCOMES LEADING TO THE ATTAINMENT OF PROGRAM OUTCOMES:

COURSE TITLE: Food Biotechnology **(SEMESTER-5) 2023-24 batch** **COURSE** **CODE:FT24504A** **CREDITS: 4**
DEPARTMENT: B.SC FOOD TECHNOLOGY AND MANAGEMENT

PROGRAMME OUTCOMES(B.Sc) Or POs :

- **PO1. Scientific Knowledge.** Apply the knowledge of Science, Mathematics, Engineering& Technology fundamentals to solve the complex problems**.**
- **PO2**. **Design/development of solutions**: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
- **PO3.Problem analysis:** Identify, formulate, research literature, and analyze complex scientific problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- **PO4. Modern tool usage:** Create, select and apply appropriate techniques, resources, modern technology and IT tools to complex science and technological activities.
- **PO5. Environment and sustainability:** Understand the impact of professional science and technological solutions in societal and environmental contexts and for sustainable development.
- **PO6.Individual and team work:** Function objectively as an individual and as a member in diverse teams.
- **PO7. Communication:** Communicate effectively on complex science & technology activities with society at large and able to write effective reports and documentation.
- **PO8. Life-long learning:** Recognise the need and ability to engage in independent and lifelong learning in the context of technological change.

PROGRAMME SPECIFIC OUTCOME (DEPARTMENT WISE):

PSO1: Understand the concept of food science, nutrition and dietetics

PSO2: Analyse the relationships between various nutrients and physiological disorders and

various diet therapies **PSO3:** Apply the knowledge of processing and preservation techniques in increasing the shelf life of food products **PSO4:** Think critically about marketing and management strategies related to food.

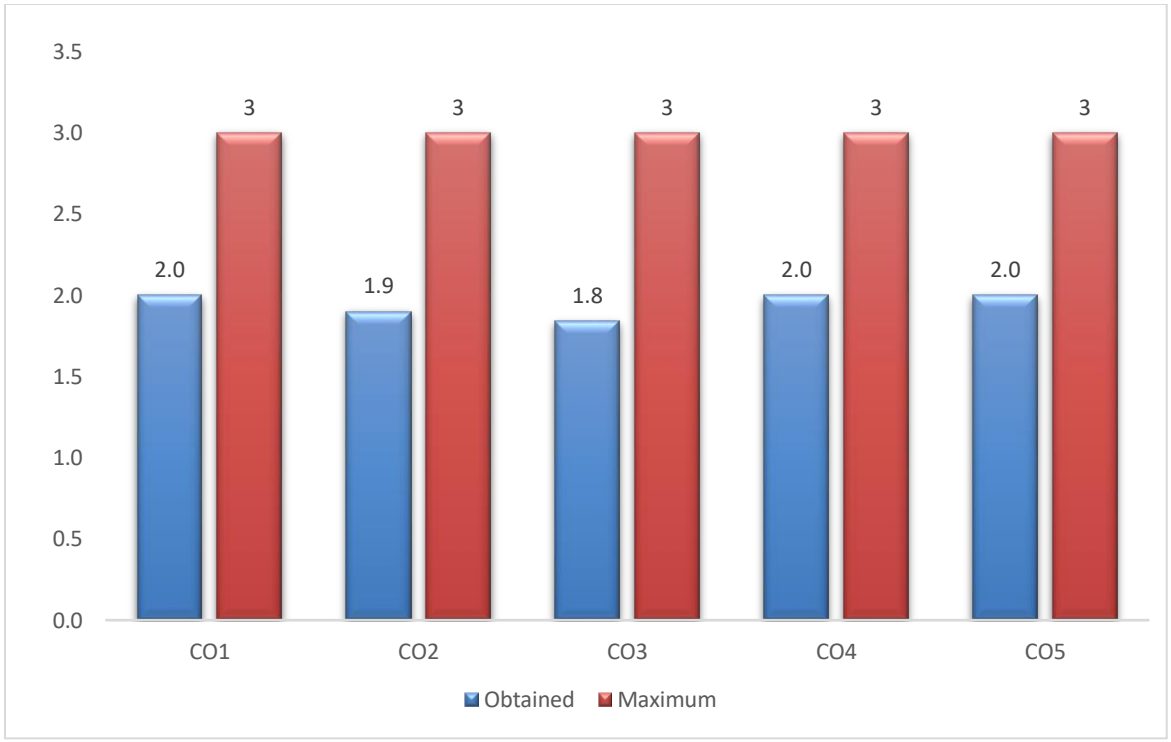
	COURSE OUTCOMES	**BLOOM'S TAXONOMY LEVEL**
CO1	Apply various biotechnology methods in food industry	VI(CREATE)
CO2	Analyze and evaluate various fermented food products	IV(ANALYZE)
CO3	Understand various cell culture methods	II(UNDERSTAND)
CO4	Apply different bacterial starter culture for the production of fermented foods	VI(CREATE)
CO5	Understand regulatory aspects and social appraisal of biotechnology in foods	II(UNDERSTAND)

outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PS01	PS02	PS03	PS04
CO1	H	H	H	H	H		S	S	S	S	H	H
CO2	H	H	H	H	H	S	H	S	S	H	H	H
CO3	H	S	H	H	H		H	S	S	H	H	H
CO4	H	H	H	H	S		H	S	S	H	S	S
CO5	H	H	H	H	S		S	H	S	H	H	H

H: Highly Supportive
S:
Supportive

co	mid exam 1		mid exam 2		group discussion		assignment		viva		Attendence		
	pass%	Attainment level	pass%	Attainment level	pass%	Attainment level	pass%	Attainment level	pass%	Attainment level	pass%	Attainment level	co wise ave
CO1	61.9	0.0			100.0	3.0	100.0	3.0	100.0	3.0	71.4	1.0	2
CO2	61.9	0.0			100.0	3.0			100.0	3.0	71.4	1.0	1
CO3	61.9	0.0	71.4	1.0	100.0	3.0			100.0	3.0	71.4	1.0	1
CO4			71.4	1.0	100.0	3.0			100.0	3.0	71.4	1.0	2
CO5			71.4	1.0	100.0	3.0			100.0	3.0	71.4	1.0	2

AVERAGE	AVERAGE
2	1.948


3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
2.0
3
1.9
3
1.8
3
2.0
3
2.0
3
CO1
CO2
CO3
CO4
CO5
Obtained
Maximum

OUTCOME	PO1		PO2		PO3		PO4		PO5		PO6	PO7		
CO1	H	2	H	2	H	2	H	2	H	2				
CO2	H	1.9	H	1.9	H	1.9	H	1.9	H	1.9		H	1.9	
CO3	H	1.84			H	1.84	H	1.84	H	1.84		H	1.84	
CO4	H	2	H	2	H	2	H	2				H	2	
CO5	H	2	H	2	H	2	H	2						H
AVERAGE OF COS FOR POS	1.948		1.975		1.948		1.948		1.913333333			1.913333333		
AVERAGE OF POS	1.9376		1.96875		1.9376		1.9376		1.884444			1.913333		
AVERAGE	1.939903968													

COURSE OUTCOME MAPPING

MAPPING COURSE OUTCOMES LEADING TO THE ATTAINMENT OF PROGRAM OUTCOMES:

COURSE TITLE: Sugar Confectionery **(SEMESTER-5) 2023-24 batch** **COURSE** **CODE:FT21504B** **CREDITS: 4**
DEPARTMENT: B.SC FOOD TECHNOLOGY AND MANAGEMENT

PROGRAMME OUTCOMES(B.Sc) Or POs :

- **PO1. Scientific Knowledge.** Apply the knowledge of Science, Mathematics, Engineering& Technology fundamentals to solve the complex problems**.**
- **PO2**. **Design/development of solutions**: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
- **PO3.Problem analysis:** Identify, formulate, research literature, and analyze complex scientific problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- **PO4. Modern tool usage:** Create, select and apply appropriate techniques, resources, modern technology and IT tools to complex science and technological activities.
- **PO5. Environment and sustainability:** Understand the impact of professional science and technological solutions in societal and environmental contexts and for sustainable development.
- **PO6.Individual and team work:** Function objectively as an individual and as a member in diverse teams.
- **PO7. Communication:** Communicate effectively on complex science & technology activities with society at large and able to write effective reports and documentation.
- **PO8. Life-long learning:** Recognise the need and ability to engage in independent and lifelong learning in the context of technological change.

