



UNIVERSITY OF JAMMU

(NAAC ACCREDITED 'A' GRADE' UNIVERSITY)
Baba Sahib Ambedkar Road, Jammu-180006 (J&K)

Academic Section

Email: academicsectionju14@gmail.com

NOTIFICATION **(23/May/Adp./33)**

It is hereby notified for the information of all concerned that the Vice-Chancellor, in anticipation of the approval of the Academic Council, is pleased to authorize the adoption of the Syllabi and Courses of Study in the subject of **Food Science and Quality Control** of Semesters **IIIrd** and **IVth** for **Four Year Under Graduate Programme** under the **Choice Based Credit System** as per **NEP-2020** (as given in the annexure) for the examinations to be held in the years as per the details given below:

Subject	Semester	for the examination to be held in the years
Food Science and Quality Control	Semester-III	December 2023, 2024 and 2025
	Semester-IV	May 2024, 2025 and 2026

The Syllabi of the courses is available on the University website:
www.jammuuniversity.ac.in

Sd/-
DEAN ACADEMIC AFFAIRS

No. F. Acd/II/23/ 3222-3232
Dated: 22-5-2023

Copy for information and necessary action to:

1. Dean, Faculty of Science
2. Convener, Board of Studies in Home Science /Food Science and Quality Control.
3. Sr. P.A.to the Controller of Examinations
4. All members of the Board of Studies
5. Confidential Assistant to the Controller of Examinations
6. I/C Director, Computer Centre, University of Jammu
7. Deputy Registrar/Asst. Registrar (Conf. /Exams. UG/Eval Non-Prof)
8. Incharge, University Website for Uploading of the notification.

Sumitashamo
Deputy Registrar (Academic)

SS
19/5/23
SS
19/5
Y
19/5/23

University of Jammu

Syllabi of *Food Science and Quality Control* at Four Year Under Graduate

Programme (FYUP) under Choice Based Credit System as per NEP – 2020

(Semester III & IV)

Semester - III
(Examination to be held December 2023, 2024, 2025)

S.No	Course Type	Course No.	Course Title	Credits (Theory + Practical)	Marks				Total Marks
					Theory		Practical/Tutorials		
1	Major	UMJFST301	Food Nutrition and Chemistry	(3 + 1)	Mid Semester 15 Marks	End Exam 60 Marks	Assessment 10 Marks	Exam 15 Marks	75 + 25 = 100
2	Major	UMJFST302	Food Microbiology	(3 + 1)	Mid Semester 15 Marks	End Exam 60 Marks	Assessment 10 Marks	Exam 15 Marks	75 + 25 = 100
3	Minor	UMIFST303	Introduction to Food Nutrition and Chemistry	(3 + 1)	Mid Semester 15 Marks	End Exam 60 Marks	Assessment 10 Marks	Exam 15 Marks	75 + 25 = 100
4	Multi disciplinary	UMDFST304	Food Quality Assurance and Sensory Evaluation	3	Mid Semester 15 Marks	End Exam 60 Marks		-	75
5	Skill Enhancement Course	USEFST305	Bakery Technology and Entrepreneurship	2	Mid Semester 10 Marks	End Exam 40 Marks		-	50



Syllabi of Food Science and Quality Control at FYUP under CBCS as per NEP-2020
Food Science and Quality Control
Semester III
(Examination to be held in December 2023, 2024, 2025)
Major Course (Theory)

Course Code: UMJFST301

Course Title: Food Nutrition and
Chemistry

Credits: 03

Total No. of Lectures: 45

Maximum Marks: 100

Theory= 75

Practical/Tutorial= 25

Course Learning Objective:

The Course is designed to enable the students to:

- Understand the relationship between nutrition and human well-being
- Know and understand the functions, importance of all nutrients for different age groups and special groups
- Understanding of chemistry of major components of food
- Know Composition and properties of food nutrients.

