

Practical Manual of Food Science and Processing

Course No. FSN111

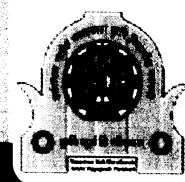
I Semester B.Sc. (Hons.) Community Science

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CERTIFICATE

It is to certify that this is record of the practical work carried out by

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Terms used in cooking

Terms	Meaning
Appetiser	A small portion of fruit, juice, or savoury served as the first course of the meal. It stimulates the appetite.
Buffet	Display of ready to eat foods.
Bake	To cook food in an oven by dry heat
Batter	A mixture of flour, liquid and other ingredients which is sufficiently soft to be beaten or 'battered'. Used for panckes, cakes, fritters or coating foods for frying.
Beat	To make a mixture smooth by introducing air with a brisk, regular motion.
Blanch	Dipping foods into boiling water either to whiten, remove strong flavour, soften, cleanse, or loosen the skin to facilitate peeling.
Blend	To mix thoroughly two or more ingredients.
Boil	To cook in liquid in which bubbles rise constantly to the surface and break.
Coagulation	Proteins solidifying after the application of heat.
Consomme	Clean soup made from minced meat, aromatic vegetables, herbs and stock. It is clarified with egg white.
Cuisine	Art of cooking.
Caramelize	To heat sugar over low heat until it melts and develops characteristic flavour and golden brown colour.
Cream	To beat or soften fat until light and fluffy.
Crouton	Small diced and fancy shapes of toasted or fried bread used for garnishing soups and savoury dishes.
Cut and Fold	To mix flour very gently into an aerated mixture.
Cut in	To distribute solid fat in dry ingredients by chopping with knives or pastry blender until finely divided.
Deep fry	To cook in hot fat deep enough to cover the food.
Dice	To cut into small, even cubes.
Dough	A mixture of flour, liquid, and other ingredients, thick enough to be shaped by hand or rolled out on a board. Used for chapaties, mathris, samosas, bread, biscuits, pastry.
Dust	To sprinkle lightly with flour or sugar.

Fold in	To combine delicate ingredients like whipped cream, beaten egg whites with other foods using a gentle circular motion.
Fry	To cook in hot fat.
Garnish	To decorate.
Knead	To work a dough lightly by bringing the outside of the dough using a gentle circular motion.
Leavening	Such substances as baking powder or yeast which create bubbles of gas in batters and doughs causing them to rise.
Marinade	A mixture of vinegar, oil, spices, curd, lime in which meat is steeped before cooking in order to improve the flavour and to make it more tender.
Mayonnaise	A flavoured seasoned emulsion of egg yolk and oil. Mayonnaise can be finished salad dressing or a basic dressing for other salad dressing or mother sauce for other cold sauces.
Marbling	Fat distributed throughout meat.
Puree	To press food through a fine sieve or blend in blender so it becomes a smooth, thick paste.
Roast	To cook uncovered in hot air.
Relish	A highly - seasoned food used as an accompaniment like pickle and chutneys,
Roux	A thickening made of flour and fat and used for soups or sauces.
Saute	To lightly fry and toss in a small amount of hot fat.
Scald	To heat to just under the boiling point or to dip certain food in boiling water.
Season	To improve the flavour of food by adding seasonings like salt, pepper, mustard, garlic.
Simmer	To cook in liquid just below the boiling point.
Steam	To cook in steam with or without pressure.
Stew	To cook by simmering in a little liquid.
Stock	A soup or broth made by boiling meat, bones, vegetables or fish in water with or without spices. The liquid forms a foundation for a number of soups and sauces.
Temper	To heat fat and fry various spices before adding to a dish.
Toast	To turn food in a pan or dish by holding the container and by using a quick and jerky movement.
Whip	To beat rapidly to incorporate air and increase volume.
Whisk	To beat cream or egg till a stiff froth is obtained.

Weights and Measures

Standard cups spoons and balance should be used for weighing and measuring foods. Following abbreviations should be used while noting down the weights and measures.

ABBREVIATIONS	
Katori	K
Cupful	C
Table Spoon	T
Teaspoon	tsp
Kilogram	Kg
Gram	g.
Milliliter	ml.
Liter	Lt.

Correct techniques of weighing and measuring should be used in order to get accurate weights and measures of foods.

Measuring techniques used for measuring various ingredients

1. **Flour** : Sift the flour. Fill the spoon or katori to heapful and level with a blunt edge of knife.
2. **Granulated sugar**: Fill the measuring spoon or katori to heapful and level with the blunt edge of a knife. The same method is used for cereal or pulse grains, spices such as mustard seeds, cumin seeds, nuts and oil seeds.
3. **Powdered sugar**: Sift the powdered sugar. Fill the measuring spoon or katori until it is heaped and level with blunt edge of a knife.
4. **Solid fat** : Solid fats such as ghee or butter should be softened before measuring. Place the soft fat in a measuring spoon or katori. Press it in order to (excess) pack tightly, forcing the air out. Level it with the blunt edge of a knife by removing excess fat.
5. **Liquid** : Pour the liquid in a measuring cup. Place it on flat levelled surface. Read the level of the measurement of the liquid at eye level.

Weighing techniques used for weighing ingredients

1. Before weighing, make sure that the two pans of the weighing scale are balanced properly.
2. Place equal sized pieces of paper on both the pans. Do not place the foods directly on the pan.
3. While handling the weighing balance, avoid sudden jerks as this may result in incorrect weighing and spoilage of the balance.
4. Avoid spilling ingredients while weighing.
5. Check the level of weighing balance at eye level.

6. Wipe the weighing balance after use.

A variety of foods should be weighed or measured. The following tables give some common foods which can be weighed and measured.

Table 1

Sr. No.	Name of Food	Teaspoon (g)	Tablespoon (g)
1.	Salt		
2.	Sugar (granulated)		
3.	Sugar (powdered)		
4.	Refined wheat flour		
5.	Bengal gram flour		
6.	Custard powder		
7.	Gingelly seeds		
8.	Butter		
9.	Ghee		
10.	Oil		

Table 2

Sr. No.	Name of Food	Medium size Katori (g)
1.	Refined wheat flour	
2.	Bengal gram flour	
3.	Puffed rice	
4.	Rice flakes	
5.	Whole legume	
6.	Dhal	
7.	Groundnuts	
8.	Sago	
9.	Granulated sugar	
10.	Powdered sugar	
11.	Rice	
12.	Wheat flour	
13.	Gingelly seeds	
14.	Rawa	

Table 3

Sr. No.	Vegetables/Fruits (Medium size)	Unpeeled/Uncleaned (g)	Peeled/Cleaned (Edible part) (g)
1.	Capsicum		
2.	Tomato		
3.	Onion		
4.	Brinjal		
5.	Carrot		
6.	Potato		
7.	Banana		
8.	French Beans (10 pods)		
9.	Cucumber		
10.	Spinach (1 bunch)		
11.	Fenugreek (1 bunch)		
12.	Coriander (1 bunch)		

Table 4

Sr. No.	Name of Food	Weight (g)
1.	Bread (1 slice)	
2.	Egg (whole)	
3.	Milk (1 cup)	
4.	Milk (1 big Glass)	
5.	Moth Beans (25 g. soaked overnight)	
6.	Moth Beans (25 g. germinated)	
7.	Black gram dhal (25 g. soaked overnight)	
8.	Sago (25 g. soaked overnight)	

Market Survey of Raw and Processed Foods

Market is the place where food is purchased for household use. There are two types of markets i.e. wholesale and retail markets. When foods are purchased in large quantities wholesale markets are preferred. Retail markets are suitable for purchase small quantities of food materials. At both the markets, foods are available in raw as well as in processed forms. Visit to markets and survey the cost of different foods as explained in the tables below.

The students are expected to cover all food groups under the market survey.

Model Table 1 : Market Survey of Cost of Food Items

Food Stuff	Cost of the food item (kg/quintal)	
	Wholesale Market	Retail Market
1. Cereals and Cereal Products		
a.		
b.		
c.		
d.		
2. Pulses and legumes		
a.		
b.		
c.		
d.		
3. Vegetables		
a.		
b.		
c.		
d.		

4 Raw Foods

- a. Milk
- b. Fruits
- c.
- d.
- e.
- f.
- g.

5 Processed Foods

- a. Milk Powder
- b. Jams
- c. Jellies
- d.
- e.
- f.
- g.

Preparation of Cereal Recipes

Cereals are the staple food in our diet. The cereal grains are the seeds of grass family. The principal cereal crops are wheat, rice, jawar, maize or corn, ragi and bajra.

The overall structure of all cereal grain is basically similar differing from one cereal to another in detail only.

The percentage of endosperm, bran and germ of cereal are 83, 2½ and 14 ½ percent respectively.