PROGRAMME SPECIFIC OUTCOME (DEPARTMENT WISE):

PSO1: Understand the concept of food science, nutrition and dietetics

PSO2: Analyse the relationships between various nutrients and physiological disorders and

various diet therapies **PSO3:** Apply the knowledge of processing and preservation techniques in increasing the shelf life of food products **PSO4:** Think critically about marketing and management strategies related to food.

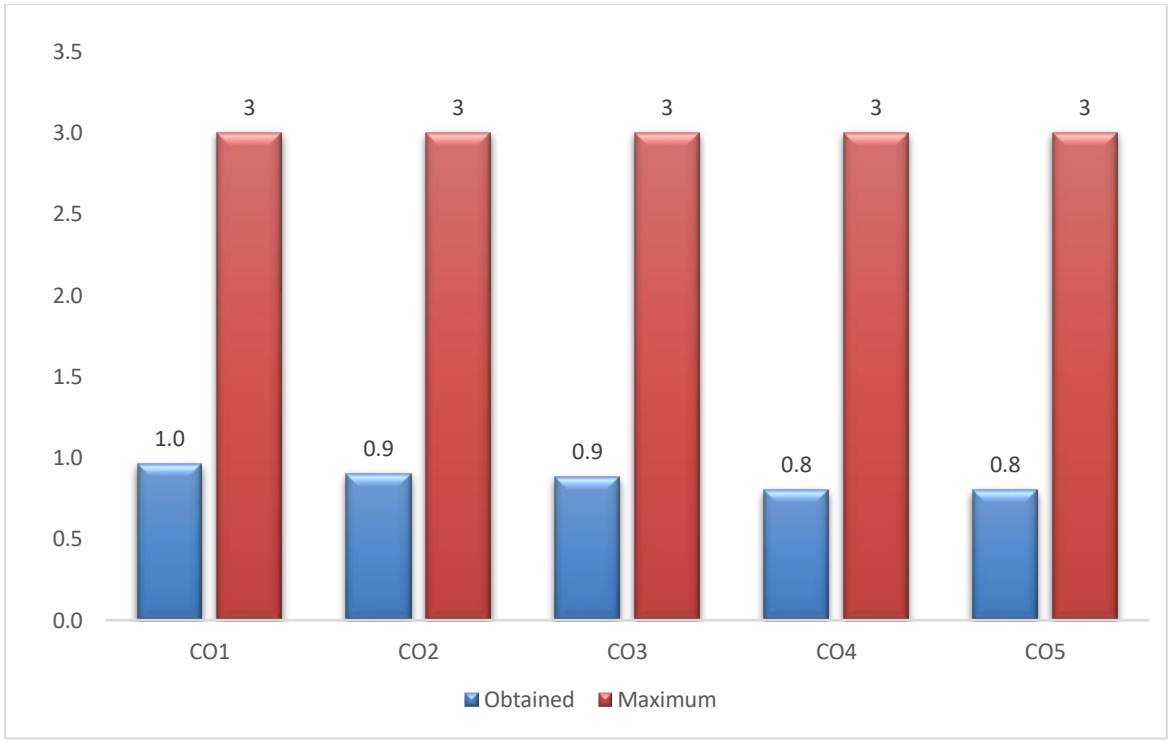
	COURSE OUTCOMES	**BLOOM'S TAXONOMY LEVEL**
CO1	Compare the different types of sugars and their properties	IV(ANALYZE)
CO2	Apply the uses of oils & fats, milk products, colors and flavors in confectionery items	VI(CREATE)
CO3	To develop hard boiled sweets, toffee, caramel, fudge and cocoa chocolate	VI(CREATE)
CO4	To produce gums & jellies, cream paste, liquorice paste & aerated confectionery	VI(CREATE)
CO5	To produce tablets, lozenges, panned sweets, gums and cereal bars	VI(CREATE)

outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PS01	PS02	PS03	PS04
C01	H	H	H	H	H		S	S	S	S	H	H
C02	H	H	H	H	H	S	H	S	S	H	H	H
C03	H	S	H	H	H		H	S	S	H	H	H
C04	H	H	H	H	S		H	S	S	H	S	S
C05	H	H	H	H	S		S	H	S	H	H	H

