



HIGHER SECONDARY FIRST YEAR

VOCATIONAL EDUCATION

**FOOD SERVICE
MANAGEMENT**

PRACTICAL



1.1 Rating of Star Hotels

Aim: To gain knowledge about hotel rating.

Introduction

Hotel ratings are often used to classify hotels according to their quality. From the initial purpose of informing travelers on basic facilities that can be expected, the objectives of hotel rating has expanded into a focus on the hotel experience as a whole. Today the terms 'grading', 'rating', and 'classification' are used to generally refer to the same concept, that is to categorize hotels.

Food services, entertainment, view, room variations such as size and additional amenities, spas and fitness centers, ease of access and location may be considered in establishing a standard. Hotels are independently assessed in traditional systems and rest heavily on the facilities provided. Some consider this disadvantageous to smaller hotels whose quality of accommodation could fall into one class but the lack of an item such as an elevator would prevent it from reaching a higher categorization.

Procedure: Discuss in class and find out about star rating status for hotels. Tabulate your results.



Hotel Star ★ Criteria

Result:

1.2 Observation of a Hotel

Aim: To obtain the skill of rating a hotel by visit/computer based approach

Tools: Questionnaire

Procedure: Fill in the questionnaire and Grade the hotel.

Name of the Hotel:

Address:

One star

Do 100% of the rooms with shower/WC or bath tub/WC?	Yes/No
Is daily room cleaning done?	Yes/No
Do 100% of the rooms have colour-TV with remote control?	Yes/No
Does the room have table and chair?	Yes/No
Are soaps or body wash provided?	Yes/No
Is there Reception service?	Yes/No
Is there a publicly available telephone for guests?	Yes/No
Will extended breakfast be provided?	Yes/No
Is beverage offered in the hotel?	Yes/No
Is there a deposit possibility?	Yes/No

Two Star

Is there a breakfast buffet?	Yes/No
Is there a reading light next to the bed?	Yes/No
Is there bath essence or shower gel?	Yes/No
Are there bath towels?	Yes/No
Are there linen shelves?	Yes/No
Is there any offer of sanitary products (e.g. toothbrush, paste, shaving kit)?	Yes/No
Are credit cards accepted?	Yes/No

Three Star

Is the reception opened 14 hours, accessible by phone 24 hours from inside and outside, bilingual staff (e.g. Tamil/English)?	Yes/No
Is there a three piece suite at the reception, luggage service?	Yes/No
Is there beverage offer in the room?	Yes/No
Is there telephone in the room?	Yes/No
Is there internet access in the room or in the public area?	Yes/No

Are there facilities like heating facility in the bathroom, hair-dryer, cleansing tissue?	Yes/No
Is there a dressing mirror and place to put the luggage?	Yes/No
Does it have sewing kit, shoe polish utensils, laundry and ironing service?	Yes/No
Are additional pillow and additional blanket provided on demand?	Yes/No
Is there a systematic complaint management system?	Yes/No

Four Star

Is the reception opened 18 hours, accessible by phone 24 hours from inside and outside?	Yes/No
Is the property centralized air conditioned?	Yes/No
Is the lobby with seats and beverage service?	Yes/No
Is there breakfast buffet or breakfast menu card via room service?	Yes/No
Is there a mini bar or 24 hours beverages via room service?	Yes/No
Is there upholstered chair/couch with side table?	Yes/No
Is there bath robe and slippers on demand?	Yes/No
Are cosmetic products (e.g. shower cap, nail file, cotton swabs), vanity mirror, tray of a large scale in the bathroom?	Yes/No
Is there internet access and internet terminal?	Yes/No
Is there a "À la carte"-restaurant?	Yes/No

Five Star

Is the reception opened 24 hours with multilingual staff?	Yes/No
Is the property centralized air conditioned?	Yes/No
Is there doorman-service or valet parking?	Yes/No
Is the reception spacious with several seats and beverage service?	Yes/No
Is there personalized greeting for each guest with fresh flowers or Flower present in the room?	Yes/No
Is there a minibar and food and beverage offer via room service during 24 hours?	Yes/No
Are there personal care products in flacons?	Yes/No
Is there internet-PC in the room?	Yes/No
Is there a safety locker in the room?	Yes/No
Are services like ironing (return within 1 hour) and shoe polishing provided?	Yes/No
Is there turndown service in the evening?	Yes/No

A visit / computer based approach any star category hotel.