They are good sources of energy, protein and B vitamins in the diet. They also contain good amount of starch, which is responsible for changes during cooking. In case of rice the starch gets gelatinized and gives a soft texture to the cooked food. Whereas, in wheat the proteins, glutenin and gliadin are responsible for soft elastic nature of the chapaties or puris. The fibre content and type of starch present in Jowar and bajra influence the taste and texture of final product. The content of starch, protein, fiber etc. vary in cereals depending on varietal differences. These differences influence the outcome of the final product. Further, the method of cooking, temperature, water added and ingredients used during cooking also influence the final acceptability of the products.

1. Plain rice :

Ingredients:	Rice :	50 g
	Water :	200 ml

Method :

Clean and wash the rice. Boil water, add washed rice to boiling water and allow to cook till rice is done. If needed add a little more water during cooking. Cook until it is done and all moisture is evaporated.

Observations

- Amount of water used _____
- Time taken for cooking _____
- Weight of cooked rice _____
- Volume of cooked rice _____
- Sensory Evaluation _____

Colour	Texture	Flavour	Taste	Acceptability

2. Preparation of Lime Rice

Ingredients:

Rice	:	100 g
Lime	:	2
Green Chillies	:	1 no
Bengal gram Dhal	:	1 tea spoon
Mustard seeds	:	A few
Cashew/Ground nuts	:	A few
Turmeric	:	A pinch
Oil	:	15 g
Salt	:	To taste

Method :

Wash and cook rice till soft. Extract lime juice. Heat oil, add mustard seed, greenchillies turmeric and cooked rice. Sprinkle lime juice and mix along with sufficient salt.

Observations

- a. Weight of cooked rice _____
- b. Volume of cooked rice _____
- d. Time taken for cooking _____
- e. Sensory Evaluation _____

Colour	Texture	Flavour	Taste	Acceptability

3. Pulav :

Ingredients:

Rice	:	30 g
Potato	:	10 g
Carrot	:	10 g
French beans	:	5 g

- Peas : 5 g
- Onion : 15 g
- Refined oil : 1 ½ spoon
- Clove : 01
- Cinnamon : 1 small piece
- Bay leaf : ½
- Pepper : 2 No
- Cumin seeds : 1/8 tea spoon
- Garam masala : 2 pinch
- Salt : ¼ tea spoon
- Water : 125 ml
- Onion for garnishing : thinly sliced

Method:

- 1) Clean and wash rice, drain excess water.
- 2) Peel and cut potatoes, cut rench beans and carrots into longitudinal pieces, slice onions.
- 3) Heal oil, fry onions till golden brown and remove from oil for garnishing.
- 4) In left over oil, fry clove, cardamom, bay leaf, cinnamon, pepper and cumin seeds.
- 5) Add chopped vegetables and fry for some time.
- 6) Add rice and salt.
- 7) Add hot water, garam masala and cook till done.
- 8) Serve hot, granish with sliced onions.

Observations

- a. Weight of cooked pulav _____
- b. Volume of cooked pulav _____
- c. Time taken for cooking _____
- d. Sensory Evaluation _____

Colour	Texture	Flavour	Taste	Acceptability

4. Paratha

Ingredients:

Wheat flour	:	50 g
Salt	:	To taste
Fat / Oil	:	10 g
Water	:	To make dough

Method :

Rub some fat into the flour add water knead well. Keep aside for half an hour then divide into two balls. Roll out each ball into small round. Smear some fat and sprinkle a little flour. Fold twice and roll out into round / tringular shapes. Fry the parathas adding enough fat.

Observations

- Weight of cooked paratha _____
- No. of cooked paratha _____
- Time taken for cooking _____
- Diameter of parathas and thickness of paratha _____
- Sensory Evaluation _____

Colour	Texture	Flavour	Taste	Acceptability

5. Chapati :

Ingredients:	Wheat flour	:	50 g
	Salt	:	A Pinch
	Water	:	As required
	Oil	:	As required

Method: Take flour, add salt, prepare dough with required amount of water, knead well and divide into two equal balls, Roll out the dough and apply a little oil on surface. Fold twice and roll again, Roast the chapatti on a flat frying pan applying oil on both the sides.

Observations

- a. Amount of water added _____
- b. Amount of oil used _____
- c. Weight of dough before cooking _____
- d. Weight of each chapatti _____
- e. Sensory Evaluation _____

Colour	Texture	Flavour	Taste	Acceptability

6. Upma**Ingredients:**

- Semolina : 40 g
- Green chillies : 4 Nos.
- Mustard seed : 3 g
- Cumin seed : 3 g
- Onion : 10 g
- Coriander leaves : 5 g
- Oil : 6 g

Method:

- 1) Roast semolina till golden brown in colour
- 2) Heat oil, add mustard seed, cumin seed, green chillies, onion and salt. Add water allow it to boil. Add slowly roasted semolina and stir well. See that there should not be lumps formation. Cook for 10 minutes Garnish with coriander leaves and serve.

Observations

- a. Weight of Cooked Upma _____
- b. Volume of Cooked Upma _____
- c. Time taken for cooking _____
- d. Sensory Evaluation _____

Colour	Texture	Flavour	Taste	Acceptability

7. Halwa (Sheera)

Ingredients :

Coarse semolina	:	25 g
Sugar	:	20 g
Fat	:	2 tea spoon
Milk	:	75 ml
Cardamon	:	2 no
Cashewnut	:	1 no
Raisins	:	Few no.

Method :

- 1) Heat fat, add semolina and roast till becomes light brown in colour
- 2) Heat milk and water together, add to roasted semolina.
- 3) Cover and cook till all the milk is absorbed.
- 4) Add sugar and cook till it become thick again.
- 5) Add cardammon powder, decorate with raisins and cashewnut and serve.

Observations

- a. Weight of Cooked Sheera _____
- b. Volume of Cooked Sheera _____
- c. Time taken for cooking _____
- d. Sensory Evaluation :

Colour	Texture	Flavour	Taste	Acceptability

Preparation of Pulse Recipes

Pulses are edible fruits or seeds of leguminous plants. They have high protein content ranging from 20 to 40 percent. India depends greatly on pulses to meet its demand for proteins.

The most commonly used dals are red gram, green gram, bengalgram, lentil, and blackgram, soyabean is a rich source of protein i.e. 43 percent. Pulses are rich sources of iron and B complex vitamins. When pulses are germinated vitamin C is synthesized and there is an increase in B complex vitamin. Processing techniques like germination and fermentation reduce the cooking time, enhance the nutritional value of the pulses, improve their digestibility and destroy some of the natural toxic substances present in the food and increase the palatability of the end product.

1) Plain Dhal

Ingredients:

Red gram dal	:	50 g
Onion	:	10 g
Green Chillies	:	2 No
Turmeric	:	A pinch
Oil	:	10 g
Whole red chillies	:	few
Curry Leaves	:	Few
Mustard seeds	:	Few
Salt	:	To taste

Method :

Wash dhal, add enough water turmeric and cook. When dhal is tender remove from fire, mash and add some more water. Heat oil, add mustard seed, curry leaves, whole red chillies, onion, green chillies and then cooked dhal. Add salt and bring to boil.

Observations

- Weight of cooked dhal _____
- Volume of cooked dhal _____
- Time taken for cooking _____
- Sensory Evaluation _____

Colour	Texture	Flavour	Taste	Acceptability

2) Dhal with Greens :

Ingredients:

Red gram dhal	:	50 g
Greens	:	50 g
Tamarind	:	5 g
Green Chillies	:	1 No
Curry leaves	:	A few
Cuminseed	:	1/2 tsp
Mustord seed	:	1/2 tsp
Salt	:	To taste

Method :

Cook dhal. Chop green chillies. Wash and chop greens. Extract tamarind pulp. Heat oil and fry the seasonings. Add dhal, greens and tamarind juice to the seasoning along with salt and boil well. Serve hot.

Observations

- a. Weight of cooked product _____
- b. Volume of cooked product _____
- d. Time taken for cooking _____
- e. Sensory Evaluation _____

Colour	Texture	Flavour	Taste	Acceptability

3) Pakoras

Ingredients:

Bengal gram flour	:	115 g
Rice flour	:	30 g
Onion	:	50 g
Green Chillies	:	3.4 no
Salt	:	To taste
Fat	:	1 Tables Spoon
Oil	:	For frying

Method :

Slice onions and chop green chillies. Add salt and bengal green flour and rice flour. Rub into fat. Mix to form a stiff batter by adding small amount water. Heat oil pour spoonful of batter into the hot oil. Deep fry till golden brown. Drain and remove on paper.