H: Highly Supportive
S: Supportive

co	mid exam 1		mid exam 2		group discussion		assignment		viva		Attendence		
	pass%	Attainment level	pass%	Attainment level	pass%	Attainment level	pass%	Attainment level	pass%	Attainment level	pass%	Attainment level	co wise ave
CO1	90.9	3.0			100.0	3.0	100.0	3.0	100.0	3.0	45.5	0.0	2
CO2	90.9	3.0			100.0	3.0			100.0	3.0	45.5	0.0	2
CO3	90.9	3.0	77.3	2.0	100.0	3.0			100.0	3.0	45.5	0.0	2
CO4			77.3	2.0	100.0	3.0			100.0	3.0	45.5	0.0	2
CO5			77.3	2.0	100.0	3.0			100.0	3.0	45.5	0.0	2

AVERAGE	AVERAGE
0	0.868


3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
3
3
3
3
3
1.0
0.9
0.9
0.8
0.8
CO1
CO2
CO3
CO4
CO5
Obtained
Maximum

OUTCOME	PO1		PO2		PO3		PO4		PO5		PO6	PO7		
CO1	H	0.96	H	0.96	H	0.96	H	0.96	H	0.96				
CO2	H	0.9	H	0.9	H	0.9	H	0.9	H	0.9		H	0.9	
CO3	H	0.88			H	0.88	H	0.88	H	0.88		H	0.88	
CO4	H	0.8	H	0.8	H	0.8	H	0.8				H	0.8	
CO5	H	0.8	H	0.8	H	0.8	H	0.8						H
AVERAGE OF COS FOR POS	0.868		0.865		0.868		0.868		0.913333333			0.86		
AVERAGE OF POS		0.8496		0.84125		0.8496		0.8496		0.897778			0.86	
AVERAGE	0.849689683													

COURSE OUTCOME MAPPING

MAPPING COURSE OUTCOMES LEADING TO THE ATTAINMENT OF PROGRAM OUTCOMES:

COURSE TITLE: Food Safety. Quality control and Sensory Evaluation **(SEMESTER-5) 2023-24 batch** **COURSE** **CODE:F T 1 8 5 0 5** **CREDITS: 4**
DEPARTMENT: B.SC FOOD TECHNOLOGY AND MANAGEMENT

PROGRAMME OUTCOMES(B.Sc) Or POs :

- **PO1. Scientific Knowledge.** Apply the knowledge of Science, Mathematics, Engineering& Technology fundamentals to solve the complex problems**.**
- **PO2**. **Design/development of solutions**: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
- **PO3.Problem analysis:** Identify, formulate, research literature, and analyze complex scientific problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- **PO4. Modern tool usage:** Create, select and apply appropriate techniques, resources, modern technology and IT tools to complex science and technological activities.
- **PO5. Environment and sustainability:** Understand the impact of professional science and technological solutions in societal and environmental contexts and for sustainable development.
- **PO6.Individual and team work:** Function objectively as an individual and as a member in diverse teams.
- **PO7. Communication:** Communicate effectively on complex science & technology activities with society at large and able to write effective reports and documentation.
- **PO8. Life-long learning:** Recognise the need and ability to engage in independent and lifelong learning in the context of technological change.

PROGRAMME SPECIFIC OUTCOME (DEPARTMENT WISE):

PSO1: Understand the concept of food science, nutrition and dietetics

PSO2: Analyse the relationships between various nutrients and physiological disorders and

various diet therapies **PSO3:** Apply the knowledge of processing and preservation techniques in increasing the shelf life of food products **PSO4:** Think critically about marketing and management strategies related to food.

