

MES COURSE MODULES

In

**FOOD PROCESSING and
PRESERVATION**

1. Name of the Module : **FRUITS AND VEGETABLES PROCESSING**
2. Sector : **Food Processing & Preservation**
3. Code : FPP701
4. Entry Qualification : Minimum 10th Standard
5. Age : 14 yrs minimum.
6. Terminal Competency : After completion of this training the participant would be able to:
- To develop proficiency skill in producing different processed fruits & vegetables food products.
 - Operating & maintenance the modern Equipments & machineries
 - Make different processed food products with quality assurance.
 - Process of Packaging, Storing & marketing
7. Duration : 500 hrs.
8. Contents :-

SI. No	PRACTICAL	THEORY
1	<ul style="list-style-type: none"> Procure seasonal fruits and vegetable products. Collect different categories fruits and vegetable products according to criteria. Practice to operate different food machineries. 	<ul style="list-style-type: none"> Introduction:-Importance of Fruits and Vegetables & its marketing aspects. Preservation Technology:-Nature of the fruits & vegetables in respect of their preservation. Different terms used in processing. Classification of fruits and vegetables on the basis of pH, physiology. Principle & techniques involved for different Fruit & Vegetable preservation.
2	<ul style="list-style-type: none"> Practice to operate Canning operations:-Mango slice, Guava, Pineapple, Strawberry, Grapes, Potato, Cucumber, Mushroom, Spinach, Cauliflower, Cabbage etc. 	<ul style="list-style-type: none"> Canning operations on fruits and vegetables. Process flow diagram for canning. Canning machineries. Pre-treatment's before canning operations.
3	<ul style="list-style-type: none"> Drying carryout operations on fruits and vegetables using different dryers. Drying process:-Mango slice, Apple rings, Grapes, Pear, Pineapple, Fig, Banana, Pomegranate, 	<ul style="list-style-type: none"> Fruits and vegetable drying/dehydration: General methods of fruits & vegetable drying/dehydration, sun drying, mechanical drying. Types of dryers, characteristics of dried fruits and vegetables, treatments prior

	Bael fruit, Papaya & other fruits, Tomato slices, Okra, Brinjal, Potato, Ginger, Bitter guard & other vegetables.	<ul style="list-style-type: none"> • General process of fruit and vegetable drying. • Specialized drying operations in fruits and vegetables.
4	<ul style="list-style-type: none"> • Practice to make jam, jellies, juices etc. • Test pectin in fruit juices & pulps. • Practice to prepare of different fruit jams like, Mango, Apple, Pineapple, Banana, Papaya, Amla, Mixed fruit & other Fruit. • Practice to prepare the different fruit jelly from fruits like, Apple, Guava, Jackfruit, Amla & other fruits. • Prepare jam and jelly marmalades. • Test end point in jam and jelly. 	<ul style="list-style-type: none"> • Principle of making jam and jellies as per availability of the fruits. • Process flow diagram for jam and jellies. • Test of pectin for jam and jelly preparation. • Glazed fruits, candy, fruit bar. • Principle and methods of production. • Indian Food Standard :- FSSAI • International Food Standards :- Codex Alimentarius
5	<ul style="list-style-type: none"> • Visit different food processing plants and write a report. • Practice to make different types of pickles. 	Pickles: Principle of pickle production, different types of pickles from fruits and vegetables,
6	<ul style="list-style-type: none"> • Prepare tomato ketchup, sauce, puree & paste. • Prepare potato chips & finger chips. • Prepare synthetic, fermented and flavored vinegars 	<ul style="list-style-type: none"> • Methods of preparation of tomato ketchup, Chutney, sauce, puree, paste. • Manufacturing process of Potato chip, finger chips and use of machinery. • Different types of vinegars. • Principle of vinegar production. • Characteristics of good quality vinegar.
7	<ul style="list-style-type: none"> • Prepare products from wastes e.g. Vinegar from pine apple waste, pectin from citrus fruits wastes, and fat from mango kernel, Analyze fruits and vegetables for their quality. 	<ul style="list-style-type: none"> • By product utilization • Quality factors in fruit and vegetable processing & preservation. • Storage techniques for fruits and Vegetables in refrigeration & cold storage.