Observations

- a. Weight of Final product _____
- b. Time taken for cooking _____
- c. Sensory Evaluation _____

Colour	Texture	Flavour	Taste	Acceptability

4) Sambhar**Ingredients:**

- Red gram dhal : 50 g
- Brinjal : 30 g
- Onion : 10 g
- Red chilli powder : 1 tsp.
- Currey leaves : Few nos
- Bottle gourd : 15 g
- Cluster beans : 10
- Ladies finger : 10
- Beans : 10 g
- Tomatoes : 30 g
- Turmeric : A pinch.
- Mustard seeds : 1/2 tsp
- Sambar powder : I table spoon.
- Oil : 30 g
- Asafoetida : 1/2 tsp
- Salt : To taste
- Tamarind : 5 g

Method:

- 1) Cook dhal in presure cooker by adding water and turmeric powder.
- 2) Cut all the vegetables.
- 3) Prepare seasoning with mustard seeds and curry leaves. Add the cut vegatbles and cook

it for some time. Take out the pulp of tamarind. Add the pulp to cooked vegetables add sambar masala and cook dhal Boil for few minutes and serve.

Observations

- a. Weight of Sambhar _____
- b. Volume of Sambhar _____
- d. Time required for cooking _____
- e. Sensory Evaluation _____

Colour	Texture	Flavour	Taste	Acceptability

5) Bhaji

Ingredients:

- Sliced Potatoes / Spinach Leaves : 100 g
- Bengal gram flour (Beson) : 150 gm
- Chilli powder : To taste
- Cummin seed : 1/2 tsp
- Ginger garlic paste : 1/2 tsp
- Salt : to taste
- Oil : for frying

Method :

Make a medium batter with beson, salt, chilli, jeera powder, ginger garlic paste and water. Keep aside for half an hour. Peel and cut potatoes into thin slices. clean and cut spinach leaves into even sizes. Sprinkle little salt chilli powder on potato spikesh or spsnach leave for few minutes. Heat oil. Dip patato slices or spinach leaves in the batter and deep fry. Serve hot.

Observations

- a. Weight of cooked bhaji _____
- b. Number of cooked bhaji _____
- d. Time taken for Cooking _____
- e. Sensory Evaluation _____

Colour	Texture	Flavour	Taste	Acceptability

Preparation of Cereal and Pulse Combined recipes

1) Idli

Ingredients:

Rice	:	50 g
Blackgram Dhal	:	25 g
Water for Soaking	:	100 ml

Method :

Clean and wash rice and blackgram dhal. Soak in water separately for 6 to 8 hrs. Grind rice coarsely. Grind blackgram dhal into a smooth fine paste. Mix rice and dhal after grinding. Add salt to the batter. Add water if necessary, Allow the batter to ferment overnight. Next day pour the batter into idli molds and steam.

Observations

- a. Weight of soaked rice _____
- b. Weight of soaked dhal _____
- c. Weight of batter _____
- d. No. of idlis obtained _____
- e. Weight of single idli _____
- f. Weight of prepared product _____
- g. Sensory Evaluation _____

Colour	Texture	Flavour	Taste	Acceptability

2. Dosa

Ingredients:	Rice	:	75 g
	Blackgram dhal	:	25 g
	Water	:	As required
	Salt	:	For taste

Method :

Clean and wash rice and blackgram dhal and soak them separately in water for 8 to 10 hrs. Grind them separately into smooth and fluffy consistency. Mix them together and allow for fermentation overnight. Add salt and a little lukewarm water if necessary to get pouring consistency. Heat shallow frying pan and grease it with oil. Pour a table spoonful of batter over the pan and spread it in a round shape Allow it to cook for 1 to 2 minutes and turn around and again cook after applying lightly oil on the surface.

Observations

- Weight of soaked rice _____
- Weight of soaked dhal _____
- Amount of water absorbed _____
- Amount of water added for making batter _____
- No. of dosas obtained _____
- Diameter of dosas obtained _____
- Weight of each dosa _____
- Sensory evaluation _____

Colour	Texture	Flavour	Taste	Acceptability

Preparation of Nuts and Oil Seeds Recipes

Nuts are seeds or fruits consisting of an edible usually fat containing, kernel and surrounded by a hard or a brittle shell Nuts are good source of protein. Nuts are low in saturated fatty acid and high in mono unsaturated and poly unsaturated fatty acids. They can be included in cholesterol lowering diet. They reduce total and LDL (Bad) cholesterol without affecting the levels of HDL (Good) cholesterol Nuts also contain n-3 fatty acids. They are also good source of manganese, copper, magnesium, phosphorus and zinc.

1. Chikki

Ingredients:

- Roasted gingelly seeds : 125 g
- Roasted ground nut powder : 20 g
- Roasted grated coconut : 40 g
- Sugar : 180 g
- Liquid glucose : 50 ml
- Ghee : 4 tea spoon
- Cardamon : 2 nos
- Maida : One tea spoon

Method :

Take thick bottom vessel or deep frying pan, make sugar syrup by adding little amount of water. After the sugar has completely dissolved add 4 teaspoon of ghee and liquid glucose. Mix the ingredients very well. Roll out on rolling board by applying small amount of maida. Roll immediately. When it is hot only cut the chikki of desired shape.

Observations

- a. Weight of cooked Til Chikki _____
- b. Volume of cooked Til Chikki _____
- d. Time taken for cooking _____
- e. Sensory Evaluation _____

Colour	Texture	Flavour	Taste	Acceptability

2. Til Ladoo

Ingredients:

Gingelly seeds	:	125 g
Jaggery grated	:	90 g
Roasted groundnut powder	:	20 g
Ghee	:	1 tea spoon
Grated coconut	:	40 g
Cardamom	:	2 nos

Method :

Roast the gingelly seeds and powder it. Make a syrup of jaggery by adding 1/2 katori water and pure ghee. Take out the vessel from fire add gingelly seed powder, groundnut powder, coconut powder and powdered cardomon mix well. Make the Ladoo of desired shapes.

Observations

- a. No. of Ladoo. _____
- b. Weight of one Ladoo _____
- e. Sensory Evaluation _____

Colour	Texture	Flavour	Taste	Acceptability

Preparation of Milk Recipes

Milk is the normal secretion of the mammary gland of mammals. Cow is the principal source of milk for human consumption in many parts of the world. Other animal sources of milk are buffalo, goat, sheep camel etc.

The major component of milk are water, protein, fat sugar and minerals. The composition of milk varies with the species, breed, lactation period and interval between milking. The main protein of milk is casein which accounts 80 per cent of the total milk protein present. It is phosphoprotein. The normal PH of milk is 6.6 at which casein is combined with calcium and present in the form of calcium caseinate. The remaining 20 per cent proteins of milk are the lactalbumin and lactoglobulin. The fat content of milk varies from 3.5 percent in cow's milk and 6.5 per cent in buffalo's milk. The flavour of milk is due to milk fat. Milk is true emulsion of oil and water.

Milk is considered as a well balanced diet due to its good nutritional composition. It supplies almost all nutrients in required proportions. Milk is good for everyone including all age groups and vulnerable groups. It is consumed in variety of ways as whole milk or milk products such as curds cheese, butter, ghee, Khoa etc.

1. Curd

Ingredients: Milk : 1 lit
 Curd : 1 Tea spoon

Method :

Boil the milk and cool the milk to the room temperature. Add the curd and mix well. Cover and keep the pan for 6 to 8 hrs for setting the curd.

Observations

- a. Amount of Milk _____
- b. Amount of Curd prepare _____
- c. Sensory Evaluation _____

Colour	Texture	Flavour	Taste	Acceptability

2. Paneer

Ingredients:
 Milk : 1 ltr
 Citric acid : 1.5 g

Method :

Boil the milk. Allow the milk to cool up to 70° C. Add citric acid to milk and stir well. Allow it to settle. Remove the whey part using muslin cloth, collect the casein in muslin cloth. Apply the pressure and drain all the excess whey water. Prepare the cubes of paneer. Lemon juice or vinegar can be used for preparation of paneer.

Observations

- a. Amount of Milk _____
- b. Amount of paneer prepared _____
- c. Sensory Evaluation _____

Colour	Texture	Flavour	Taste	Acceptability

3. Palak Paneer**Ingredients:**

- Palak (Spinach) : 6 bunches
 Paneer : 100 gm
 Ginger : A small piece
 Garlic : 2-3 Falkes
 Salt : To taste
 Green chilies : 2-3 Nos
 Red chilies : 5 Nos.
 Coriander leaves : Few
 Fat : 30 g

Method :

Cut paneer into cubes, Heat fat. Fry paneer till golden brown colour. Remove and keep aside. Grind red chilies, ginger and garlic. Fry masala and chopped green chilies. Add washed and chopped spinach and saute. Add salt and cook for few minutes. Add water if necessary. Cover and cook on slow fire till spinach is cooked. Grind the mixture in a blender. Add the spinach and panner cubes and boil it. Serve with garnished cream.