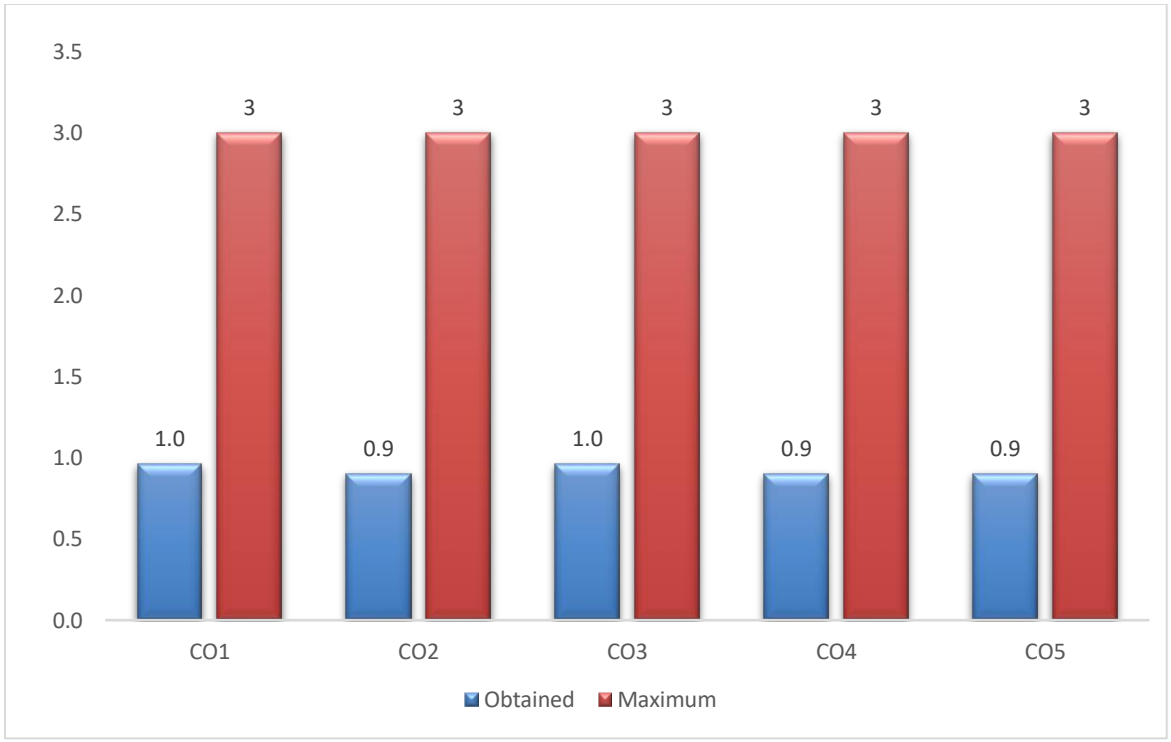
	COURSE OUTCOMES	**BLOOM'S TAXONOMY LEVEL**
CO1	Create knowledge on various food hazards	VI(CREATE)
CO2	Evaluate the importance of food laws and acts	V(EVALUATE)
CO3	Analyze quality aspects of food commodities	IV(ANALYZE)
CO4	Understand the subjective and objective tests of sensory parameters	II(UNDERSTAND)
CO5	Evaluate the role of sanitation and hygiene in food industry	V(EVALUATE)

outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PS01	PS02	PS03	PS04
CO1	H	H	H	S	H		H	S	H	H	H	S
CO2	H	H	H	S	H		H	S	H	H	H	S
CO3	H	H	H	H	H		H	H	H	H	S	S
CO4	H	H	H	H	H		H	H	H	H	S	S
CO5	H	H	H	H	H		H	H	H	H	S	H

H: Highly Supportive
S: Supportive

co	mid exam 1		mid exam 2		group discussion		assignment		viva		Attendence	
	pass%	Attainment level	pass%	Attainment level	pass%	Attainment level	pass%	Attainment level	pass%	Attainment level	pass%	Attainm leve
CO1	90.7	3.0			100.0	3.0	100.0	3.0	100.0	3.0	25.6	0.0
CO2	90.7	3.0			100.0	3.0			100.0	3.0	25.6	0.0
CO3	90.7	3.0	88.4	3.0	100.0	3.0			100.0	3.0	25.6	0.0
CO4			88.4	3.0	100.0	3.0			100.0	3.0	25.6	0.0
CO5			88.4	3.0	100.0	3.0			100.0	3.0	25.6	0.0

AVERAGE	AVERAGE
0	0.924


3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
3
3
3
3
3
1.0
0.9
1.0
0.9
0.9
CO1
CO2
CO3
CO4
CO5
Obtained
Maximum

OUTCOME	PO1		PO2		PO3		PO4		PO5		PO6	PO
CO1	H	0.96	H	0.96	H	0.96			H	0.96		H
CO2	H	0.9	H	0.9	H	0.9			H	0.9		H
CO3	H	0.96	H	0.96	H	0.96	H	0.96	H	0.96		H
CO4	H	0.9	H	0.9	H	0.9	H	0.9	H	0.9		H
CO5	H	0.9	H	0.9	H	0.9	H	0.9	H	0.9		H
AVERAGE OF COS FOR POS	0.924		0.924		0.924		0.92		0.924			0.9
AVERAGE OF POS	0.9168		0.9168		0.9168		0.92		0.9168			
AVERAGE	0.917714286											