Report:

Prepare a report groupwise

2.1 Assessing Student's Daily Diet

Aim: To assess the student's daily diet using 'Basic Food Group'.

Importance of basic four food groups

Foods have been classified based on the nutritive value. This helps in planning meals.



Table 2.1 Importance of Basic Four Food Groups

S. No.	Food Groups	Main Nutrients	Dietary guidelines (or) Tips
1	<p>Cereals, millets and pulses: Rice, wheat, bajra, maize, ragi, jowar, barley, rice flakes, wheat flour, malted cereals, Bengal gram, black gram, green gram, red gram (whole as well as dhals), cow pea, peas, rajmah, soya bean, beans, horse gram and sprouted pulses</p>	Energy, protein, invisible fat, thiamine, riboflavin, folic acid, iron, calcium and fibre	<ul style="list-style-type: none"> • A combination of millets and cereals can be included to enhance the B vitamins, calcium, iron and fibre. • The ratio of cereal protein to pulse protein should be 4:1 to improve protein quality. • Add soya bean because it has valuable pulse protein. • Take at least 2 servings of pulses per day (60g)
2	<p>Vegetables and Fruits</p> <p>Green leafy vegetables (G.L.V): Amaranth, spinach, drumstick leaves, beetroot leaves, coriander leaves, curry leaves, mustard leaves, fenugreek leaves</p> <p>Other vegetables: Carrot, onion, brinjal, ladies finger, capsicum, beans, drumstick, cauliflower</p>	<p>Carotenoids, riboflavin, folic acid, calcium, iron, fibre</p> <p>Carotenoids, folic acid, calcium, fibre</p>	<ul style="list-style-type: none"> • Include green leafy vegetables in daily diet • At least one medium size fruit should be included per day
	<p>Fruits: Guava, tomato, mango ripe, papaya, orange, sweet lime, water melon, grapes, amla</p>	Carotenoids, vitamin-C, fibre	<ul style="list-style-type: none"> • Include at least 100 g green leafy vegetables and 100 g fruit in the diet

Table 2.1 Importance of Basic Four Food Groups (Continued)			
S. No.	Food Groups	Main Nutrients	Dietary guidelines (or) Tips
3	Milk and milk products, egg, meat and fish Milk and Milk Products: Milk, curd, skimmed milk, cheese	Protein, fat, riboflavin, calcium,	<ul style="list-style-type: none"> • Include at least 100 ml of milk in any form
	Egg	High biological value protein, vitamin A	<ul style="list-style-type: none"> • Take 3 eggs per week
	Meat: Chicken, liver, mutton	Protein, fat, vitamin-A, cyanocobalamin	<ul style="list-style-type: none"> • 30 g of non-vegetarian foods can be a replacement for pulses
	Fish	Omega3 Fatty acid, Vitamin A & E	<ul style="list-style-type: none"> • Include Sea food
4	Oils & fats and nuts & oilseeds: Butter, ghee, hydrogenated fat (vanaspathy), gingelly oil, groundnut oil, mustard oil, coconut oil, Ground nuts, Gingelly seeds, Cashew nuts, Almonds	Energy, fat, essential fatty acids, fat soluble vitamins	<ul style="list-style-type: none"> • Limit the use of ghee and oil • Avoid using reheated oils • Take at least 5 nuts per day

Procedure:

- i. Record a day's menu of each student.
- ii. Assess the inclusion of food group against the check list.
- iii. Give suggestions to improve the menu.