Observations

- a. Weight of cooked product _____
- b. Volume of cooked product _____
- d. Time taken for cooking _____
- e. Sensory Evaluation _____

Colour	Texture	Flavour	Taste	Acceptability

Preparation of Egg Receipes

India is the largest egg producer in the world. The annual egg production is 44 billion tones. The most commonly preferred for table use are hen eggs. Egg is good source of protein, energy, fat, calcium and iron. Egg contains 12 to 14 per cent protein and 13 per cent fat, which is in a well emulsified form. Egg yolk is an excellent source of vitamin A, good source of thiamin and riboflavin and a fair source of vitamin D.

1. Boiled egg

- Ingredients:**
- Egg : 1 No.
 - Pepper Powder : A pinch
 - Salt : For Taste

Method :

Wash and clean the egg. Take sufficient water in a vessel so that egg is completely dipped in water. Boil the water along with egg. Boil egg for 10-12 minutes. Cool the egg to room temperature with ordinary water. Remove the outer shell slowly and carefully. Cut the eggs into slice and sprinkle salt, pepper powder and serve.

Observations

- a. Weight of the egg _____
- b. Weight of the boild egg _____
- c. Number of slices _____
- d. Thickness of slice _____
- e. Sensory evaluation _____

Colour	Texture	Flavour	Taste	Acceptability

2. Scrambled Egg

Ingredients:	Egg	:	1 No.
	Milk	:	1 Table spoon
	Butter	:	1/2 Tea spoon
	Salt and Pepper	:	To Taste

Method :

- Beat the egg white and yolk together till pale yellow colour.
- Add milk and whisk vigorously.
- Heat butter in a pan and add the milk and egg
- Let the egg cook for a few seconds.
- Beat gently till egg is cooked.
- Serve hot.

Observations

- Weight of the egg _____
- Weight of the scrambled egg _____
- Volume of scrambled egg _____
- Sensory Evaluation _____

Colour	Texture	Flavour	Taste	Acceptability

Paration of Fish and Meat Recipes

Egg, meat and fish are considered as non-vegetarian foods. They are rich in protein and fat. They have high biological value proteins and saturated fats. They are very good source of vitamin A and D. They also supply good quantities of minerals such as iron, calcium phosphorous etc. Fish are good source of riboflavin and niacin while meat is good source of thiamine. Several factors such as cooking methods PH of cooking media and chemical nature of added ingredients influence the cooking quality of these non-vegetarian foods.

RECEIPES USING FISH

1) Fish Curry

Ingredients:

Large Fish	:	1 Nos.
Salt	:	to taste
Tamarind	:	25 g
Green chilies	:	05 Nos.
Garlic and ginger	:	05 g
Pepper	:	05 No
Red chilli powder	:	½ Teaspoon
Turmeric Powder	:	½ Teaspoon
Coriander & curry leaves	:	Few
Oil	:	25 g
Fresh coconut water	:	01 Cup
Jowar flour	:	As required

Method :

Soak tamarind in water for half an hour and extract the juice. Clean and cut the fish into one inch thick pieces. Rub them with a little amount of oil and jowar flour and keep aside. Grind coconut and extract the milk, use water if necessary mix the cut fish with salt, turmeric and tamarind juice and keep aside for half an hour. Grind all the above spices, except curry leaves. Mix the ground spices with the coconut milk Heat the oil in a wide pan, add the above mixture

and stir well. Add the pieces of fish to the above mixture. Add curry leaves and let it cook for 7 to 10 minutes. Add water as required and cook well.

Observations

- a. Amount of coconut milk obtained _____
- b. Weight of cut fish _____
- c. Time taken for cooking _____
- d. Weight of final product _____
- e. Volume of final product _____
- f. Sensory evaluation of final product _____

Colour	Texture	Flavour	Taste	Acceptability

2) Fried Fish

Ingredients:

- Fish pieces : ¼ Kg / 250 gm
- Salt : to taste
- Turmeric : ¼ tea spoon
- Tamarind : 25 g
- Garlic and ginger paste : ¼ Tea spoon
- Poppy seeds : 15 g
- Red chilli powder : ½ Teaspoon
- Cumin seeds : ¼ Teaspoon
- Coriander leaves : A few
- Oil : 25 g
- Spice powder : ¼ Teaspoon
- Coconut : 15 g
- Jowar flour : As required

Method

Soak tamarind in water for half an hour and extract the juice. Rub fish pieces with the application of a little amount of oil and jowar flour. Apply salt, turmeric and tamarind juice to

fish pieces and keep aside for 15 minutes. Roast coconut and poppy seeds separately. Add cumin seeds to roasted coconut and poppy seed and grind to a fine paste. Add water if required. Mix fish pieces with red chili powder, garlic ginger paste, spice powder and fine paste made using coconut. Mix the ingredients well. Heat oil and put the fish pieces into the oil. Add chopped coriander leaves to it. Shallow fry until fish pieces become tender and the moisture is evaporated completely.

Observations

- a. Weight of the final product _____
- b. Volume of the final product _____
- c. Time taken for cooking _____
- d. Sensory evaluation _____

Colour	Texture	Flavour	Taste	Acceptability

B) RECIPES USING MEAT

1) Kofta Curry

Ingredients:

- Ground or minced meat : ¼ kg
- Garlic-ginger paste : 08 g
- Onion : ½ no big
- Red chilli powder : ½ teaspoon
- Spice powder : ½ teaspoon
- Turmeric : ¼ teaspoon
- Salt : To taste
- Curd : 100 ml
- Coconut : 13 g
- Poppy seeds : 13 g
- Coriander leaves : A few

Method :

Mix red chilli powder, ginger-garlic paste, turmeric, spice powder and salt together. Divide the mixture into two parts. Add one part to minced meat and mix well. Make the mixed meat into one inch diameter balls and keep aside. Roast poppy seeds and grated coconut. Grind them into a fine paste by adding required amount of water. Slice the onion and fry in oil until golden brown. Add the remaining spice mixture/pastes. Stir well and cook by adding a little amount of water. Cover the pan and cook on low flame for five minutes. Add meat balls and stir well, cover the pan and cook until moisture evaporates from the pan. While cooking turn the balls carefully and frequently to avoid any burning at the bottom of the vessel. When done add curds and cook for five to ten minutes more.

Observations

- a. No. of balls obtained _____
- b. Weight of curd added _____
- c. Weight of final product _____
- d. Volume of final product _____
- e. Time taken for cooking _____
- f. Sensory evaluation _____

Color	Texture	Flavour	Taste	Acceptability

2) Biryani**Ingredients:**

- Basmati rice : 250 g
- Goat meat : 250 g
- Curd : 125 ml
- Salt : to taste
- Red chilli powder : 1/4th teaspoon
- Garlic-ginger paste : 2 teaspoon
- Onion : 02 big
- Coriander leaves : 25 g
- Mint : 20 g

Cloves	:	04 no.
Cardamom	:	03 Nos
Cinnamon	:	03 sticks
Pepper	:	04 Nos
Sahajeera	:	03 g
Lime	:	01 No.
Fat	:	25 g
Saffron Colour	:	A pinch

Method :

Cut the onions into small pieces and fry them in little oil to golden brown colour. Clean and wash meat pieces with water twice. Mix meat with curd, salt, garlic-ginger paste and half fried onion. Wash green chillies, coriander leaves and mint separately. Chop coriander leaves finely. Clean sahajeera, grind cinnamon and cardamom coarsely. Add chopped coriander leaves, mint, green chillies, cloves, pepper, shajeera, ground cinnamon and cardamom to the above mixture. Mix well and keep aside for half an hour. Extract the lime juice. Add lime juice and remaining oil to meat. Bring the water to boiling. Clean and wash rice and add to boiling water along with a little salt. Cook until rice becomes three fourths done. Drain the rice. Pour half glass of drained water to meat and put the rice over the meat. Take a little amount of water, dissolve colour in it. Make four holes at the corner of rice and pour the little amount of colour water in each hole. Spread the remaining half of fried onion over the rice. Make a hole in the centre of the rice and pour fat in the hole. Cover the vessel tightly and cook on high flame till all moisture evaporated. When steam comes out, reduce the flame and keep on sim flame for five minutes. Remove from stove and serve hot.

Observations

- a. Weight of the final product _____
- b. Volume of the final product _____
- c. Time taken for cooking _____
- d. Cooking methods used _____
- e. Sensory evaluation _____

Colour	Texture	Flavour	Taste	Acceptability

Preparation of Fruits and Vegetables Recipes

Fruits are the ripened ovary or ovaries of a plant together with adjacent tissues. Fruits are important for their attractive colours, pleasing aroma, sweet taste, crispy and crunchy texture and the nutrient they contribute to the diet. Fruits are good source of different vitamins and minerals which help to protect the body from infections and diseases.

All the fruits contain pectic substances which are the cementing substances in between the cells. The immature or unripe fruits contain protopectin which is converted to pectin during ripening by the action of enzyme pectinase. Pectin has gel forming ability and hence ripe fruits are used for making jelly. In over ripe fruits the pectin gets converted to pectic acid which does not have same gelling ability. These changes also affect the texture of the fruits as the flesh becomes soft.