8	<ul style="list-style-type: none"> Identify fault and take corrective measures. 	<ul style="list-style-type: none"> Analytical methods for evaluation of chemical and nutritional composition of fruits and vegetables & equipments use for above. Safety precautions taken in fruits and vegetable industry & finding the faults in proper location.
9	<ul style="list-style-type: none"> Pack the given food products and seal Practice to contact with customers. 	<ul style="list-style-type: none"> CRM(Customer related management)-Marketing & soft skill, leadership, problem solving, decision making skill etc.
10	<ul style="list-style-type: none"> Practice to cost the estimate of different products. Conducting survey of the different products from the market. Marketing through agents, salesman, retailers etc. Practice on collection of orders and delivery of different food products 	<ul style="list-style-type: none"> Market survey procedures. Marketing strategies. Methods of marketing feedback. Cost analysis & attractive packaging. Advertising procedure.

Lists of Tools, Equipments &Machineries for a batch

SL.NO	DESCRIPTION OF TOOLS/MACHINERIES	QUANTITY
1.	Working tables	02
2.	Improved stoves	03
3.	Stainless steel pots of different capacities	04 sets
4.	Stainless steel knives, 12-15 cm blade	08
5.	Stainless steel spoons, various shapes	08 sets
6.	Glass jars, various sizes and screw-on caps	50
7.	Bottle brushing machine	10
8.	Solar drier	01
9.	Wooden spoons	08
10.	Juice extractor	02
11.	Pulper	01
13.	Fermentor,	01
14.	Crown corking machine	01
15.	Cabinet dryer	01
16.	Basket press	01
17.	Filter press	01
18.	Pouch packing machine	01
19.	Food Processor with vegetable cutting attachment	01

-Raw material and consumables are not included in the list.

1. Name of the Module : **Bakery & Confectionery**
2. Sector : **Food Processing & Preservation**
3. Code : FPP 702
4. Entry Qualification : Minimum 8th Standard
5. Age : 14yrs.
6. Terminal Competency : After completion of this training the participant would be able to:
- Operating & maintenance of the modern Equipments & machineries.
 - To make bakery & confectionary Products
 - Process of Packaging & Storing
 - Maintaining the quality of products
7. Duration : 500 hrs.

8. Contents :-

SL.NO	PRACTICAL	THORY
1	<ul style="list-style-type: none"> Cleaning of work area, fire fighting, equipments. Familiarization maintaining general safety. First aid practice & treatment. Safety precautions taken & use safety equipments including of organization & their Food products unit. Handling of tools, equipments, & machineries in the section & proper utilization & upkeep. Indenting & procurement of tools and materials from store as need. 	<ul style="list-style-type: none"> Importance of bakery & Confectionery Industry & its market value. Important cereals in food Industry. Safety & Precautions to be taken in each M/c's. Fault and remedies in machine.
2	<ul style="list-style-type: none"> Practice to product the good quality flour to make bread, biscuit and cakes. Practice to make the plain fermented malt from rye flour. Utility of Flour, fat, baker's yeast, sugar and salt to make bread. 	<ul style="list-style-type: none"> Different type of flour for the bakery products. Quality assurance as per B.I.S for different ingredients.