Record breakfast, lunch, tea and dinner. Evaluate against the checklist by giving suggestions for improvements.

Table 2.2 Check List				
Meals	Food eaten	Food groups	Check list	Suggestions to improve the meal
Early morning/ Breakfast/ Mid-morning	Sample meal	Cereals	✓	Millets can be included to add variety
	Tea	Millets	×	
	Idli	Pulses	✓	Legumes can be included to add variety
Coconut chutney	legumes	×		

Table 2.2 continued

Table 2.2 Check List (Continued)

Meals	Food eaten	Food groups	Check list (✓/×)	Suggestions to improve the meal
		Milk	✓	Add vegetable cutlet & lime juice in midmorning
		Meat/egg	×	
		Vegetables	×	
		G.L.V		
		Roots & tubers		
		Other vegetables		
		Fruits	×	
		Nuts/oil seeds	✓	
Fat/oil	✓			
Sugar/jaggery	✓			
Lunch		Cereals		
		Millets		
		Pulses		
		legumes		
		Milk		
		Meat/egg		
		Vegetables		
		G.L.V		
		Roots & tubers		
		Other vegetables		
Fruits				
Nuts/oil seeds				
Fat/oil				
Sugar/jaggery				
Evening tea/ Dinner		Cereals		
		Millets		
		Pulses		
		Legumes		
		Milk		
		Meat/egg		
		Vegetables		
		GreenLeafyVegetables		
		Roots & tubers		
		Other vegetables		
Fruits				
Nuts/oil seeds				
Fat/oil				
Sugar/jaggery				

Results and Discussion:

Blank area for writing results and discussion.

2.2 Planning Balanced Menu for a Student

Aim: To plan a balanced menu for a student using a food pyramid and tips from basic four food groups.

Sample Recipe – Vegetable Pulao

Ingredients	Quantity
Basmati rice	: 2 cups
Ginger garlic paste	: ½ tsp
Carrot	: ½ cup
Beans	: ¼ cup
Green peas	: ¼ cup
Cauliflower	: ¼ cup
Onion	: 2 medium
Bread slices	: To decorate
Ghee	: 2 tbsp
Spices	: ½ tsp
Cashew nuts	: 10g



▲ Plate 2.1 Vegetable Pulao

Method

- Wash rice, drain and sauté it in ghee
- In a pressure cooker, add ghee, spices, sliced onion, ginger garlic paste, cut vegetables, peas and sauté well
- Add rice to the measured quantity of water with salt and cook
- Open the cooker and decorate the pulao with roasted cashew nut and bread pieces.

Table 2.3 Sample Menu

Meals	Food eaten	Foods included	
		Food groups	Ingredients
Early morning	Milk	Cereals	Rice
Morning	Ghee dosai, Coconut chutney Drumstick sambar Guava	Pulses	Black gram dhal Bengal gram dhal, Red gram dhal
		Milk/Meat	Milk
		Vegetables/ Fruits	Drumstick, Greens Guava, Lime
		Fats/oil/Sugar	Sugar, ghee
Midmorning	Greens vadai Lime Juice	Fats/oil/Sugar	Sugar, ghee
Lunch	Green soup Vegetable pulao Egg curry Onion raita Fruit salad	Cereals	Rice
		Pulses	Peas
		Milk/Meat	Egg
		Vegetables/ Fruits	Carrot, Beans, Green leafy vegetable, Cauliflower, Onion, Papaya, Apple
		Fats/oil/Sugar	Ghee, oil

Table 2.3 continued

Table 2.3 Sample Menu (Continued)			
Meals	Food eaten	Foods included	
		Food groups	Ingredients
Evening	Vegetable samosa	Cereals	Wheat flour, Maida
	Dates milk shake	Pulses	Channa
Dinner	Methi chappathi Channa masala	Milk/Meat	Milk
		Vegetables/ Fruits	Carrot, Beans, Potatoes, Dates, Methi leaves, Banana
Bed time	Milk, Banana	Fats/oil/Sugar	Oil, sugar