A] Soups :

1) Clean Soup

Ingredients:

Vegetables	:	100 g
Onion	:	1 medium sized
Fat	:	6 g
Water	:	150 - 200 ml.
Bay leaf	:	1 No.
Salt & pepper	:	As required

Method:

Wash vegetables in running water. Slice vegetables into pieces by removing inedible portions. Melt fat and add vegetables and saute for few minutes. Add pepper, salt, bay leaf, vegetables. Strain and let the soup stand for some time. Garnish before serving.

Observations

- a. Weight of cooked product _____
- b. Volume of cooked product _____
- d. Time taken for cooking _____
- e. Sensory Evaluation _____

Colour	Texture	Flavour	Taste	Acceptability

2) Mixed Vegetables Soup

Ingredients:

Potato	:	50 g
Carrot	:	50 g
Onion	:	25 g
Tomato	:	25 g
Water	:	1/2 cup
Cloves	:	2 nos
Cinnamon	:	2 pieces
Whole pepper	:	3 g
Ginger	:	A piece
Fresh Beans	:	25 g
Salt	:	To taste

Method:

Prepare vegetables by cutting them into small pieces. Cook in water till tender. Thickenings like white sauce can be added to the vegetables. strain and serve hot.

Observations

- Weight of cooked product _____
- Volume of cooked product _____
- Time taken for cooking _____
- Sensory Evaluation _____

Colour	Texture	Flavour	Taste	Acceptability

3) Tomato Soup

Ingredients:

- Tomato : 150 g
- Carrot : 50 g
- Onion : 25 g
- Pepper powder : 2 pinch
- Butter : 2 tea spoon
- Grated cheese : 1 tea spoon
- Salt : ½ tea spoon

Method:

- 1) Melt butter. Add chopped onion, pepper powder and sauté till it become transparent.
- 2) Add chopped carrots and tomatoes and sauté for 2 to 3 minutes
- 3) Add ½ cup water and cook in a pressure cooker.
- 4) Blend and strain the soup. Add salt and simmer.
- 5) Garnish with grated cheese and serve hot.

Observations

- a. Weight of cooked soup _____
- b. Volume of cooked soup _____
- c. Time taken for cooking _____
- d. Sensory Evaluation : _____

Colour	Texture	Flavour	Taste	Acceptability

4) Mixed vegetables soups

Ingredients:

For stock

- Carrot, French beans : 5 g each
- Onion, potato, tomato, cabbage and white pumpkin : 10 g each

Method:

- 1) Cut all vegetables into large pieces.
- 2) Add 250 ml water and cook in pressure cooker.
- 3) Pass through sieve and use the stock

Ingredients:**For soup**

French beans, carrot, onion, green peas, tomato	:	5 g each
Macaroni	:	5 g
Corn four	:	¼ tea spoon
Tomato ketchup	:	½ tea spoon
Grated cheese	:	½ tea spoon
Butter	:	1 tea spoon
Pepper powder	:	2 pinch
Salt	:	¼ tea spoon

Method

- 1) Boil macaroni.
- 2) Sauté finely chopped vegetables in butter.
- 3) Add boiled macaroni.
- 4) Pour the stock on the mixture and cook till vegetables are done.
- 5) Add tomato ketchup, corn flour paste, salt, pepper powder and simmer.
- 6) Serve hot garnished with grated cheese

B) Koshimbir**Ingredients:**

Cauliflower grated	:	100 g
Onion	:	50 g
Tomato	:	30 g
Green chillies	:	4 nos
Carrot	:	One
Turmeric powder	:	1/2 tea spoon.
Cumin seed	:	1 tea spoon.
Salt	:	1/2 tea spoon.
Sugar	:	1 tea spoon
Oil	:	2 tea spoon
Grated fresh coconut	:	25 g

Method :

Chop onion cut tomatoes into square shape cut the green chillies and carrot. Heat oil put cumin seed, onion, fry little and remove. Add green chillies, turmeric powder in the remaining oil. Add grated cauliflower, salt, sugar and tomato pieces, mix well and remove from fire decorate with coriander leaves.

Observations

- a. Weight of cooked product _____
- b. Volume of cooked product _____
- d. Time taken for cooking _____
- e. Sensory Evaluation _____

Colour	Texture	Flavour	Taste	Acceptability

C) Preparation of Curries**1) Spinach Curry****Ingredients:**

- Spinach : 100 g
- Green chillies : 05 g
- Oil : 15 g
- Garlic paste : ¼ teaspoon
- Salt : To taste

Method :

Wash spinach thoroughly in water and cut into fine pieces. Heat oil, add garlic paste and fry for a few seconds. Add ground green chillies, and salt and stir. Add cut spinach to the above mixture and mix well. Cover the pan and cook until the water present in the vegetable is evaporated.

Observations

- a. Weight of prepared curry _____
- b. Volume of prepared curry _____
- c. Time taken for cooking _____
- d. Sensory Evaluation of curry _____

Colour	Texture	Flavour	Taste	Acceptability

2) Brinjal Curry

Ingredients:

Brinjal	:	125 g
Tamarind	:	25 g
Groundnuts	:	15 gm
Dry coconut	:	10 g
Poppy seeds	:	15 g
Sesamum seeds	:	15 g
Onion	:	1 no big
Garlic-ginger paste	:	1 teaspoon
Cumin seeds	:	02 g
Cloves	:	03 no.
Cardamom	:	25 Nos
Sahajeera	:	1/4 th teaspoon
Cinnamon	:	05 - 02 (sticks
Coriander leaves	:	A few
Green chillies	:	3 no
Red chilli powder	:	01 teaspoon
Salt	:	To taste
Turmeric powder	:	a pinch
Coriander seeds	:	04 gm
Oil	:	20 g

Method:

Soak tamarind in water for half an hour. Roast sesamum, groundnuts, poppy seeds separately and grind everything together into a fine paste using a little water. Grind garlic and ginger into a paste. Grind rest of the spices into a coarse powder. Extract juice from soaked tamarind. Mix ground spice powder with salt, red chilli powder and turmeric powder. Cut the onion and slightly fry it till brown and grind it into a paste. Add it to the above mixture and mix all the contents. Divide it into two portions. Wash the brinjal and slit them into four. Fill one portion of the above paste in brinjal slits. Heat oil and add remaining spice paste. Cook for few minutes. Add the stuffed brinjals, cover the container and cook for a few minutes. Add chopped coriander leaves and curry leaves. Cover the pan and cook for a few more minutes. Pour required quantity of water and cook till the vegetables becomes soft.

Observations:

- a. Weight of the cooked product _____
- b. Volume of the cooked product _____
- c. Time taken for cooking _____
- d. Sensory evaluation of curry _____

Colour	Texture	Flavour	Taste	Acceptability

3) Patato Curry**Ingredients:**

- Potatoes : 100 g
- Onion : 01 No (Medium)
- Green Chillies : 02 No
- Corinader Leaves : A few
- Spice powder : 1/4th Teaspoon
- Garlic-ginger : 1/2 Teaspoon
- Turmeric powder : A pinch
- Oil : 20 g
- Salt : To taste

Method:

Wash and boil the potatoes till they become soft. Peel them and cut into pieces. Chop the onion and fry until done Add garlic-ginger paste, ground green chillies, turmeric powder, salt and spice powder. Mix well and allow to cook for a few minutes. Add boiled potatoes and stir until mixed well. Add water as required and cook until the water evaporates. Spinkle finely chopped coriander leaves over the curry and serve.

Observations

- a. Weight of the cooked product _____
- b. Volume of cooked product _____
- c. Time taken for cooking _____
- d. Sensory Evaluation of curry _____

Colour	Texture	Flavour	Taste	Acceptability

4) Bharit

Ingredients:

- Brinjal : 50 g
 Curd : 2 tea spoon
 Green chilli : 1 no.
 Salt : 2 pinch
 Sugar : 1 pinch
 Chopped coriander leaves : 1 Tea spoon

Method:

- 1) Roast brinjal on fire till soft.
- 2) Remove peel and mash it.
- 3) Beat curd, add ground chilli, salt and sugar.
- 4) Add mashed brinjal to it and mix.
- 5) Decorate with chopped coriander leaves.
- 6) For easy removal of the peel, apply oil prior to roasting to brinjal.
- 7) Sensory Evaluation

Colour	Texture	Flavour	Taste	Acceptability

E. Pickles :

1) Mango Pickle

Ingredients:

- Mango Slices : 1 kg
- Common salt : 250 g
- Fenugreek seed : 125 g
- Mustard seeds : 250 g
- Turmeric powder : 30 g
- Red Chilli powder : 30 g
- Asafoetida : 30 g
- Oil : Sufficient to keep surface covered

2) Green chillies pickle

Ingredients:

- Lime : 1 kg
- Green Chillies : 200 g
- Salt : 250 g

Method :

- 1) Wash the lime and green chillies with water and spread them on a piece of cloth to let moisture on the surface to evaporate.
- 2) Cut three - fourth of the limes (i.e. 750 gm) into halves or quarters, depending upon their size.
- 3) Mix all the ingredients with lime pieces and green chillies.
- 4) Squeeze out the juice from the remaining 1/4 quantity of limes and pour it on the salted pickle. Put in the sterilized bottle making sure that the lime juice covers the mass.
- 5) Keep the bottle in dry place week and shake it occasionally.
- 6) Sensory Evaluation

Colour	Texture	Flavour	Taste	Acceptability

3) Bitter Gourd pickle

Ingredients:

Bitter gourd slices	:	100 g
Mustard seed	:	25 g
Red Chilli powder	:	3 g
Salt	:	20 g
Turmeric	:	1/2 tea spoon
Garlic ginger paste	:	1 tea Spoon
Oil	:	20 g
Fenugreek seed	:	1 g
Lime	:	1 No.