UNIT- 1

- Definitions & concepts: Food, food chemistry, nutrition, nutrients, adequate nutrition, malnutrition.
- Recommended dietary intake (RDI), Basal metabolism (BM), factors affecting RDI and BM.
- Water in foods: structure- Hydrogen bonding, function, sources, requirement.

UNIT – 2

- Carbohydrates: Definition, classification, sources, properties. Nutritional and industrial importance.
- Starch gelatinization and retrogradation.
- Fats: Definition, sources, properties and rancidity. Significance of MUFAS and PUFAS.

UNIT- 3

- Proteins: Definition, classification, sources, properties and industrial importance.
- Enzymes- Nomenclature, specificity, factors influencing enzyme activity
- Enzyme added to food during processing

UNIT- 4

- Pigments: Myoglobin, chlorophyll, anthocyanin and carotenoids: their sources and stability during processing.
- Non enzymatic browning reactions in foods- Caramelization and Maillard reaction.

Syllabi of Food Science and Quality Control at FYUP under CBCS as per NEP-2020

Food Science and Quality Control

Semester III

(Examination to be held in December 2023, 2024, 2025)

Major Course (Theory)

Course Code: UMJFST301

Course Title: Food Nutrition and Chemistry

References:

1. Sunitra Roday, Food Science and Nutrition, 3rd Edition, 2018
2. Sumati R Mudambi, Rajagopal M. V Fundamentals of Foods, Nutrition and Diet Therapy, 6th Edition, New Age International Publishers, 2010
3. Srilakshmi, B, Nutrition Science, New age international (P) Ltd publishers, New Delhi, 2016.
4. Swaminathan, M. Advanced Text book on food and Nutrition, Vol.I. Bangalore Printing and Publishing Co. Ltd Bangalore.
5. H.-D. Belitz, Werner Grosch, Peter Schieberle, Food Chemistry, 3rd Edition, Springer-Verlag Berlin Heidelberg, 2004
6. John M. deMan, John W. Finley, W Jeffrey Hurst, Chang Yong Lee, Principles of Food Chemistry, 4th Edition, Springer, 2018



Syllabi of Food Science and Quality Control at FYUP under CBCS as per NEP-2020

Food Science and Quality Control

Semester III

(Examination to be held in December 2023, 2024, 2025)

Major Course (Practical)

Course Code: UMJFST301

Course Title: Food Nutrition and Chemistry

Credits: 01

Maximum Marks: 25

Note: Perform at least any five of the following experiments

- Preparation of RDA for different Age Groups
- To Calculate BMI
- Preparation and standardization of Normal solutions.
- Preparation and standardization of Molar solutions
- Preparation of different strengths (percentage) of solutions
- Determination of moisture content on dry and wet weight basis.
- Determination of ash content.
- Qualitative and quantitative tests for proteins.
- Determination of crude fat.
- Proximate Composition of Food.
- Qualitative and quantitative tests of carbohydrates.
- Determination of crude fibre.
- Determination of free fatty acid and acid value.
- Determination of peroxide value.

Syllabi of Food Science and Quality Control at FYUP under CBCS as per NEP-2020
Food Science and Quality Control
Semester III
(Examination to be held in December 2023, 2024, 2025)
Major Course (Practical)

Course Code: UMJFST301

Course Title: Food Nutrition and Chemistry

Scheme of Examination:

THEORY		
DESCRIPTION	TIME ALLOTTED	MARKS
Mid Semester Assessment Test shall be conducted by the course coordinator after completion of the syllabus up to 50% and the pattern of the examination shall be decided by the respective Board of Studies	1½ Hours	15
End Semester University Examination shall be conducted for entire syllabus. The break up is as under: Section A shall consist Four (4) short answer questions having one question from each unit. The students are required to attempt all questions. Each question shall be of 3 Marks. Section B shall consist Eight (8) long answer questions having two questions from each unit. The students are required to attempt one question from each unit. Each question shall be of 12 Marks.	2½ Hours	60
PRACTICAL/TUTORIAL		
Daily evaluation of practical's/tutorials/Viva voce/Records etc.	10 Marks for Continuous Assessment	
Final Examination Note: The BOS shall device the mechanism of Final examination.	15 Marks for Final examination	