Table 2.4 Balanced Menu			
Meals	Food eaten	Foods included	
		Food groups	Ingredients
Early morning		Cereals	
Morning		Pulses	
		Milk/Meat	
Midmorning		Vegetables/Fruits	
		Fats/oil/Sugar	
Lunch		Cereals	
		Pulses	
		Milk/Meat	
		Vegetables/Fruits	
		Fats/oil/Sugar	
Evening		Cereals	
		Pulses	
Dinner		Milk/Meat	
		Vegetables/Fruits	
Bed time		Fats/oil/Sugar	

Results and Discussion:

2.3 Identification of Medicinal Herbs and Formulation of a Recipe

Aim: To gain knowledge about the common Indian herbs and gain the skill of creating recipes using herbs.

Equipment needed: Sauce pan, frying pan, spatula, spoon, cups.

An herb is a plant or plant part used for its scent, flavor or therapeutic properties. Herbal medicines are one type of dietary supplement. Following list gives therapeutic uses of herbs.

Table 2.5 Medicinal Herbs and its Uses





Herbs	Therapeutic Uses
 <p>▲ Plate 2.2 Curry Leaves</p>	Used for blood circulation, menstrual problems. Relieves kidney pain and treating diabetes.
 <p>▲ Plate 2.3 Coriander leaves</p>	Acts as a tonic for stomach and heart. Used for treating urinary tract infection.
 <p>▲ Plate 2.4 Mint</p>	It contains antioxidant and anti-inflammatory agent called rosmarinic acid to treat allergies. It is natural anti- microbial agent and breath freshener
 <p>▲ Plate 2.5 Aloe vera</p>	It soothes rashes and skin irritation, treats burns. It moisturizes hair and scalp. It treats constipation, helps in digestion. It boosts immune system, provides antioxidants and reduces inflammation

Table 2.5 continued

Table 2.5 Medicinal Herbs and its Uses

Herbs



▲ Plate 2.6 Tulsi



▲ Plate 2.7 Mudakathan Keerai



▲ Plate 2.8 Karpooravalli



▲ Plate 2.9 Fenugreek



▲ Plate 2.10 Lemon Grass



▲ Plate 2.11 Keezha Nelli

Therapeutic Uses

It is well known immunity booster
 It tolerates stress.
 It relieves mouth ulcers.
 It treats skin disorders.
 It promotes hunger and treats bronchitis.

Used to treat joint pain, arthritis.
 Treats itchy scalp and dandruff
 Treats eczema.
 Treats menstrual cramps.

It helps to alleviate cold, cough and reduce
 sore throat
 It treats asthma and bronchitis
 It aids in digestion

It acts as a bulk laxative
 It is used for allergies, coughs, flatulence
 It helps to cure ulcers in stomach
 It helps in regulating diabetes.

It is used to treat digestive tract spasms and
 stomach ache.
 Used to control high blood pressure.
 It helps to treat rheumatism.

It treats Jaundice.
 It controls blood sugar levels and
 It treats kidney stones.

Sample Menu - Vendhaya Keerai Soup

Ingredients

Quantity

Fresh fenugreek leaves	: 1 cup
Onion (finely chopped)	: ½ cup
Ripe tomato (finely chopped)	: 1 large
Garlic (minced)	: 3-4 pods
Diluted dhal water	: 2 cups
Salt	: To taste
Pepper powder	: To taste
Sesame seed oil	: 2 tsp

Method

- Clean, wash and chop methi leaves. Chop onion, garlic and tomatoes finely.
- Heat oil in a pan; add onion, garlic and sauté until onions turn transparent.