Method :

- 1) Wash bitter gourd and cut round slices of it.
- 2) Mix the salt and keep a side for 10 min.
- 3) Grind the mustard seeds and remove the husk.
- 4) Squeeze the slices of bitter gourd and remove the excess of water.
- 5) Mix red chilli powder, turmeric, mustard seed powder and bitter gourd slices and also add the garlic ginger paste.
- 6) Then add oil in it and fenugreek seed powder.
- 7) Add lime juice and mix it well in slices.
- 8) Fill this mixture in a sterilized bottle.
- 9) Sensory Evaluation

Colour	Texture	Flavour	Taste	Acceptability

4) Tomato Pickle

Ingredients:

Red tomatoes	:	250 g
Tamarind	:	50 g
Fenugreek seed	:	5 g
Oil	:	50 g
Salt	:	15 g

- Red chilli powder : 15 g
- Cumin Seed : a pinch
- Turmeric : a pinch
- Asafoetida : a pinch
- Garlic : Few flakes
- Mustard seed : 1/4 tea spoon

Method :

- 1) Wash the tomatoes and wipe it
- 2) Cut it into small pieces.
- 3) Add salt and heat on slow fire. Add tamarind
- 4) When tamarind is cooked add chilli powder and mix it well.
- 5) Roast fenugreek seed and make fine powder.
- 6) Heat the oil. Add mustard seed, cumin seed, garlic paste and asafoetida.
- 7) When the seasoning is complete, add fenugreek seed powder and mashed tomato, tamarind mixture.
- 8) Preserve it in sterilized bottle.
- 9) Sensory Evaluation

Colour	Texture	Flavour	Taste	Acceptability

5. Tamarind Pickle

Ingredients:

- Tamarind : 50 g
- Cumin Seed : 5 g
- Turmeric : A Pinch
- Sugar : 40 g
- Oil : 50 g
- Dates : 10 g
- Garlic : 10 g
- Ginger : 15 g

Method :

- 1) Soak the tamarind in water for some time then extract the pulp.

- 2) Grind all the other ingredients except sugar to form a thick paste.
- 3) Fry the paste in oil, add tamarind extract and then add sugar in it.
- 4) Cook stirring constantly till the mixture thickens.
- 5) Fill it in airtight, sterilized jar.
- 6) Sensory Evaluation

Colour	Texture	Flavour	Taste	Acceptability

F Preparation of Sauces

1) Tomato Sauce

Ingredients:

Tomato pulp	:	1 kg
Water	:	350 ml
Onion	:	15 g
Salt	:	18 g
Butter	:	18 g
Sugar	:	20 g
Garlic	:	1 g
Pepper powder	:	1 g
Cinnamon	:	0.5 g
Cardamon	:	0.5 g

Method :

- 1) Use firm and fully ripe red tomatoes, add water.
- 2) Heat for 5-10 minutes till the skin separates out from the pulp.
- 3) Strain the pulp through muslin net cloth to remove seed and skin.
- 4) Heat the tomato pulp to boiling point and add butter.
- 5) Add onions and garlic and simmer for 30 minutes.
- 6) Add salt, sugar and pepper and simmer for 30 minutes.
- 7) Make into a thick paste boil and strain through cloth.
- 8) Mix the strained liquid with boiling tomato pulp and gently boil the mass for 30-45 minutes.
- 9) If the spices are added directly to the pulp, pass entire mass through a sieve or screen or pulper with mesh.

- 10) Heat it again and fill into bottles previously sterilized and after filling sterilize for 45 minutes.
- 11) Cool and store.
- 12) Sensory Evaluation

Colour	Texture	Flavour	Taste	Acceptability

2) Green Chilli Sauce

Ingredients:

Green Chillies	:	1/2 kg
Patoto	:	1/4 kg
Vinegar	:	100 ml
Salt	:	50 g
Onion	:	50 g
Cinnmon	:	1 g
Cloves	:	1 g
Garlic	:	5 g

Method :

- 1) Wash and remove the stalks of green chillies.
- 2) Wash and peel the potatoes and cut in 1 inch cubes.
- 3) Pressure cook chillies and potatoes using 500 ml water for 20 minutes in a pressure cooker.
- 4) Press out the juice from the residue using a basket press.
- 5) Grind and place the spices in a muslin cloth bag and immerse into the pulp.
- 6) Cook the pulp till it reduces to half the original volume.
- 7) Remove muslin bag and squeeze it into the pulp.
- 8) Add vinegar and salt.
- 9) Heat the mass for few minutes.
- 10) Fill the finished product into sterilized bottles.
- 11) Sensory Evaluation

Colour	Texture	Flavour	Taste	Acceptability

Sugar Cookery

Sugars are simple carbohydrates that include monosaccharide, namely glucose, fructose, galactose, sucrose, maltose and lactose. Sugar is extensively used in sweet preparations, bakery and confectionary. Sugar performs various functions in cookery like sweetening, binding, coating etc. In order to perform the specific functions; a particular concentration of sugar solution is required. The concentration of sugar solution is determined using a thermometer, conducting a thread test or coldwater test. The knowledge of sugar cookery should be used effectively to develop the skills to prepare excellent sugar products of desired quality.

Principles involved in sugar cookery are caramelisation, crystallization, inversion.

1. **Caramelisation** : When dry heat is applied to sugar and sugar reaches a temperature above its melting point, the sugar melts and decomposes to form a colourless liquid when on continuous heating changes its colour to yellow, light brown, and finally dark brown with a flavour and taste of burnt sugar. This decomposition of sugar into a mixture of products containing organic acids is called Caramelisation.
2. **Crystallization** : When a saturated sugar solution cools down to form a supersaturated solution, the extra solute precipitates to form crystals and this process of crystal formation is called crystallization of sugar.
3. **Invert Sugar** : When sucrose solution is heated along with acid or by action of enzymes sucrase or invertase; it breaks down to form a mixture of equal amount of glucose and fructose. This process is called inversion and the equal amount of glucose and fructose formed is called invert sugar. In the natural state in food, sugars occur in the form of solutions. However, solid or crystalline form can be separated from the natural source by special processing techniques to get various types of sugar. Sugar which is regularly used in food preparation is sucrose. Granulated sugar, powdered sugar, khandsari, icing sugar, brown sugar are various forms of sugar.

Observations :

S. No.	Stages of Sugar Syrup	Traditional Temperature (°c)	Thermometer Temperature (°c)
1	One thread formation		
2	Soft ball formation		
3	Firm ball consistency		
4	Hard ball consistency		
5	Soft crack formation		
6	Hard crack formation		
7	Caramelisation		

Preparation of Fats and Oils Recipes

Fat is present naturally in many foods. Those which have relatively high melting point and are solid at room temperature called fats, whereas those that have lower melting points and are liquid at room temperature are called oils.

Fats are important in our diet because they are concentrated source of energy and have high satiety value. One gram of fat supplies nine kilo calories. They reduce bulk in diet. They are excellent source of fat soluble vitamin A D E K.

1) Puris

Ingredients :

- Wheat flour : 50 g
- Water : As required
- Salt : A pinch
- Oil : As required for testing.

Method :

Take flour, Salted and one teaspoon of oil mix well. Add water and make dough. Knead the dough well and divide into even balls of small size. Roll them into round shape and deep fry until they turn golden brown.

Observations

- a. Amount of water added _____
- b. Weight of dough before _____
- c. Number of puris obtained _____
- d. Weight of each puri _____
- e. Time required for frying of each puri _____
- f. Amount of oil used _____
- g. Sensory Evaluation _____

Colour	Texture	Flavour	Taste	Acceptability

2) Plain Cake

Ingredients:

Refined wheat flour	:	120 g
Fat	:	60 g
Sugar (Powdered)	:	120 g
Baking powder	:	½ tsp
Eggs	:	2
Vanilla Essence	:	Few drops

Method:

- 1) Sieve the flour and baking powder twice.
- 2) Cream the fat and sugar till light and fluffy.
- 3) Beat the eggs along with the vanilla essence.
- 4) Add the beaten eggs to the cream little by little mixing continuously.
- 5) Fold in the flour gently using the cut and fold method.
- 6) Add the milk if desired to bring the mixture to dropping consistency.
- 7) Put the mixture in a greased and dusted cake pan and level it properly so as to leave a depression in the center.
- 8) Bake at 350°F for twenty minutes.
- 9) Cool on cooling rack.

