Highlights of the course:

- Introducing food processing equipments
- Preservation of fruits and vegetables
- Production of value added products from fruits and vegetables

Expected Course Outcomes:

Upon completion of this course, the students will be able to:

- Understand different types of fruits and vegetables.
- Examine the opportunities and potentials in the field of food processing technology
- Devise methods for preservation of fruits and vegetables
- Devise methods for skill acquisition in food processing technology

PROCESSING OF FRUITS AND VEGETABLES

Value Added Course

OFFERED BY
DEPT OF BOTANY
CMS COLLEGE, (AUTONOMOUS)
KOTTAYAM

Course	Details				
Code	**BYX1801**				
Title	PROCESSING OF FRUITS AND VEGETABLES				
Degree	BSc				
Branch(s)	BOTANY				
Year/Semester	1/II				
Type	**VALUE ADDED COURSE**				
Credits	2	Hrs/Week	2	Total Hrs	36

CO No.	Expected Course Outcomes Upon completion of this course, the students will be able to:	Cognitive Level	PSO No.
1	Understand different types of fruits and vegetables.	U	4
2	Examine the opportunities and potentials in the field of food processing technology	Ap	3
3	Devise methods for preservation of fruits and vegetables	C	4
4	Devise methods for skill acquisition in food processing technology	C	4

PSO-Program Specific outcome; CO-Course Outcome; Cognitive Level: R-Remember; U-Understanding; Ap-Apply; An-Analyze; E-Evaluate; C-Create.

Module	Course Description	Hrs	CO.No.
1.0	**Processing of fruits and vegetables**	**18**	**1-4**
1.1	Identifications of Fruits and vegetables.	2	1
1.2	Identification of spices and food additives used in fruits and vegetable processing.	2	1
1.3	Spoilage of fruits and vegetables	2	1
1.4	Study of common food processing equipments such as pulper, sealers, juice extracting machines, autoclaves, corking machines etc.	2	1
1.5	Refrigeration and other methods for storing perishables.	2	1
1.6	Preparation of Fruit Juice. Preservation of fruits juices with addition of preservative	2	1
1.7	Preparation of common fruit beverages. Determination of Acids in fruits and vegetable products	2	1 & 2
1.8	Preparation of tomato juices, sauces, ketchups, soup, paste, chutney	2	1 & 2
1.9	Various methods of drying: sun drying, cabinet drying and solar drying.	2	3

	Hands own training and Industrial visit	**18**	
2.1	Preparation of wine	**2**	**3**
2.2	Preparation of synthetic vinegars.	2	3
2.3	Preparation of candies, Jam, jelly and fruit bars.	2	3
2.4	Demonstration of Canning process in fruits and vegetables canning industry.	2	3,4
2.5	Freezing demonstration on market sample of frozen fruits and vegetables.	2	3,4
2.6	Preparations of different types of pickles from fruits and vegetables.	2	3
2.7	Examination of processed products.	2	4
2.8	Cleaning and maintenance of the equipments.	2	4
2.9	Industrial Training: Fruits and vegetables processing industry.	2	2

REFERENCES

1. Adams MR, M O Moss, 1995. FoodMicrobiology. PanimaPublishing.
2. Casida L E(Jr.),2005.IndustrialMicrobiology.NewAgeInternational.
3. Frazier, Westhoff, 1988. Food Microbiology. Tata Mc GrawHill.
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6. Neshamani S, 2000. Pazhangal, Pazhavibhavangal (Malayalam).Kerala Bhasha Institute.

CMS COLLEGE (AUTONOMOUS)
DEPARTMENT OF BOTANY
Value Added Course
PROCESSING OF FRUITS AND VEGETABLES

REPORT

The Department of Botany, CMS College Kottayam conducted the Value Added Course on "Processing of Fruits and Vegetables" from 4th January 2022 to 29th January 2022. It enabled the students to identify the different fruits, vegetables and spices which are economically important, as well as to evaluate and rank foods with regard to their degree of processing. They also got information about the reasons why foods are processed. They were able to understand the steps involved in manufacturing of various types of food products using fruits and vegetables. Students also developed awareness about benefits of food processing along with the dietary, health and environmental concerns. Practical sessions including wine preparation and pickle making were interesting for the students. Students have shared their exciting knowledge about food processing and preservation throughout these sessions.