▲ Plate 2.12 Vendhaya Keerai Soup

- Add tomatoes and cook for few minutes.
- Add chopped methi leaves (vendhaya keerai) and sauté until the greens cook.
- Add 2 cups of diluted dhal water, salt to taste and simmer for 15 minutes.
- Add pepper powder to taste and serve piping hot.

Results and Discussion:

2.4 Different Types of Cutting

Aim: To learn the different techniques of cutting vegetables and gain the skill of preparing recipes using different types of cutting.

Importance of cutting

Cutting vegetables into uniform shapes and sizes is important for two reasons:

1. It ensures even cooking.
2. It enhances the appearance of the product

Common vegetable cuts

- **Brunoise (broon-wahz):** Fine dices (3mm × 3mm × 3mm)
- **Dicing:**
 - Small dice:** (6mm × 6mm × 6mm)
 - Medium dice:** (12mm × 12mm × 12mm)
 - Large dice:** (2cm × 2 cm × 2cm)
- **Julienne (or allumette):** (3mm × 3mm × 6cm)
- **Batonnet:** Means ‘little sticks’ (6mm × 6mm × 6-7.5cm)
- **French fries or pommefrite:** 8-12mm sq. × 7.5 cm long.
- **Chop:** to cut into irregular shaped pieces.
- **Concasser (con-cass-say):** to cut coarsely.
- **Mince:** to chop into very fine pieces.
- **Shred:** to cut into thin strips, either with the coarse blade of a grater or with a knife.

Sample menu - Vegetable soup (Dicing)

Ingredients	Quantity
Onion (Diced)	: 1 cup
Cauliflower	: ½ cup
Carrot (Diced)	: ¼ cup
Beans	: 1 cup
Cabbage (Chopped)	: ¼ cup
Green peas	: ¼ cup
Butter	: 5 g
Corn flour	: 2 tbp
Milk	: 1 cup
Salt and pepper	: To taste
Sliced roasted bread	: To garnish

Method

- Dice the vegetables except green peas
- Keep aside ½ cup of diced vegetables
- Chop onions finely
- Pressure cook other half onion and 1/2 cup of diced vegetable
- Grind the cooked vegetables
- Strain and separate the stock
- Heat a pan and melt butter



▲ Plate 2.13 Vegetable Soup (Dicing)

- Fry onion and $\frac{1}{4}$ cup of diced vegetables.
- Make a paste of corn flour with milk and add to it.
- Pour the vegetable stock and cook for few minutes.
- Serve hot with salt and pepper.
- Garnish with fried bread cubes.

Results and Discussion:



3.1 Methods of Measuring Ingredients

Aim: To know the different methods of measuring ingredients

Equipment needed: Weighing balance, spoon, knives, plates and measuring cups.

A. Procedure:

I. Methods of measuring ingredients

1) Heaping:

- Fill the measuring cup with dry ingredients.
- Do not tap or shake the cup
- After heaping take the weight of the cup with ingredient.

2) Leveling

- Measure the ingredient as in (a) but the sides are leveled off with the help of the edge of a knife.
- In case of flour, repeat the above method after sifting the flour.

3) Tapping

- Measure the ingredients as in (a)
- But tap the cup after each addition and level with the sharp edge of the knife.



▲ Plate 3.1 Heaping



▲ Plate 3.2 Levelling



II. Methods of measuring fat

1) Loose packing

- Press the fat into a measuring cup till it is up to mark.
- Take the weight
- Repeat for three times and calculate the mean value.



▲ Plate 3.3 Firm Packing

2) Firm packing

- Pack the fat firmly into the measuring cup and level with the sharp edge of the knife.
- Take the weight
- Repeat for three times and calculate the mean value.

III. To measure powder food in small quantities

- Sift the powder and fill into a cup using a dry spoon and level with the sharp edge of the knife.
- Repeat the process for three times
- Calculate the mean weight

B. Give the equivalence of the following:

- One cup =
- One teaspoon =
- One tablespoon =

Results and Discussion:

Blank area for writing results and discussion.