3	<ul style="list-style-type: none"> • Practice to operate the different food Machineries to make bread • Practice to make plain bread, fermented bread, protein rich bread and special breads. 	<ul style="list-style-type: none"> • principle to make the bread • Products & types of breads and their uses. • Ingredients used in bread production.
4	<ul style="list-style-type: none"> • Practice to make different types of specialized biscuits & other products like cookies, crackers • Testing of raw material and product for their quality. 	<ul style="list-style-type: none"> • Ingredients in biscuit & method of mixing to prepare the biscuit. • Quality standards and evaluation of product.
5	<ul style="list-style-type: none"> • Practice to make different types of ordinary biscuits by hand or machineries. 	<ul style="list-style-type: none"> • Machineries involved in biscuit product. • Equipments:-Mixer, molding machine, oven balance, packing machine use in flourmill.
6	<ul style="list-style-type: none"> • Practice to make different types of ordinary cake by hand or machineries. • Practice to make different types of specialized cakes. • Testing of raw material and product for their quality. 	<ul style="list-style-type: none"> • Ingredients in cakes & method of mixing to prepare the cakes products. • Machineries involved in cakes product. • Quality standards and evaluation of product.
8	<ul style="list-style-type: none"> • Practice on packaging with sealing, storing & marketing. • Marketing through agents, salesman, retailers etc. 	<ul style="list-style-type: none"> • Method of techniques of proper packaging of finished products & proper storing in cold storages & refrigerator. selection of suitable packaging material • Packaging and storage for bakery items. • Transportation & marketing.
9	<ul style="list-style-type: none"> • Practice on collection of orders and Delivery of Bakery & Confectionary. 	<ul style="list-style-type: none"> • Maintaining various records and filling up format for booking of various Bakery & Confectionary.

10	<ul style="list-style-type: none"> • Select material & ingredients for production of Sugar Boiled Confectionery. • Preparation of Crystalline Confectionary like candy etc. 	<ul style="list-style-type: none"> • Study of Confectionery Ingredients like Starch and its derivatives, confectionary fats, colors and flavours in confectionary, cocoa products, gums, pectin and gelatin in confectionary.
11	<ul style="list-style-type: none"> • Preparation of Amorphous confectionary items Indian confectionery items like milk toffee etc. 	<ul style="list-style-type: none"> • Study of Sugar Boiled Confectionary like Crystalline confectionery, amorphous confectionary. • Study of Indian confectionery, classes of Indian confectionery, ingredients of sweetmeats, features and composition of sweetmeats.
12	<ul style="list-style-type: none"> • Preparation of Marzipans, marshmallow, lemon Meringue, Fudge, almond paste. 	<ul style="list-style-type: none"> • Food safety like HACCP, ISO 22000, FSSAI etc. • Importance of Personal hygiene, GMP in bakery and confectionary industry.

Lists of Tools & Equipments for a batch

SL. No.	Description of tools	Qty
1	Hand operated moisture meter (to be shared)	04 no
2	Bread slicing knife	16 sets
3	Knife of different size (set)	16 sets
4	Spoons	16 sets
5	Measuring glass (to be shared)	08 no
6	Fruit knife	16 sets
7	Dies (to be shared)	04 no
8	Hand gloves	16 no
9	Apron	16 no
10	Cap	16 no
11	Boots	16 no
12	Hand bag	16 no
Equipment, Machine & Tools		
13	Planetary mixer: 3 gear/ Food Processor	01 no
14	Bread slicing machine	01 no
15	Oven: Standard size with temperature control	01 no
16	Packing machine	01 no
17	Electronic weighing balance	01 no
18	Working table marble top standard size	01 no
19	Toffee dies	01 no
20	Biscuit moulds of different sizes:	As required
21	Cake dies	As required
22	Moisture box	01 no
23	Exhaust box	01 no
24	Vernier Calliper: 15 cm. 0.01 mm LC	02 no
25	Screw Gauge: Micrometer, 0.001 mm LC, 10 cm cap	02 no
26	Steel scale: 12 " standard steel	04 no
27	Steel tape: Scales 1 meter, and of 50 ft	04 no
28	Weight box: For balances up to 2 Kg	02 no
29	Cutting equipments : Different knives, Cutters for fruits /Veg.	As required
30	Sinks: standard size	01no
31	Hot plate: Electrical 2 KW	01 no
32	Heat sealing machine: Hand / pedal operated	01 no
33	Tanks SS : 50 litres capacity, cylindrical with cap	01 no
34	SS Filter: Sieve type cloth filter, hydraulic,	01 no
35	Bottle opener: Heavy duty, Stainless Steel	01 no
36	Burette: 50 ml digital Automatic/ ordinary class	06 no
37	Working tables: Stainless Steel Size 6' X 3'	01 no

38	Improved stoves: Made of MS with proper safety Measures, Valves etc	02 no
39	Stainless steel Aluminium pots: Different Capacities	01 set
40	Wooden spoons: Different sizes	01 set
41	Instructor Chair & Table	01 no
42	Dual Desk	10 no.
43	Suitable Work tables	04 no.
44	Stools	16 no.
45	Discussion Table	01 no.
46	Tool Cabinet	01 no.
47	Trainees Locker with space for 16	01 no.
48	First Aid Box	01 no.
49	Book Shelf (glass panel)	01 no.
50	Storage rack	01 no.