Observations

- a. Weight of cake before baking _____
- b. Weight of cake after baking _____
- c. Volume of cake before baking _____
- d. Volume of cake after baking _____
- e. Sensory Evaluation _____

Colour	Texture	Flavour	Taste	Acceptability

3) Fruit Cake

Ingredients:

Refined wheat flour	:	140 g
Butter/Fat	:	100 g
Sugar (Powdered_)	:	100 g
Baking powder	:	¼ tsp
Eggs	:	2 nos
Sugar for caramel	:	2 table spoon
Salt	:	pinch
Cherries	:	30 g
Raisins	:	45 g
Cashew nuts	:	45 g
Dates dried	:	45 g
Currants	:	45 g
Orange peel (Preserved)	:	100 g
Milk	:	30 ml
Mixed spices	:	½ tsp

Method:

- 1) Clean and chop dry fruits cashew-nuts and orange peel cut cherries.
- 2) Sieve flour, baking powder and spices.
- 4) Cream butter and sugar till light and fluffy.
- 5) Beat eggs and add to mixture gradually.
- 6) Add fruits and flour gradually with milk to which caramel has been added to form a stiff dropping consistency.
- 7) Put into prepared pan and bake at 180°C or 325° F approximately for ½ an hour.

Observations

- a. Weight of cake before baking _____
- b. Weight of cake after baking _____
- c. Volume of cake before baking _____
- d. Volume of cake after baking _____
- e. Sensory Evaluation _____

Colour	Texture	Flavour	Taste	Acceptability

4) Eggless Cake

Ingredients:

Refined wheat flour	:	100 g
Fat	:	60 g
Sugar (Powdered)	:	75 g
Baking Powder	:	1 ½ tsp
Milk Powder	:	30 g
Vanilla essence	:	Few drop
Corn Flour	:	30 g
Milk	:	To make dropping consistency

Method:

- 1) Sieve the flour and baking powder twice.
- 2) Cream the fat and sugar till light and fluffy.
- 3) Add the milk little by little mixing continuously.
- 4) Fold the flour gently using the cut and fold method.
- 5) Add the milk powder and corn flour to the batter.
- 6) Add the milk to bring the mix in to dropping consistency.
- 7) Add essence to the batter.
- 8) Put the mixture in the greased and dusted cake tin and level it properly so as to leave the depression in the centre.
- 9) Bake at 350°F to 375°F for 20 minutes.

Observations

- a. Weight of cake before baking _____
- b. Weight of cake after baking _____
- c. Volume of cake before baking _____
- d. Volume of cake after baking _____
- e. Sensory Evaluation _____

Colour	Texture	Flavour	Taste	Acceptability

5) Nan khatai :

Ingredients:

- Refined wheat flour : 250 g
- Fat : 125 g
- Sugar (Powdered) : 125 g
- Baking powder : ½ tsp
- Cardamom Powder : 5 g
- Nutmeg powder : 0.5 g
- Curd : 1½ g
- Pista flakes : 0.5 g

Method:

- 1) Sift the flour.
- 2) Cream fat till light and fluffy
- 3) Add curd, crushed cardamoms, and sodium bicarbonate, grated nutmeg to the creamed mixture of sugar and Fat.
- 4) Add the flour and mix it with a fork to obtain stiff dough.
- 5) Divide the dough into small portions. Round each piece and press lightly.
Place them on a greased baking tray, each piece two inches apart.
Sprinkle the grated pista on the top of Nankhatai and bake them at 350° F for 25-30 minutes.

Observations

- a. Weight of dough _____
- b. No. of Nan Khatai _____
- c. Weight one Nankhatai before baking _____
- d. Weight one Nankhatai after baking _____
- e. Sensory Evaluation _____

Colour	Texture	Flavour	Taste	Acceptability

6) Coconut Biscuits

Ingredients:

Refined wheat flour	:	100 g
Fat	:	70 g
Whole sugar	:	80 g
Baking powder	:	1/8 tsp
Fresh coconut	:	100 nos

Method:

- 1) Grate coconut in fine crumbs.
- 2) Cream fat till light and fluffy
- 3) Sieve refined wheat flour with baking powder.
- 4) Add refined wheat flour and grated coconut to the fat.
- 5) Lastly add crystal sugar and make dough.
- 6) Divide dough into small round portion and bake in moderate oven at 350° F for 15-20 minutes.

Observations

- a. Weight of dough _____
- b. Weight of one biscuit before baking _____
- d. Weight of one biscuit after baking _____
- e. Sensory Evaluation _____

Colour	Texture	Flavour	Taste	Acceptability

7) Salt Biscuits

Ingredients:

Refined wheat flour	:	125 g
Fat	:	40 g
Sugar	:	15 g
Baking powder	:	2 g
Salt	:	3 g
Omum	:	2 g
Cumin seed	:	2 g
Milk	:	40 ml

Method:

- 1) Sieve flour and baking powder together 3 times.
- 2) Cream fat and sugar add cumin seed and omum.
- 3) Add milk little by little and mix well.
- 4) Work in flour lightly and make dough.
- 5) Roll out and cut into desired shapes
- 6) Bake at 350° F till light brown.

Observations

- a. Weight of dough _____
- b. Weight one biscuit before baking _____
- d. Weight one biscuit after baking _____
- e. Sensory Evaluation _____

Colour	Texture	Flavour	Taste	Acceptability

Preparation of Beverages and Appetizers

Beverages

Liquids such as coffee, tea, cocoa, soft drinks, carbonated drinks and alcoholic drinks are considered as beverages. These contain stimulants, nourishing principles and refreshing principles which perform some useful functions but are not essential for proper functioning of the body. Tea is the most popular drink, but coffee occupies a prominent role in a South Indian diet. They mainly stimulate the gastric secretion of stomach but delays emptying of stomach.

Appetizers

Appetizers, a derivation of the word appetite is a small portion of food or drink served ahead of the meal to stimulate the appetite. Appetizers create a desire for more food. Appetizers can be beverages or snacks.

1. Hot Tea

Ingredients:

Tea leaves	:	1 tea spoon
Water	:	1/2 Cup
Milk	:	1/2 Cup
Sugar	:	1 Tea Spoon (5 gms)

Method :

- 1) Boil the water add tea powder,
- 2) Add sugar and milk strain, serve hot.
- 3) Sensory Evaluation

Colour	Texture	Flavour	Taste	Acceptability

2. Hot Coffe

Ingredients:

- Coffee powder : 1 tea spoon
Milk : 1 Cup
Sugar : 1 tea spoons

Method:

Boil the milk, add coffee powder. Sugar and serve hot.

Observations

- a. Weight of Coffee _____
b. Volume of Coffee _____
d. Time taken for cooking _____
e. Sensory Evaluation _____

Colour	Texture	Flavour	Taste	Acceptability

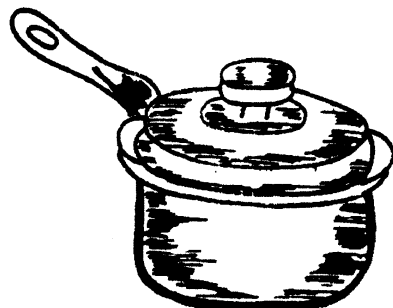
Identification and use of different Kitchen items and Equipments

Kitchen Equipments	नाव
Teaspoon	चहा चमचा
Tablespoon	मोठा चमचा
Curryspoon	भाजी (पळी) चमचा
Spatula	उलथणं
Perforated spatula	झान्या
Idli stand	इडली पात्र
Tea strainer	चहा गाळणी
Peeler	साल काढणे
Grater	खिसणी
Ladle	लाकडी उलथणे
Vegetable cutting board	भाजी कापण्याचा तकता
Deep frying pan	कढई
Rolling pin & board	पोळपाट आणि लाटण
Water jug	पाण्याचा जग
Sieve	चाळणी
Lime squeezer	लिंबु पिळणी
Tong	कडची
Nerlep pan	नेरलेप तवा