3.2 Methods of Cooking

Aim: To formulate and prepare recipes using the following methods of cooking in order to understand the procedure.

Equipment needed: Pressure pan, sauce pan, kadai, spatula, vessels and steamer.

Cooking: Food preparation is an important step in meeting the nutritional needs of the family. The process of subjecting food to the action of heat is termed as cooking. Heat is transferred to the food by conduction, convection, radiation or microwave energy.

Cooking takes place by moist and dry heat methods. Moist heat involves water and steam. Air or fat are used in dry heat methods.

Procedure

A. Steaming – Idli

- Take 1-2 glass of water in the steamer and bring it to boil
- Grease idli moulds and pour batter into it.



▲ Plate 3.4 Steaming

- Place moulds in the steamer
- Cover steamer with a lid
- Steam the idlis for 10 minutes over medium flame.

B. Blanching - Tomatoes

- Boil a pot of water.
- Remove from fire
- Add 4-5 tomatoes to the boiling water
- Allow 2-3 minutes and remove from the boiling water.
- Put the tomatoes in ice water.
- Remove the tomatoes from the ice water and peel skin.



▲ Plate 3.5 Blanching

C. Poaching - Egg

- Boil water in a sauce pan.
- Break an egg in the centre; slide the contents into the boiling water.
- Cook for three minutes and remove from water.

D. Deep fat frying - Poori

- Heat oil in a deep fat frying pan or kadai.



▲ Plate 3.6 Poaching

- When the oil is sufficiently hot immerse rolled poori
- Fry gently pressing down with the perforated spoon in a circular motion.
- Turn over when puffed up and fry till golden brown.



▲ Plate 3.7 Deep Fat Frying

I. Methods of cooking different ingredients

Table 3.1 Methods of Cooking

S.No.	Ingredients	Methods of Cooking
1	Rice	Pressure cooking
2	Green gram dhal	Boiling
3	Vegetables	Steaming
4	Apple	Stewing
5	Tomatoes	Blanching

II. Give recipes using the following cooking methods

1. Steaming : Idiappam and Dhokla
2. Pressure cooking : Plain pulao and vegetable kuruma
3. Frying : Bonda, French fries
4. Roasting : Aval, Popcorn
5. Boiling : Soup, Porridge

III. Using the following ingredients formulate recipe with suitable cooking methods

Table 3.2 Suitable Cooking Method

S.No.	Ingredients	Recipe	Method of Cooking
1	Semolina and vegetable	Kichadi	Boiling
2	Rice and dhal	Pongal	Pressure cooking
3	Ragi flour and jaggery	Porridge	Boiling
4	Wheat flour and greens	Stuffed chappathi	Shallow fat frying
5	Milk and egg	Pudding	Steaming

Results and Discussion:

3.3 Fireless Cooking – Salad Preparation

Aim: To understand the value of fireless cooking and to prepare a recipe without fire.

Equipment needed: Bowl, sauce pan, grater, knives.

Value of fireless cooking:

- There is no overhead cost in this preparation
- It saves fuel
- No inconvenience in the kitchen
- Nutrients are best conserved
- Less time spent in the kitchen.

Recipe formulation: Mixed vegetable and fruit salad

Ingredients	Quantity
Carrots (Peeled and grated)	: 1 cup
Cucumber (Peeled and grated)	: 1 cup
Pineapple (Cut into cubes)	: 1 cup
Pomegranate (Peeled)	: 1 cup
Almonds (Chopped)	: ¼ cup
Salt and Pepper	: to taste



▲ Plate 3.8 Salad

Method:

- Mix all grated vegetables and fruits in a bowl together.
- Add salt and pepper and stir it well
- Finally add chopped almonds and serve.

Results and Discussion:

3.4 Stages of Sugar Cookery

Aim: To study the different stages of sugar cookery.