-Raw material and consumables are not included in the list.

1. Name of the Module : **Agro Based Products**
2. Sector : **Food Processing & Preservation**
3. Code : FPP703
4. Entry Qualification : Minimum 10th Standard
5. Age : 14 yrs Minimum
6. Terminal Competency : After completion of this training the participant would be able to:
- a) Operating & maintenance the modern Equipments & machineries.
 - b) Make different Agro products
 - c) Process of Packaging & Storing
 - d) Maintaining the quality of products
7. Duration : 500 hrs.
8. Contents :-

Sl. No.	PRACTICAL	THEORY
1.	<ul style="list-style-type: none"> • Necessity of housekeeping. • Maintaining general safety. • First aid practice & treatment. • Safety precautions taken & use safety equipments including fire fighting equipments. • Familiarization of organization & their Agro Industries products unit. • Handling of tools, equipments, & machineries in the section & proper utilization & upkeep. • Indenting & procurement of tools and materials from store as need. • Conducting survey of the different agro products from the market 	<ul style="list-style-type: none"> • Introduction to operation Green revolution. • Knowledge of importance on Agro Industries Product in food Industry & Its market value. • Introduction of agro processing industry. • Scope of agro processed products for entrepreneurship • Knowledge about the sources of accidents. • Known the necessary safety & precautions taken in each machines. • Known to prevention overcome from accidents.
2.	<ul style="list-style-type: none"> • Practice and handling the different agro Processing machinery. • Preventive maintenance & repairing. 	<ul style="list-style-type: none"> • Knowledge of different machines used in Agro processing industry & know the preventive maintenance. • Necessary remedies taken in each machines if fault found. • Working principles, cost and capacity

		of machines in agro processing industry.
3.	<ul style="list-style-type: none"> • Handling and practice on the equipment. • Fault identification and removal of faults. 	<ul style="list-style-type: none"> • Handling and practice on the equipment. • Fault identification and removal of faults. • Separator, dal mill, packing machine (Heat Sealing machine) and balance. • Maintenance of equipment with safety.
4.	<ul style="list-style-type: none"> • Procurement of grain from Granary. • Practice to clean, grade and other pre-processing activities. • Practice to grind the wheat & make flour from wheat. • Practice to make Suji, Maida, Dalia from wheat flour. • Practice to Package the product and labelling on the product. 	<ul style="list-style-type: none"> • Knowledge of different grains suitable for Agro processing. • Knowledge of primary processing (cleaning, grading & milling etc) of wheat grain. • Knowledge of Standard quality for the wheat flour. • Knowledge of making the different wheat product.
5.	<ul style="list-style-type: none"> • Practice to Pre-treatment in pulse milling like cleaning, grading, soaking & drying. • Practice to mill pulses for production of granule e.g. pigeon pea, green gram, Bengal Gram. • Practice to Package the product and labelling on the product. • Uses of wasted materials from granule. 	<ul style="list-style-type: none"> • Principle of pulse milling. • Knowledge of different Method of pulse milling. • Knowledge of Pre-treatment in pulse Milling. • Waste utilization.
6.	<ul style="list-style-type: none"> • Practice to Produce the packed whole grains like Bengal gram, black gram, green gram, ground nut etc. 	<ul style="list-style-type: none"> • Knowledge of packaging, labelling & storing the pulse products and marketing.
7.	<ul style="list-style-type: none"> • Practice to procure and pre-process of spices, cleaning, grading, de-stoning. • Practice to grind the spices in machines. • Practice to make of spice powder products from coriander, black pepper, red chilli, turmeric etc. • Practice to package the whole spice and spice powder for marketing. 	<ul style="list-style-type: none"> • Knowledge of different spices and its Properties. • Method of spice grinding. • Knowledge of machinery used for spice grinding. • Knowledge of quality assurance of the spice Product.