A total of 51 students participated in the course. Starting from 4th January 2022, there were 18 hours of theory class and 18 hours of practical sessions conducted by Resource Persons.

Sessions were divided into following categories -

1. Identification of Fruits, Vegetables and Spices.
2. Spoilage of Fruits and Vegetables.
3. Preservation of food products.
4. Cleaning and Maintenance of various food processing equipments.
5. Practical demonstration of preparation of the food products.

The valedictory function of the programme was conducted on 29th January, 2022. Overall, the success of the course was heightened by the enthusiasm and participation of students.

Head, Dept. of Botany
CMS College, Kottayam

DEPARTMENT OF BOTANY
botany@cmscollege.ac.in
CMS COLLEGE KOTTAYAM (AUTONOMOUS)

Coordinator, Value added course

Dr. ELIZABETH CHERIAN
Assistant Professor
Department of Botany
CMS College
Kottayam, Kerala, India

CMS COLLEGE (AUTONOMOUS)
DEPARTMENT OF BOTANY
Value Added Course
PROCESSING OF FRUITS AND VEGETABLES
Attendance

Sl. No.	UPRN	Name of the student	January, 2022																	
			4	5	6	7	8					10	11	12	13	15				
							1	2	3	4	5					1	2	3	4	5
1.	201110101	ABHISHEK S	x	a	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
2.	201110103	AKHIL KRISHNA G	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
3.	201110104	AMAYA MATHEW	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
4.	201110105	ANJUMOL K A	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
5.	201110107	ARCHANA T K	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
6.	201110108	ARYANANDA MURALI	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
7.	201110109	BINIL JOSEPH T KOCHUMON	x	x	x	x	a	a	a	a	a	x	x	x	a	a	a	a	a	a
8.	201110110	C DEEPSHIKHA RAJU	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
9.	201110111	GOWRI S KURUP	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
10.	201110112	HANEENA PJ	a	a	a	x	x	x	x	x	x	x	a	a	a	x	x	x	x	x
11.	201110113	NIKHIL JAYAKUMAR	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
12.	201110114	NOWRIN FATHIMA	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
13.	201110115	ROGIN PRASAD	a	a	a	a	a	a	x	x	x	a	a	a	a	a	a	a	a	a
14.	201110116	SONIYA JOSEPH	x	x	a	a	x	x	x	x	x	x	a	a	a	x	x	x	x	x
15.	201110117	SREELAKSHMI R	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
16.	201110118	VARSHA K S	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
17.	201110119	VARSHA R S	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
18.	201110120	VISHNU K R	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
19.	201110121	VISHNU SURESH	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
20.	201110122	ABHISHEK P J	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
21.	201110123	ADITHYAKRISHNA B	x	x	x	x	a	a	a	a	a	x	a	a	a	x	x	x	x	x
22.	201110124	ALAN D ABRAHAM	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
23.	201110125	ALEENA BINU	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
24.	201110126	AMAL J	a	a	a	x	x	x	x	x	x	a	a	a	x	x	x	x	x	x
25.	201110127	ANJALI S PILLAI	X	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
26.	201110128	ANJANA S	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
27.	201110129	ANJITHA ANIL	x	a	a	x	x	x	x	x	x	x	x	a	a	x	x	x	x	x
28.	201110130	ANU T JOHN	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
29.	201110131	ANUSRI T A	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
30.	201110132	ARATHY SOMAN	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x