Syllabi of Food Science and Quality Control at FYUP under CBCS as per NEP-2020
Food Science and Quality Control
Semester III
(Examination to be held in December 2023, 2024, 2025)
Major Course (Theory)

Course Code: UMJFST302

Credits: 03

Maximum Marks: 100

Theory= 75

Practical/Tutorial= 25

Course Title: Food Microbiology

Total No. of Lectures: 45

Course Learning Objective:

The Course is designed to enable the students to:

- Provide knowledge of different microorganisms associated with food and their role in spoilage and preservation of food.
- knowledge of microbes beneficial to humans
- Impart knowledge various products produced by microbes.

UNIT – 1

- History and scope of microbiology.
- Factors effecting microbial growth – extrinsic and intrinsic factors.
- Different Types of microorganisms.
- Economic importance of microbes.

UNIT- 2

- Microbial spoilage of fresh foods-fruits, vegetables, cereals, pulses.
- Spoilage of meat and milk.
- Microbial spoilage of canned food.

UNIT – 3

- Industrial microbiology-scope and development
- Industrial production of enzyme (any one enzyme)
- Industrial production of single cell protein

UNIT – 4

- Fermented food and their benefits: sauerkraut, Olives, Gherkins, yoghurt, cheese
- Probiotics and their health benefits

References:

1. FOSTER W.M, Food Microbiology, (2020), CBS Publisher
2. Jay, J.M., Lossner, M.J and Golden, D.A. (2008). Modern Food Microbiology. 7th edition. Springer.
3. Adams, M.R and Moss, M.O. (2018). Food Microbiology. New Age International Pvt. LTd. Publishers.
4. Ray,B., Bunia, A.,(2007), Fundamental Food Microbiology 4th Edition, Taylor & Francis Ltd
5. William C. Frazier, Dennis C. Westhoff, N.M. Vanitha., Food Microbiology, 5th Edition (2017), McGraw Hill Education Publisher

Syllabi of Food Science and Quality Control at FYUP under CBCS as per NEP-2020
Food Science and Quality Control
Semester III
(Examination to be held in December 2023, 2024, 2025)
Major Course (Practical)

Course Code: UMJFST302

Credits: 01

Maximum Marks: 25

Course Title: Food Microbiology

Note: Perform at least any five of the following experiments

1. Microscope: Types and working of microscope
2. To study the working of Autoclave.
3. Cleaning and sterilization of glassware
4. Demonstration of sterilization of equipment
5. Preparation of nutrient agar medium
6. Enumeration of microbes from food samples- TPC
7. Inoculation techniques
8. Gram staining
9. Identification of bacteria on the basis of:
 - Cultural characteristics
 - Morphological characteristics
10. Demonstration and identification of permanent slides.
11. Preparation of Yogurt
12. Preparation of any fermented product (Lactic Acid Fermentation)
13. Pasteurization of milk.

Syllabi of Food Science and Quality Control at FYUP under CBCS as per NEP-2020
Food Science and Quality Control
Semester III
(Examination to be held in December 2023, 2024, 2025)
Major Course (Theory)

Course Code: UMJFST302

Course Title: Food Microbiology

Scheme of Examination:

THEORY		
DESCRIPTION	TIME ALLOTTED	MARKS
Mid Semester Assessment Test shall be conducted by the course coordinator after completion of the syllabus up to 50% and the pattern of the examination shall be decided by the respective Board of Studies	1½ Hours	15
End Semester University Examination shall be conducted for entire syllabus. The break up is as under: Section A shall consist Four (4) short answer questions having one question from each unit. The students are required to attempt all questions. Each question shall be of 3 Marks. Section B shall consist Eight (8) long answer questions having two questions from each unit. The students are required to attempt one question from each unit. Each question shall be of 12 Marks.	2½ Hours	60
PRACTICAL/TUTORIAL		
Daily evaluation of practical's/tutorials/Viva voce/Records etc.	10 Marks for Continuous Assessment	
Final Examination Note: The BOS shall device the mechanism of Final examination.	15 Marks for Final Examination	