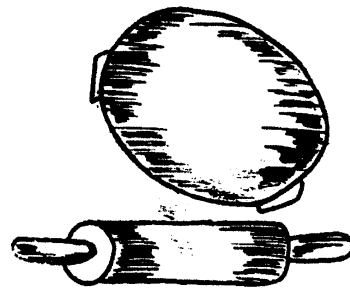
Kitchen Equipments	नाव
Steel vessel	स्टील पातेलं
Aluminum vessel	जर्मन पातेलं
Parath	परात
Meal Plate	ताट
Cake pan	केक पात्र
Katori	वाटी
Steel glass	स्टील ग्लास
Egg Slicer	अंडी स्लाइसर
Chakali Maker	सोन्या
Weighing Balance	तराजु
Measuring Spoon	मापाचा चमचा
Measuring glass	मापाचा ग्लास
Measuring cup	मापाचा कप
Oil can	तेल बरणी
Presser cooker	प्रेसर कुकर
Masala box	मसाला डबा
Knife	चाकू
Colander / sieve	चाळणी



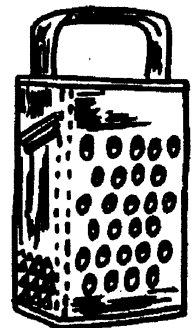
Scoop



Sauce Pan



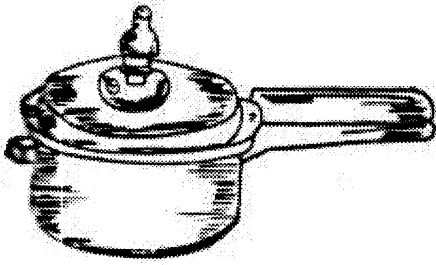
Rolling Pin and Board



Grater



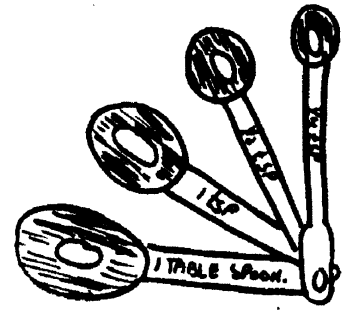
Peeler



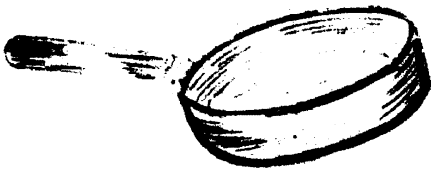
Pressure Cooker



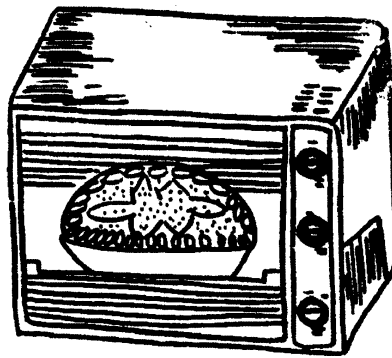
Masher



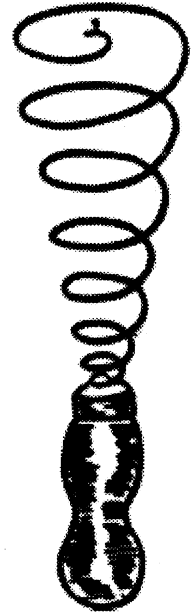
Measuring Spoons



Frying Pan



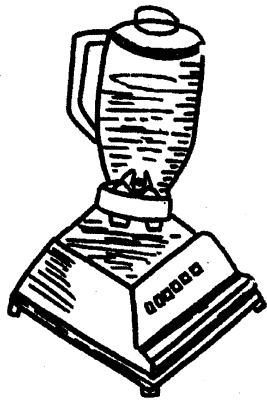
Oven



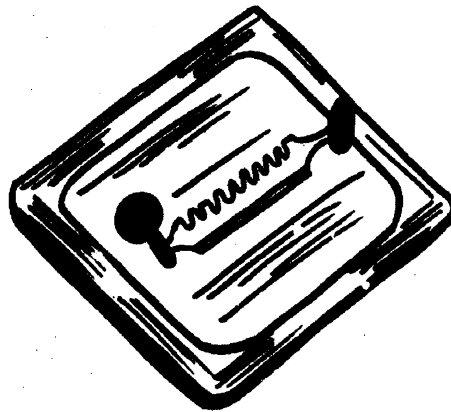
Egg Beater



Handy Blender



Blender



Chopping Board



Onion Chopper

Identificational and Listing of Various Food Groups

Name of the Ingredients	नाव
Cereals	
Bajra	बाजरी
Barley	जव
Italian Millet	राला
Jowar	ज्वारी
Maize	मका
Ragi	नाचणी
Rice	तांदुळ
Riceflakes	पोहे
Rice puffed	मुरमुरे
Wheat	गहु
Wheat flour	गहु पीठ
Bajra flour	बाजरी पीठ
Wheat flour refined	मैदा
Semolina	रवा
Vermicelli	शैवया
Bread	डबल रोटी
Pulses	
Bengal gram	हरभरा
Bengal gram dhal	हरभरा डाळ
Bengal gram roasted	फुटाणे
Bengal gram dhal roasted	दाळवं
Black gram dhal	उडीद डाळ
Cowpea	चवळी

Name of the Ingredients	नाव
Green gram	मुग
Green gram dhal	मुगदाळ
Horse gram	काबुलीचना
Lentil	मसुर
Moth bean	मटकी
Peas	वाटाणे
Rajmah	राजमा
Red gram dhal	तुरदाळ
Soybean	सोयाबीन
Leafy Vegetables	
Ambat chuka	अंबट चुका
Bengal gram leaves	हरभऱ्याची भाजी
Betal leaves	नागवेल पान
Cabbage	पानकाबी
Colocasia leaves	आळुचे पान
Coriander leaves	कोथींबीर
Curry leaves	कडीपत्ता
Drumstick leaves	शेवऱ्याची पाने
Fenugreek leaves	मेथी
Gogu	अंबाडी
Mint	पुदीना
Paruppu Keerai (Ghol)	घोळ, कुल्फा
Safflower leaves	करडी पाने
Shepu	शेपू

Name of the Ingredients	नाव
Spinach	पालक
Tamarind leaves	चीगुर/चिंचेची पाने
Roots and Tubers	
Turnip	शलगम
Carrot	गाजर
Colocasia	अर्वी/अळू/चमकुरा
Onion	कांदा
Patato	बटाटा
Radish	मुळा
Sweet Potato	रताळे
Other Vegetables	
Bitter gourd	कारले
Bottle gourd	भोपळा
Brinjal	वांगे
Cauliflower	फुलकोबी
Cluster beans	गवारीच्या शेंगा
Cucumber	काकडी
Drumstic	शेवग्याच्या शेंगा
Giant Chillies	शिमला मिरची
Koval	तोंडलं
Ladies finger	भेंडी
Mango green	कैरी
Onion stalk	कांदाचीपात
Pumpkin	लाल भोपळा
Ridge Gourd	दोडका
Vegetable marrow	काशीफळ
Nuts and Oil Seeds	
Arecanut	सुपारी
Almond	बदाम
Cashewnut	काजू

Name of the Ingredients	नाव
Coconut	खोबरे
Gingelly seed	तीळ
Groundnut	शेंगदाणे
Linseed	जवस
Mustard seed	मोहरी
Niger seed	कारळ
Pistachio nut	पीस्ता
Piyal seed	चारोळी
Safflower seed	करडी
Sunflower	सुर्यफुल
Walnut	आकॉड
Condiments and Spices	
Asafoetida	हिंग
Cardamom	विलायची
Red chillies	मिरची
Cloves	लवंग
Coriander	धने
Cumin seed	जीरे
Fenugreek seed	मेथी दाणा (दाणे)
Garlic	लसूण
Ginger	अद्रक
Nutmeg	जायफळ
Omum	ओवा
Pepper	मीरे
Poppy seeds	खसखस
Tamarind pulp	चिंच (चिंचेगार) चिंचेचा गर
Turmeric	हळद
Fruits	
Amla	आवळा
Apple	सफरचंद

Name of the Ingredients	नाव
Banana	केळी
Orange	संत्री
Sweet Lime	मोसंबी
Dates	खजुर
Raisins	मनुका
Figs	अंजीर
Grapes	द्राक्षे
Guava	पेरु
Lemon	लिंबु
Mango	आंबा
Muskmelon	खरबुज
Melon water	टरबुज
Mulberry	शहतुत
Papaya	पपई
Pears	नाशपती
Pineapple	अननस
Plum	अलुबुखार
Pomegranate	डालींब
Sapota	चीकू

Name of the Ingredients	नाव
Custard apple	सीताफळ
Tomato	टोमॅटो
Meat and other Food	
Fish	मासे
Beef	मांस
Egg	अंडी
Milk and Milk Products	
Milk	दुध
Butter Milk	ताक
Curd	दही
Khoa	खव्वा
Fats and Edible Oil	
Butter	लोणी
Ghee	तुप
Vegetable cooking oil	गोडतेल
Sugars	
Cane Sugar	साखर
Honey	मध
Sago	साबुदाणा
Rajgeera Seed/Amranath	राजगीरा