8.	<ul style="list-style-type: none"> • Demonstrate the Working principle of oil Expellers. • Practice to work the oil expelling from different oil seeds e.g. mustard, groundnut, rapeseed, sunflower. • Practice to filter the processed oil and packaging properly. 	<ul style="list-style-type: none"> • Methods of oil milling & different type of Oil expellers. • Knowledge of Oilseeds& its properties. Knowledge of machinery used for oilmilling and suitable processing the oilSeeds. • Knowledge of process flow chart for oil milling. • Knowledge of Filtration the oil. • Knowledge of packaging & packing materials.
9.	<ul style="list-style-type: none"> • Practice to process the paddy & milling the paddy to produce the rice. 	<ul style="list-style-type: none"> • Properties of paddy for rice milling. • Process of rice milling • Knowledge of Hullers & separation procedure from rice.
10.	<ul style="list-style-type: none"> • Practice to work with groundnut decorticators for production of decorticated groundnut. 	<ul style="list-style-type: none"> • Knowledge of groundnut & its Cleaning & grading. • Knowledge of groundnut decorticators. • Knowledge of packaging the groundnut.
11.	<ul style="list-style-type: none"> • Pack the given food products and seal & proper store. • Study the various distributions and marketing system for agro products. 	<ul style="list-style-type: none"> • Knowledge of need and importance of storage and packaging of products. • Method of proper packaging of finished products & proper storing. • Knowledge of distributions & marketing.
12.	<ul style="list-style-type: none"> • Knowledge of development of good quality package and testing of the quality with market survey & demand. 	<ul style="list-style-type: none"> • Knowledge of quality standards and labelling of packed processed products.

List of Tools & Equipments:

Sl. No	Description of tools	Qty
1	Moisture meter Hand operated (to be shared)	4
2	Weighing balance (Digital)	4
3	Hand operated packaging machine (to be shared)	8
4	Sieve set	16
5	Pouch packaging/ sealing kit(to be shared)	4
6	Moisture box (to be -shared)	4
7	Measuring glass (to be shared)	8
8	Hand gloves	16
9	Apron	16
10	Cap	16
11	Boots	16
12	Hammer mill : Power operated, 3 HP 25 Kg/hr	1
13	Groundnut decorticator hand operated Hand operated 20 Kg/hr	1
14	Mini dal mill : Power operated, 2 HP 100 Kg/hr	1
15	Mini rice mill : Power operated, 2 HP 100 Kg/hr	1
16	Mini oil expeller: Power operated, 10 HP 25litre	1
17	Grain cleaner: Power operated, 01 HP; 300 Kg/hr	1
18	Mini grain mill : Power operated, 01 HP20 Kg/hr	1
19	Wheat flour mill : Power operated 5 HP100 Kg/hr	1
20	Micro pulveriser: Power operated, 2 HP50 Kg/hr	1
21	Storage bins of different capacity : Aluminium, 50-100 Kg Capacity with proper outlet and inlet	As required
22	Electric oven: For moisture determination, 0-250.c, digital display,2'X2'X2'	1

23	Destoner : For cleaning light materials, air classifier type	1
24	Packaging material: PP, PE, laminated, Stand pouches	As required

-Raw material and consumables are not included in the list.

1. Name of the Module: Technology of Cereals and Pulses Based Products
2. Sector: **Food Processing & Preservation**
3. Code: **FPP704**
4. Entry Qualification: Minimum 10th Standard
5. Age: 14yrs. Minimum
6. Terminal Competency: After completion of training the participant would be able to:
 - a) To develop proficiency and skill in producing different Cereals and pulses based food products.
 - b) Operating & maintenance the modern Equipments & machineries
 - c) Make different Cereals & pulses products with quality assurance.
 - d) Process of Packaging, Storing & marketing
7. Duration: **500 hrs.**