Syllabi of Food Science and Quality Control at FYUP under CBCS as per NEP-2020
Food Science and Quality Control
Semester III
(Examination to be held in December 2023, 2024, 2025)
Minor Course (Theory)

Course Code: UMIFST303

Course Title: Introduction to Food
Nutrition and Chemistry
Total No. of Lectures: 45

Credits: 03

Maximum Marks: 100

Theory= 75

Practical/Tutorial= 25

Course Learning Objective:

The Course is designed to enable the students to:

- Understand the relationship between nutrition and human well-being
- Know and understand the functions, importance of all nutrients for different age groups and special groups
- Understanding of chemistry of major components of food
- Know Composition and properties of food nutrients.

UNIT- 1

- Definitions & concepts: Food, food chemistry, nutrition, nutrients, malnutrition.
- Recommended dietary intake (RDI), Basal metabolism (BM)
- Water in foods: function, sources, requirement.

UNIT - 2

- Carbohydrates: Definition, classification, sources, properties. Nutritional importance. Starch gelatinization and retrogradation.
- Fats: Definition, classification, sources, properties and rancidity.
- Significance of MUFAS and PUFAS.

UNIT-3

- Proteins: Definition, classification, sources, properties and importance.
- Enzymes- Nomenclature, specificity, factors influencing enzyme activity
- Enzymes added to food during processing

UNIT-4

- Pigments: Myoglobin, chlorophyll, anthocyanin and carotenoids: their sources and stability during processing.
- Non enzymatic browning reactions in foods- Caramelization and Maillard reaction.

Syllabi of Food Science and Quality Control at FYUP under CBCS as per NEP-2020
Food Science and Quality Control
Semester III
(Examination to be held in December 2023, 2024, 2025)
Minor Course (Theory)

Course Code: UMIFST303

Course Title: Introduction to Food Nutrition and Chemistry

References:

1. Sunitra Roday, Food Science and Nutrition, 3rd Edition, 2018
2. Sumati R Mudambi, Rajagopal M. V Fundamentals of Foods, Nutrition and Diet Therapy, 6th Edition, New Age International Publishers, 2010
3. Srilakshmi, B, Nutrition Science, New age international (P) Ltd publishers, New Delhi, 2016.
4. Swaminathan, M. Advanced Text book on food and Nutrition, Vol.I. Bangalore Printing and Publishing Co. Ltd Bangalore.
5. H.-D. Belitz, Werner Grosch, Peter Schieberle, Food Chemistry, 3rd Edition, Springer-Verlag Berlin Heidelberg, 2004
6. John M. deMan, John W. Finley, W Jeffrey Hurst, Chang Yong Lee, Principles of Food Chemistry, 4th Edition, Springer, 2018

Syllabi of Food Science and Quality Control at FYUP under CBCS as per NEP-2020
Food Science and Quality Control
Semester III
(Examination to be held in December 2023, 2024, 2025)
Minor Course (Practical)

Course Code: UMIFST303

Course Title: Introduction to Food Nutrition and Chemistry

Credits: 01

Maximum Marks: 25

Note: Perform atleast any five of the following experiments:

- Preparation of RDA for different Age Groups
- To Calculate BMI
- Preparation and standardization of Normal solutions.
- Preparation and standardization of Molar solutions
- Preparation of different strengths (percentage) of solutions
- Determination of moisture content on dry and wet weight basis.
- Qualitative and quantitative tests for proteins.
- Determination of crude fat.
- Qualitative and quantitative tests of carbohydrates.
- Determination of crude fibre.
- Determination of free fatty acid and acid value.
- Determination of peroxide value.

