Course Title	Fundamentals of Food Technology				
Type of Course	**Major**				
Semester	1				
Academic Level	100				
Course Details	Credit	Lecture per week	Tutorial per week	Practical per week	Total Hours
	4	3	-	2	75

Course Outcomes (CO):

CO	CO Statement	Cognitive Level*	Knowledge Category#	Evaluation Tools used
CO1	Know the relationship between food, nutrition and functional foods.	U	F	▪ Quiz / Assignment/ Discussion / Seminar ▪ Midterm Exam ▪ Final Exam
CO2	To Remember the basic Food groups like cereals, pulses, oilseeds, fruits vegetables, spices, meat, fish, poultry, sea food, milk and dairy products.	R	M	
CO3	Apply the scientific method of enquiry as it relates to the measurement of sensory, chemical and physical properties of foods	Ap	P	
CO4	To develop an insight among the students about the existing modern techniques and their applications in food processing preservation.	C	C	
* - Remember (R), Understand (U), Apply (Ap), Analyse (An), Evaluate (E), Create (C) # - Factual Knowledge(F) Conceptual Knowledge (C) Procedural Knowledge (P) Metacognitive Knowledge (M)				

Detailed Syllabus:

Module	Unit	Content	Hr
1.	**Introduction to Food Science and Technology**		**12**
	1.	Definition –Food, Importance and scope of Food Science and Food Technology	2
	2.	Basic Nutrients – Functions and sources	4
	3.	Prebiotic, Probiotic.	2
	4.	Nutraceuticals and Phytonutrients.	2
	5.	Organic foods, GM foods.	2
2.	**Food Groups**		**15**
	6.	Pulses & Legumes –Types, Nutritive value	2
	7.	Nuts & Oilseeds- Types and Nutritive value	2

	8.	Fruits, Vegetables and - Classification and composition.	2
	9.	Wheat and Rice - Structure and composition.	2
	10.	Meat, Fish- composition and Nutritive value	2
	11.	Egg- Structure and Nutritive Value	2
	12	Milk- Composition and Nutritive Value	1
	13	Spices and Plantation products- Classification and importance	2
3.	**Food Processing and Safety**		**12**
	14.	Food Preservation- Principles and Types	2
	15	Food Packaging- Importance and Common materials	2
	16	Food Additives	2
	17	Major Sectors of Food Processing Industry, National and International Research Institutes	2
	18	Food Safety- Need for Food Safety. Hazards in Foods - Physical, Chemical and Biological	3
	19	FSSAI	1
4.	**Sensory Evaluation**		**6**
	20	Sensory assessment-Appearance of food- visual perception, colour of foods, smell, flavour and Taste.	2
	21	Types of panels - Laboratory Set-up and Equipments.	2
	22	Types of Sensory Evaluation and Importance.	2
5.	**Practical**		**30**
	Standardization of NaOH.		3
	Standardization of HCl		3
	Determination of Moisture using a) Hot air oven b) Distillation method c). Infrared method		6
	Determination of Acidity & pH		3
	Determination of T S S		3
	Qualitative test for carbohydrates – Molisch's test, Benedict's test, Iodine test,		3
	Anthrone test, Selivanoff's test.		3
	Qualitative Test of Proteins		3
	Practical Demonstration- Pilot / Industrial scale Food Production / Processing		3
	Industrial Visit : Food Processing Unit.		

Mapping of COs with PSOs and POs :

	PSO 1	PSO 2	PSO 3	PSO4	PSO 5	PSO6	PO1	PO2	PO3	PO4	PO5	PO6
CO 1	2	2	2	2	1	1	1	-	1	1	1	1
CO 2	2	-	-	1	2	2	2	3	2	2	2	2
CO 3	-	1	2	1	-	-	1	-	2	-	-	1
CO 4	2	2	2	2	1	2	1	1	-	1	2	1

Correlation Levels:

Level	Correlation
-	Nil
1	Slightly / Low
2	Moderate / Medium
3	Substantial / High

Assessment Rubrics:

- Quiz / Assignment/ Discussion / Seminar
- Midterm Exam
- Final Exam

Mapping of COs to Assessment Rubrics :