31.	201110133	ASHNA SASI	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
32.	201110134	ASIYA S	x	x	x	x	a	a	a	a	a	x	x	a	a	x	x	x	a	a
33.	201110135	ASWATHI M	a	a	x	x	x	x	x	a	a	x	x	x	a	x	x	x	a	a
34.	201110136	FATHIMA HUSSAIN	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
35.	201110138	JEMIMA JOYA JOHNS	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
36.	201110139	JUBINA MARY CHACKO	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
37.	201110140	KRISHNA PRIYA P	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
38.	201110141	LIYA ELIZABETH CHACKO	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
39.	201110142	M P AFLAH	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
40.	201110143	MANU MATHEW JACOB	x	x	a	a	a	a	a	a	a	x	x	x	x	x	a	a	a	a
41.	201110144	MIZRIYA MUHAMMED	x	x	x	x	a	a	a	a	a	a	a	x	x	x	x	x	x	x
42.	201110145	NANDANA JAYAKUMAR	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
43.	201110146	NASEEHA FARSANA M K	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
44.	201110147	RAHANA K R	x	x	a	x	x	x	a	a	x	a	x	a	a	x	x	x	x	x
45.	201110148	SARANYA MOL K R	a	x	x	x	x	x	x	x	x	x	a	a	a	x	x	x	x	x
46.	201110149	SIYAMOL SAJAN	a	a	x	x	a	a	a	a	a	x	x	x	x	x	x	x	x	x
47.	201110150	SNEHAMOL S	x	x	x	x	x	x	x	x	x	x	a	a	a	x	x	x	x	x
48.	201110151	SREELAKSHMI S	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
49.	201110152	STEPHIN K SAJI	x	x	x	x	a	a	a	a	a	x	x	x	x	x	x	x	x	x
50.	201110153	TINU MARKOSE	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
51.	201110154	VISHNU BHASURAN	a	a	a	a	x	x	x	a	a	a	a	x	x	x	x	x	x	x

DEPARTMENT OF BOTANY
botany@cmscollege.ac.in
CMS COLLEGE KOTTAYAM(AUTONOMOUS)