Equipment needed: Sauce pan, spatula, vessels, bowl, slotted spoon.

Procedure

- Dissolve 200g of sugar in a cup of water
- Boil the solution; note the rise in the temperature with constant boiling.
- Find out the corresponding temperature at different stages using cold water test.

Example for Soft ball stage

Coconut Burfi

Ingredients	Quantity
Grated coconut	: 2 cups
Sugar	: 1½ cup
Ghee	: 2 tsp
Cardamom powder	: ¼ tsp
Water	: ¼ cup
Chopped cashews	: As required



▲ Plate 3.9 Coconut Burfi

Table 3.2 Stages of Sugar Cookery

Product	Temperature (0F)	Doneness	Description of test
Syrup (jelabi)	110–112	Thread	Syrup spins to a 2 inch thread between thumb and index finger
Burfi, fondant, fudge	112–115	Soft ball	Syrup when dropped into cold water forms ball that flattens on removal from water.
Boondi, Laddoo	118–120	Firm ball	Syrup when dropped into cold water, forms a ball that does not flatten on removal from water
Divinty marshmallows	121–130	Hard ball	Syrup when dropped into cold water forms a ball that is hard enough to hold its shape.
Butter scotch coffee	132–143	Soft crack	Syrup when dropped into cold water forms thread that are hard but not brittle
Brittle glaze	149–154	Hard crack	Syrup when dropped into cold water forms threads that are hard and brittle.
Barley sugar	160	Clear liquid	Sugar liquefies
Caramel (Peanut brittle)	170	Brown liquid	Liquid becomes brown

Method:

1. Roast grated coconut with ghee and keep it aside.
2. Mix water, sugar and bring it to boil till it gets a soft ball consistency.
3. Add roasted coconut gradually and stir it constantly.
4. Apply little ghee on a tray and transfer the mixture on to it.
5. Cut into pieces after cooling.

Results and Discussion:



Chapter

4

Food Service Equipment

4.1 Market Survey of Equipment

Aim: To know about the equipment available in the market.

Tools used: Questionnaire



Model Questionnaire

1. Name of the Equipment
2. Brand of the Equipment
3. Market of the Equipment
4. Type of the Equipment
 - * Large * Medium * Small
5. Kind of Equipment
 - * Food production * Service * Office * Measuring/weighing
6. Material of the equipment
7. Cost of the Equipment (range).
 - 1 2 3
8. Suitability of the equipment to the operation
 - 1 Large business 2 Medium business 3 Small business
9. Space required for the equipment.
10. Ease of dismantling parts
11. Ease of maintenance and cleaning.
12. Electricity requirements of the equipment.
13. Availability of service after sale.

- 14. Warranty period
- 15. Availability of spare parts/Extra attachments.
- 16. Capacity of the equipment (output)
- 17. Is the equipment suitable for the output in terms of desirable size or shape?

Results and Discussion:

4.2 Visit to a Food Outlet and Report

Aim: To visit and find the various equipment which are used in the food outlet.

Tools: Model Questionnaire

Note: Students can use the questionnaire to find out the information about the equipment used in the food outlet.

Model Questionnaire

1. Name/Brand of the equipment :
2. Model No. :
3. Make of the equipment :
4. Cost of the equipment :
5. Capacity of the equipment :
6. Electrical requirements for the equipment :
7. Accessories with the equipment :
8. Durability of the equipment :
9. After sales service of the equipment by the suppliers :
10. Warranty period for replacement of major/minor parts :
11. Availability of instruction manual :

Results and Discussion:

Chapter 5 Bakery

5.1 Preparation of Yeast Solution

Aim: To obtain the skill of preparing yeast solution.

Equipment needed: A bowl, thermometer, spoon and a stove.

Preparation of Yeast Solution

Yeast is the essential ingredient in bread baking. Since yeast is a living organism, having fresh yeast and using it properly will help in successful baking.