JA

Syllabi of Food Science and Quality Control at FYUP under CBCS as per NEP-2020
Food Science and Quality Control
Semester III
(Examination to be held in December 2023, 2024, 2025)
Minor Course

Course Code: UMIFST303

Course Title: Introduction to Food Nutrition and Chemistry

Scheme of Examination:

THEORY		
DESCRIPTION	TIME ALLOTTED	MARKS
Mid Semester Assessment Test shall be conducted by the course coordinator after completion of the syllabus up to 50% and the pattern of the examination shall be decided by the respective Board of Studies	1½ Hours	15
End Semester University Examination shall be conducted for entire syllabus. The break up is as under: Section A shall consist Four (4) short answer questions having one question from each unit. The students are required to attempt all questions. Each question shall be of 3 Marks. Section B shall consist Eight (8) long answer questions having two questions from each unit. The students are required to attempt one question from each unit. Each question shall be of 12 Marks.	2½ Hours	60
PRACTICAL/TUTORIAL		
Daily evaluation of practical's/tutorials/Viva voce/Records etc.	10 Marks for Continuous assessment	
Final Examination Note: The BOS shall device the mechanism of Final examination.	15 Marks for Final examination	



Syllabi of Food Science and Quality Control at FYUP under CBCS as per NEP-2020

Food Science and Quality Control

Semester III

(Examination to be held in December 2023, 2024, 2025)

Multi- disciplinary Course

Course Code: U MDFST304

Course Title: Food Quality Assurance and
Sensory Evaluation

Credits: 03

Total No. of Lectures: 45

Course Learning Objective:

The Course is designed to enable the students to

- Understand about food quality and its evaluation.
- Know about different methods being used to assure quality.
- Understand about Sensory Evaluation Techniques to assure quality of food products.

Unit-I

- Definition and importance of Quality control and Quality Assurance
- Quality attributes of Food – Nutritional quality, Microbial, Sensory.
- Sampling-Definition and types

Unit -2

- Food Safety and Standards Act-2006.
- Codex Alimentarius Commission
- Basic Concept of Hazard Analysis Critical Control Point (HACCP) and Good Manufacturing Practices (GMP)

Unit - 3

- Definition of Sensory Evaluation, Subjective and Objective evaluation
- Human Senses: Sight, Smell, Taste, Sound and Touch
- Basic Taste: Sweet, Salty, Sour, Bitter and Umami.
- Selection of sensory panel

Unit - 4

- Threshold tests for basic tastes
- Different types of sensory tests:
 - Paired Comparison Test.
 - Rank Test
 - Score Test
 - Hedonic Scale

Syllabi of Food Science and Quality Control at FYUP under CBCS as per NEP-2020

Food Science and Quality Control

Semester III

(Examination to be held in December 2023, 2024, 2025)

Multi- disciplinary Course

Course Code: UMDFST304

Course Title: Food Quality Assurance and Sensory Evaluation

References:

1. Eram S. Rao., Food Quality Evaluation, Variety Books Publishers and Distributors (2013)
2. Pomeranz, Y. Food Analysis-Theory and Practice, Springer
3. Nielsen, Suzanne, Food Analysis, Springer US (2010)
4. Sensory Evaluation of Food by Hildegard Heymann , Harry T. Lawless
5. Sensory Evaluation Techniques by Gail Vance Civille , B. Thomas Carr
6. Food Science by B. Srilakshmi

Scheme of Examination:

THEORY		
DESCRIPTION	TIME ALLOTTED	MARKS
Mid Semester Assessment Test shall be conducted by the course coordinator after completion of the syllabus up to 50% and the pattern of the examination shall be decided by the respective Board of Studies	1½ Hours	15
End Semester University Examination shall be conducted for entire syllabus. The break up is as under: Section A shall consist Four (4) short answer questions having one question from each unit. The students are required to attempt all questions. Each question shall be of 3 Marks. Section B shall consist Eight (8) long answer questions having two questions from each unit. The students are required to attempt one question from each unit. Each question shall be of 12 Marks.	2½ Hours	60

Syllabi of Food Science and Quality Control at FYUP under CBCS as per NEP-2020

Food Science and Quality Control

Semester III

(Examination to be held in May 2024, 2025, 2026)

Skill Enhancement Course

Course Code: USEFST305

Credits: 02

Maximum Marks: 50

Course Title: Bakery Technology and Entrepreneurship

Total No. of Lectures: 30

Course Learning Objective:

The Course is designed to enable the students to

- Understanding of composition of cereals being used in bakery.
- Know changes occurring in various baked products as a result of processing.
- Use the theoretical knowledge in various applications and bakery products preparations.