Sl. No.	UPRN	Name of the student	January, 2022																	
			16	17	18	19	20	21					23	24	25	29				
			1	2	3	4		1	2	3	4	5				1	2	3	4	5
1.	201110101	ABHISHEK S	x	a	x	a	a	a	a	x	x	x	x	x	a	x	x	x	x	x
2.	201110103	AKHIL KRISHNA G	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
3.	201110104	AMAYA MATHEW	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
4.	201110105	ANJUMOL K A	x	x	a	x	x	x	x	x	x	x	x	a	a	x	x	x	x	x
5.	201110107	ARCHANA T K	x	x	a	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
6.	201110108	ARYANANDA MURALI	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
7.	201110109	BINIL JOSEPH T KOCHUMON	x	x	x	a	a	a	a	a	a	x	x	x	a	a	a	a	a	a
8.	201110110	C DEEPSHIKHA RAJU	x	x	x	x	x	x	x	x	x	x	a	a	a	x	x	x	x	x
9.	201110111	GOWRI S KURUP	x	x	x	a	x	x	x	x	x	x	x	x	x	x	x	x	x	x
10.	201110112	HANEENA PJ	x	x	x	x	a	a	a	x	x	x	a	a	a	x	x	x	x	x
11.	201110113	NIKHIL JAYAKUMAR	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
12.	201110114	NOWRIN FATHIMA	x	x	x	a	x	x	x	x	x	x	x	x	a	x	x	x	x	x
13.	201110115	ROGIN PRASAD	a	a	a	a	a	a	x	x	x	a	a	a	a	a	a	a	a	a
14.	201110116	SONIYA JOSEPH	x	x	a	a	x	x	x	x	x	x	a	a	a	x	x	x	x	x
15.	201110117	SREELAKSHMI R	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
16.	201110118	VARSHA K S	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
17.	201110119	VARSHA R S	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
18.	201110120	VISHNU K R	x	x	x	a	a	x	x	x	x	x	x	a	a	x	x	x	x	x
19.	201110121	VISHNU SURESH	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
20.	201110122	ABHISHEK P J	x	x	x	x	x	x	x	x	x	x	x	a	x	x	x	x	x	x
21.	201110123	ADITHYAKRISHNA B	x	x	x	x	a	a	a	a	a	x	a	a	a	x	x	x	x	x
22.	201110124	ALAN D ABRAHAM	x	x	x	x	x	x	x	a	a	x	x	x	x	x	x	x	x	x
23.	201110125	ALEENA BINU	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
24.	201110126	AMAL J	a	a	a	x	x	x	x	x	x	a	a	a	x	x	x	x	x	x
25.	201110127	ANJALI S PILLAI	X	x	x	a	x	x	x	x	x	x	a	x	x	x	x	x	x	x
26.	201110128	ANJANA S	x	x	a	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
27.	201110129	ANJITHA ANIL	x	a	a	x	x	x	x	x	x	x	x	a	a	x	x	x	x	x
28.	201110130	ANU T JOHN	x	x	x	x	x	x	x	x	x	x	x	X	x	x	x	x	x	x
29.	201110131	ANUSRI T A	x	x	a	a	x	x	x	x	x	x	x	X	x	x	x	x	x	x
30.	201110132	ARATHY SOMAN	x	x	x	x	x	x	x	x	x	x	x	X	x	x	x	x	x	x
31.	201110133	ASHNA SASI	x	x	x	x	x	x	x	x	x	x	x	X	x	x	x	x	x	x
32.	201110134	ASIYA S	x	x	x	x	a	a	a	a	a	x	x	a	a	x	x	x	a	a
33.	201110135	ASWATHI M	a	a	x	x	x	x	x	a	a	x	x	X	a	x	x	x	a	a
34.	201110136	FATHIMA HUSSAIN	x	x	x	a	x	x	x	x	x	x	x	a	a	x	x	x	x	x
35.	201110138	JEMIMA JOYA JOHNS	x	x	x	x	x	x	x	x	x	x	a	a	x	x	x	x	x	x

36.	201110139	JUBINA MARY CHACKO	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
37.	201110140	KRISHNA PRIYA P	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
38.	201110141	LIYA ELIZABETH CHACKO	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
39.	201110142	M P AFLAH	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
40.	201110143	MANU MATHEW JACOB	x	x	a	a	a	a	a	a	a	x	x	x	x	x	a	a	a	a
41.	201110144	MIZRIYA MUHAMMED	x	x	x	x	a	a	a	a	a	a	a	x	x	x	x	x	x	x
42.	201110145	NANDANA JAYAKUMAR	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
43.	201110146	NASEEHA FARSANA M K	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
44.	201110147	RAHANA K R	x	x	a	x	x	x	a	a	x	a	x	a	a	x	x	x	x	x
45.	201110148	SARANYA MOL K R	a	x	x	x	x	x	x	x	x	x	a	a	a	x	x	x	x	x
46.	201110149	SIYAMOL SAJAN	a	a	x	x	a	a	a	a	a	x	x	x	x	x	x	x	x	x
47.	201110150	SNEHAMOL S	x	x	x	x	x	x	x	x	x	x	a	a	a	x	x	x	x	x
48.	201110151	SREELAKSHMI S	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
49.	201110152	STEPHIN K SAJI	x	x	x	x	a	a	a	a	a	x	x	x	x	x	x	x	x	x
50.	201110153	TINU MARKOSE	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
51.	201110154	VISHNU BHASURAN	a	a	a	a	x	x	x	a	a	a	a	x	x	x	x	x	x	x

Elizabeth

Head, Dept. of Botany
CMS College, Kottayam

Coordinator, Value added course

DEPARTMENT OF BOTANY
CMS COLLEGE KOTTAYAM(AUTONOMOUS)

DR. ELIZABETH CHERIAN
Assistant Professor
Department of Botany
CMS College
Kottayam, Kerala, India