8 Contents: -

SL.NO	PRACTICAL	THEORY
1	Market survey for the competition among the available bakery products. Clean, grade and carryout other pre- processing activities on cereal, pulses & oilseeds.	Introduction to industrially important cereals, pulses and oilseeds. Importance of role and share of bakery and confectionery in food industry. Different industrial bakery products. Different cereal and flours for the bakery products. Quality of flour for the production of bakery items. Methods of cleaning, grading, milling & associated precautions.
2	Select material & ingredients for production of breads. Operate different food machineries.	Known about Primary processing of wheat. Standards wheat for the flour. Method of production of different wheat products.
3	Practice to prepare Breads: Plain bread, Fermented bread, Protein rich bread & Special breads	Bread: Principles involved for bread production different types of breads and their properties, ingredients used and their role in
4	Practice to prepare Popular biscuits, Specialized biscuits, Other products like cookies, crackers.	Bread production, factors affecting the quality of the bread. Biscuits: Method of biscuit production, ingredients for biscuit production and their role in the quality of the biscuits, machinery involved in biscuit production. Knowledge of factors affecting the quality.

5	<p>Practice to prepare the different types Of popular cakes & different types of specialized cakes.</p>	<p>Cake: Methods for the production of cakes, ingredients for cake production, machinery involved in cake: production, factors affecting the quality.</p>
6	<p>Test of raw materials and product for their quality. Prepare noodles and extruded food products using machine safely .Identification of faults and remove. Observe hygienic practices</p>	<p>Extruded Products: machinery and equipments used in bakeries e.g. flour mill, mixer, moulding machines, oven balance, packing machines, operating guidelines. Method of preparation the noodles and extruded foods& Soya products: Method of processing the soya-atta, soya-snacks, namkins, soyamilk, soyapaneer (tofu), soya srikhand. Personal Hygiene & safety considerations.</p>
7	<p>Prepare papad food products & using machine safely. Identification faults and removes. Observe hygienic practices.</p>	<p>Papad: Raw materials for papad production. Method of preparation of different types of papads & use of machineries. Quality assurance of papad, mini papads. Maintain Hygiene & safety considerations & its measures. Packaging and storing.</p>

8	Practice to operate the machineries and equipments used in bakeries e.g. flour mill, mixer, moulding machines, oven balance, packing machines, operating guidelines.	Indian food standard:- Food safety standard Act2006&Bill 2006 FSSAI. Any order issued under essential commodity Act 1955. HACCP.
9	Pack the given food products and seal. Practice to contact with customers.	CRM(Customer related management)- Marketing &soft skill, leader ship, problem solving, decision making skill etc.
10	Practice to cost the estimate e of different products. Conducting survey of the different products from the market. Marketing through agents, salesman, retailers etc. Practice on collection of orders and delivery of different food products.	Market survey procedures. Marketing strategies. Methods of marketing feedback. Cost analysis & attractive packaging. Advertising procedure.
11	Preparation of roasted, fried and extruded pulses products.	Pulses based products: Roasted, Fried and Extruded Products.

List of Equipment, Tools and Instruments

Technology of Cereals and Pulses Based Products

Sl. No.	Item/Specification	Quantity
1	Mini Grain Mill	1 no.
2	Planetary mixer	1 no.
3	Moulding machines	1 no.
4	Sheeting machine	1 no.
5	Bread slicing machine	1 no.
6	Electric Oven	1 no.
7	Packing machine	1 no.
8	Electronic balance	2 nos.
9	Physical balance	2 nos.
10	Working Table SS	2 nos.
11	Working Table SS	10 nos.
12	Cake moulds	20 nos.
13	Micro Pulverizer	1 no.
14	Hammer mill	1 no.
15	Cabinet air dryer	1 no.
16	Storage Bins of different capacity	1 no.
17	Platform scale balance	1 no.
18	Moisture box	1 no.
19	Packaging material	Assorted
20	Destoner	1 no.
21	Papad Press	1 no.

Note: -Raw materials and consumables are not included in the list.

1. Name of the Module : **Meat and meat products**
2. Sector : **Food Processing & Preservation**
3. Code : FPP705
4. Entry Qualification : Minimum 10th Standard
5. Age : 14 yrs Minimum
6. Terminal Competency : After completion of this training the participant would be able to:
- a) Operating & maintenance the modern Equipments & machineries.
 - b) Knowledge about the meat and meat products.
 - c) Process of Packaging & Storing.
 - d) Maintaining the quality of products.
7. Duration : 500 hrs.