Unit-I

- History of Bakery, - Present Trends - Prospects - Nutrition facts of Bakery.
- Wheat: Structure and Composition of wheat, Wheat products - Whole wheat flour, Maida, semolina, Role of Gluten
- Raw materials used and their role in Bakery – Flour, Yeast, Sugar, Fats, Salt, Additives

Unit-II

- Bread, Biscuits, Cakes & Pastries – Methods of preparation
- Modification of bakery products for people with special nutritional requirements, e.g. high fibre, low sugar, low fat, gluten free bakery products.

Unit-III

- Setting up of a Bakery Unit:
 - Bakery equipment required
 - Bakery norms and Standards,
 - Illumination and ventilation
 - Cleaning & sanitization

REFERENCES

1. Kurt A. Rosentrater, A.D.Evers., Kent's Technology of Cereals, 5th Edition, Woodhead Publishing (2018)
2. P.J.Fellows., Food Processing Technology, (2016) 4th Edition, Woodhead Publishing
3. Cereals and Cereal Processing: Chemistry and Technology DAV Dendy & BJ
4. Chemistry and Technology of Cereal Food and Feed S A Matz
5. Bakery Technology and Engineering S A Matz
6. Bakery Flour Confec Syllabi of Food Science and Quality Control at FYUP under CBCS as per NEP-2020
tionary L J Hanneman

Syllabi of Food Science and Quality Control at FYUP under CBCS as per NEP-2020

Food Science and Quality Control

Semester III

(Examination to be held in May 2024, 2025, 2026)

Skill Enhancement Course

Course Code: USEFST305

Course Title: Bakery Technology and Entrepreneurship

Scheme of Examination:

THEORY		
DESCRIPTION	TIME ALLOTTED	MARKS
Mid Semester Assessment Test shall be conducted by the course coordinator after completion of the syllabus up to 50% and the pattern of the examination shall be decided by the respective Board of Studies	1½ Hours	10
End Semester University Examination shall be conducted for entire syllabus. The break up is as under: Section A shall consist Four (4) short answer questions covering each unit. The students are required to attempt all questions. Each question shall be of 2½ Marks. Section B shall consist Six (6) long answer questions having two questions from each unit. The students are required to attempt one question from each unit. Each question shall be of 10 Marks.	2½ Hours	40

Semester - IV
(Examination to be held May 2024, 2025, 2026)

S. No	Course Type	Course No.	Course Title	Credits (Theory + Practical)	Marks				Total Marks
					Theory		Practical/Tutorials		
1	Major	UMJFST401	Processing of Fruits and vegetable	(3 + 1)	Mid Semester 15 Marks	End Exam 60 Marks	Assessment 10 Marks	Exam 15 Marks	75 + 25 = 100
2	Major	UMJFST402	Processing of Milk and Milk Products	(3 + 1)	Mid Semester 15 Marks	End Exam 60 Marks	Assessment 10 Marks	Exam 15 Marks	75 + 25 = 100
3	Major	UMJFST403	Processing of Cereals, Pulses & Oil Seeds	(3 + 1)	Mid Semester 15 Marks	End Exam 60 Marks	Assessment 10 Marks	Exam 15 Marks	75 + 25 = 100
4	Major	UMJFST404	Processing of Egg, Meat and Fish	(3 + 1)	Mid Semester 15 Marks	End Exam 60 Marks	Assessment 10 Marks	Exam 15 Marks	75 + 25 = 100
5	Minor	UMIFST405	Processing of Fruits and vegetable	(3 + 1)	Mid Semester 15 Marks	End Exam 60 Marks	Assessment 10 Marks	Exam 15 Marks	75 + 25 = 100