	Internal Exam	Assignment	Project Evaluation	End Semester Examinations
CO 1	✓			✓
CO 2	✓			✓
CO 3	✓	✓		✓
CO 4		✓	✓	✓

Course Title	**Perspectives of Food Science and Technology**				
Type of Course	**MDC**				
Semester	1				
Academic Level	100				
Course Details	Credit	Lecture per week	Tutorial per week	Practical per week	Total Hours
	3	3	-	-	45

Course Outcomes (CO):

CO	CO Statement	Cognitive Level*	Knowledge Category#	Evaluation Tools used
CO1	Understand the components of food and their significance.	U	C	▪ Quiz / Assignment/ Discussion / Seminar ▪ Midterm Exam ▪ Final Exam
CO2	Evaluate the impact of diet on health, considering both macro and micronutrients.	E	C	
CO3	Recognise different types of food adulteration,Food allergens , food poison and understand detection methods.	Ap	P	
CO4	Grasp the concepts of sustainable food practices and their environmental impact	U	F	
CO5	Stay updated on the latest research in nutritional science and Apply knowledge gained to make informed dietary choices.	Ap	M	

* - Remember (R), Understand (U), Apply (Ap), Analyse (An), Evaluate (E), Create (C)
# - Factual Knowledge(F) Conceptual Knowledge (C) Procedural Knowledge (P) Metacognitive Knowledge (M)

Detailed Syllabus:

Module	Unit	Content	Hrs
I	**Introduction, Composition and Nutritive Value of Foods**		**18**
	1	Scope of Food Science and Technology.	2

	2	Functions of food.	1
	3	Major Nutrients: Carbohydrates, Proteins, Lipids, Water.	2
	4	Minor Nutrients : Vitamins , Minerals	2
	5	Composition and Nutritive Value of Pulses, Legumes, Nuts & Oilseeds	3
	6	Composition and Nutritive Value of Meat, Fish, Egg and Milk	3
	7	Composition of Wheat and Rice.	2
	8	Classification and Composition of Fruits, Vegetables and Spices.	3
II	**Introduction to Food Additives**		**8**
	9	INS and E .Numbering	1
	10	Preservatives, Colouring agents, Flavour and Flavour enhancer	2
	11	Anti-oxidants, Artificial sweeteners, Stabilizers.	2
	12	Thickening agents, Anticaking agents,	1
	13	Flour improvers , Leavening agents,	2
III	**Food Adulteration and detection**		**4**
	14	Food Adulteration: Definition , common adulterants found in food.	2
	15	Methods of detection of common Food Adulterants.	2
IV	**Food Processing, Food Safety and Food Quality Assessment**		**6**
	16	Various sectors in Food Processing.	2
	17	Food Safety and Standard act 2006, FSSAI	1
	18	Need for food safety , Hazards in Food - Physical, Chemical and biological.	2
	19	Food Quality Assessment - Nutritional and Sensory	1
V	**Open Ended Module: Potential of Food Technology and innovative foods**		**9**

Mapping of COs with PSOs and POs :

	PSO 1	PSO 2	PSO 3	PSO4	PSO 5	PSO6	PO1	PO2	PO3	PO4	PO5	PO6
CO 1	1	1	2	1	1	1	-	1	1	2	1	1
CO 2	2	2	-	2	2	2	3	2	2	-	2	2
CO 3	2	-	1	-	-	1	-	2	-	1	-	-
CO 4	-	1	2	1	1	2	3	-	1	2	1	1
CO 5	1	1	2	1	1	1	-	1	1	2	1	1

Correlation Levels:

Level	Correlation
-	Nil
1	Slightly / Low
2	Moderate / Medium
3	Substantial / High

Assessment Rubrics:

- Quiz / Assignment/ Discussion / Seminar
- Midterm Exam
- Final Exam

Mapping of COs to Assessment Rubrics :

	Internal Exam	Assignment	Project Evaluation	End Semester Examinations
CO 1	✓			✓
CO 2	✓			✓
CO 3	✓			✓
CO 4	✓	✓		✓
CO 5		✓		✓
CO 6			✓	✓