MEAT AND MEAT PRODUCTS		
SYLLABUS: 500 HRS		
Weeks	Theory	Practical
1-4	<ul style="list-style-type: none"> • Importance of meat processing, Chicken processing and sea food processing for entrepreneurship • Scope of meat processing, Chicken processing and sea food processing industry. 	<ul style="list-style-type: none"> • Carryout survey of the different processed products from meat, fish and poultry. • Industrial visit in meat and meat products industry.
5-9	<p>Meat: Nutritive value of meat, pre-slaughter, slaughter and post slaughter changes, Meat cuts and deboning, preservation (canning, curing and smoking), shelf-life, production of meat products (sausages), gelatine production.</p> <ul style="list-style-type: none"> • Meat Processing • Methods of meat processing. • Post mortem changes during meat processing. • Quality of meat • Canning, pickling, preservation of meat. 	<ul style="list-style-type: none"> • Slaughtering of goat & sheep by different methods. • Meat processing: cutting (carcassing), cleaning, storage, sanitation. • Handling and practice on meal processing equipment safely. • Practical on canning, pickling, preservation of meat. • To perform curing of meat.
10-14	<p>Sea food: Nutritive value of fish, post-mortem changes and processing of fish (canning, salting and smoking), shelf life, fishery by products.</p> <ul style="list-style-type: none"> • Principle and methods of fish processing 	<ul style="list-style-type: none"> • Experiment on fish quality for processing • Production of Dehydrated canned, pickled fish, Fish meal protein, fish meal powder.

	<ul style="list-style-type: none"> • Quality of fish suitable for processing. • Dehydration, canning, pickling of fish, Fishmeal protein, fishmeal powder 	
15-19	<p>Egg: Nutritive value of eggs, egg processing.</p> <ul style="list-style-type: none"> • Importance of egg production. • Storage and preservation methods of egg. • Production methods of egg albumin, powder and other useful products from egg. • Quality of egg and products. • Pickling, canning of egg 	<ul style="list-style-type: none"> • Production methods of egg albumin, powder and other useful products from egg. • Preparation of egg pickle. • Preparation of canned egg and canned egg pickle. • Evaluation of egg quality parameters.
20-25	<p>Chicken: Nutritive value of chicken.</p> <ul style="list-style-type: none"> • Importance of chicken production. • Methods of chicken processing. • Pre Post mortem infections. • Post mortem Changes. 	<ul style="list-style-type: none"> • Slaughtering of Chicken by different methods. • Quality testing of chicken meat • Preparation of processed product from chicken e.g. • Sausages, pickle, dried chicken
26	Revision/Examination	

List of equipment, tools and instruments

Sl. No.	Item/ Specification	Quantity proposed for a batch of 20 trainees
1	Meat mincer	1
2	Pulverizer	1
3	Meat cutting knives, heavy duty Stainless steel	As per required
4	Cooking stoves	4
5	Water purifier	1
6	Seed germinator	1
7	Heat sealing machine	1
8	Cutting machine	2
9	Canning unit	1
10	Heat sealing machine	1
11	Lug cap bottle sealing machine	1

12	Cabinet dryer	1
13	Refrigerator	2
14	Deep fridge	2
15	Pressure cookers	4
16	Steel Bhagonas	5
17	SS Ladles	5
18	Wooden paltas	5
19	Working tables : Stainless Steel Size	1
20	Platform weighing balance	3
21	Stainless Steel Spoon of various size	As per required

- Raw material and consumables are not included in the list.

A)	Furniture	
	Class Room	
	Instructor Chair & Table	01 Nos.
	Dual Desk	10 Nos.
	White Board	01 Nos.
	Workshop/Lab	
	Suitable Work tables	05 Nos.
	Stools	20 Nos.
	Discussion Table	01 No.
	Tool Cabinet	01 No.
	Trainees Locker with space for 20	01 No.
	First Aid Box	01 No.
	Book Shelf (glass panel)	01 No.
	Storage rack	01 No.