Syllabi of Food Science and Quality Control at FYUP under CBCS as per NEP-2020
Food Science and Quality Control
Semester IV
(Examination to be held in May 2024, 2025, 2026)
Major Course (Theory)

Course Code: UMJFST401
Credits: 03
Maximum Marks: 100
Theory= 75
Practical/Tutorial= 25

Course Title: Processing of Fruits and vegetables
Total No. of Lectures: 45

Course Learning Objectives:

The Course is designed to enable the students to:

- Understand about production, composition and processing of various staple food crops
- Acquaint the students about production, post-harvest physiology of different fruits and vegetables
- Understand about processing of Fruits and Vegetables.

Unit – 1

- Production trends of different Fruits and Vegetables in India and World
- Chemical composition and nutritional significance of Fruits and Vegetables
- Maturity and ripening.
- Post-harvest losses in fruits and vegetables.
- Post-harvest physiology and handling of fruits and vegetables, respiration, transpiration, etc.

Unit – 2

- Packaging requirements of fruits & vegetables.
- Storage of fruits and vegetables. Refrigerated and controlled atmospheric storage
- Processed products of fruits (jam, jelly, marmalade).

Unit – 3

- Beverages: Juice, nectar, squash, cordial, concentrate
- Tomato products-puree, ketchup and sauce
- Vegetable pickles

Unit – 4

- Drying and Dehydration of Fruits and Vegetables
- Freezing technology of vegetables (IQF)
- Canning of fruits and vegetables.

References:

1. R.P. Srivastva, S. Kumar., Fruit & Vegetable Preservation, 3rd Edition (2019), CBS Publishers
2. Kurt A. Rosentrater, A.D. Evers., Kent's Technology of Cereals, 5th (Ed) Woodhead Publishing (2018)
3. P.J. Fellows., Food Processing Technology, (2016) 4th Edition, Woodhead Publishing
4. Norman N Potter, H.H. Joseph., Food Science, 5th Edition (2007)
5. Girdhari Lal, Siddhapa & Tandon, Preservation of Fruits and Vegetables, Bombay Popular Prakashan.
6. S.C. Dubey, Basic Baking,

Syllabi of Food Science and Quality Control at FYUP under CBCS as per NEP-2020
Food Science and Quality Control
Semester IV
(Examination to be held in May 2024, 2025, 2026)
Major Course (Practical)

Course Code: UMJFST401

Course Title: Processing of Fruits and Vegetables

Credits: 01

Maximum Marks: 25

Note: Perform any five of the following experiments as per the availability of equipment/ apparatus

List of Experiments:

1. Preparation of preserves.
2. Preparation of Fruit Candies
3. Preparation of squash/Lime Cordial
4. Preparation of tomato sauce/ketchup
5. Preparation of syrup & brine solutions
6. Preparation of Vegetable Pickles
7. Cut out analysis of canned fruits & vegetables.
8. Dehydration of Vegetables (Check rehydration ratio also)

Scheme of Examination:

THEORY		
DESCRIPTION	TIME ALLOTTED	MARKS
Mid Semester Assessment Test shall be conducted by the course coordinator after completion of the syllabus up to 50% and the pattern of the examination shall be decided by the respective Board of Studies	1½ Hours	15
End Semester University Examination shall be conducted for entire syllabus. The break up is as under: Section A shall consist Four (4) short answer questions having one question from each unit. The students are required to attempt all questions. Each question shall be of 3 Marks. Section B shall consist Eight (8) long answer questions having two questions from each unit. The students are required to attempt one question from each unit. Each question shall be of 12 Marks.	2½ Hours	60
PRACTICAL/TUTORIAL		
Daily evaluation of practical's/tutorials/Viva voce/Records etc.	10 Marks for Continuous Assessment	
Final Examination Note: The BOS shall device the mechanism of Final examination.	15 Marks for Final Examination	