Important tips

- Always use dry yeast at room temperature.
- Using a thermometer is the most accurate way to determine the correct liquid temperature. Any thermometer will work as long as it measures temperatures between 75°F and 130°F.
- Yeast can be **dissolved in water** before mixing with the rest of the dry ingredients.
- Rehydrating dry yeast before using gives it a “good start” – the yeast feeds on the sugar allowing it to become very active and ready to work in dough.
- Water is recommended for dissolving yeast.
- Dissolve 1 tsp. sugar in 1/2 cup water (110°F–115°F).

- Stir in the yeast until completely dissolved.
- Let the mixture stand until yeast begins to foam vigorously (5 – 10 minutes).
- Now yeast solution is ready for preparing dish.

Recipes using yeast solution

Doughnut

Ingredients Quantity

For yeast solution:

Yeast	: 1 tsp
Water	: 30 ml
Sugar	: 10 g



For the dough:

Maida	: 200 g
Baking powder	: 3 g
Milk powder	: 10 g
Egg	: 1
Water	: 70 ml
Sugar	: 20 g
Fat	: 30 g
Salt	: 3 g
Vanilla essence	: 5 drops
Lemon essence	: 2 drops



▲ Plate 5.1 Doughnut

Method

- Prepare yeast solution.
- Sift maida and baking powder twice.
- Mix together sugar, salt, fat, egg, essence and 350 ml of water.
- Add yeast solution, maida and the mixture of other ingredients and make dough.
- Ferment it for 1½ hours.
- Knock back the dough mixture and proof for 55 minutes.
- Roll the dough like doughnuts and deep fat fry till golden brown.
- Cover the doughnut with powdered sugar or warm fondant icing when the doughnut is warm.

Pizza

Ingredients

Maida/Wheat flour	:	250 g
Water	:	70 ml
Yeast	:	1 tsp
Salt	:	to taste
Milk	:	50 ml



▲ Plate 5.2 Pizza

Egg	:	1
Vegetable oil	:	20 ml
Sugar	:	10 g

Vegetable Filling

Mushroom, capsicum, onion, tomato sauce, grated cheese and chopped garlic to taste.

Method

- Disintegrate yeast in milk.
- Sift maida twice.
- Mix oil and maida/wheat flour till crumb consistency.
- Add eggs, salt and sugar with the yeast solution.
- Mix gently to form dough.
- Rest for 15 minutes.
- Roll the dough to ½ inch thickness and place on a baking sheet.
- Proof for ¾ hour.
- Smear the sides with oil or milk or beaten eggs to get an enhanced finished product.
- Spread tomato sauce, spread filling and top with grated cheese.
- Bake at 450° F for 20-25 minutes.



Results and Discussion:



5.2 Preparation of Biscuits and Cookies

Aim: To obtain the skill of baking biscuits to start a bakery unit.

Equipment needed: Baking oven, mixing bowls, ladles, rolling pin and board, biscuit cutters.

Procedure

Biscuits: A small baked unleavened biscuit, typically crisp, flat and sweet.

Biscuits are classified according to the method of making like rubbed-in, creamed and so on.

Rubbed – in Biscuits: It is prepared by rubbing – in of the fat into the flour. This is done by placing the flour in a large mixing bowl, and then adding butter which has been cut into pieces then rubbing both the ingredients together between fingertips until the mixture resembles breadcrumbs.

Creamed Biscuits: Fat and sugar should be creamed like it is done for cakes. This is done by placing softened butter in a large mixing bowl, then adding the sugar, and beating the ingredients together with a wooden spoon or electric whisk, until the mixture is well blended, light and fluffy.

Depending on the type of biscuit being made, wet ingredients such as eggs or milk are stirred in before the flour or other dry ingredients are added. These dough are often very soft, so small spoonful are dropped onto baking sheets.

Whisked Biscuits: The name refers to the way in which the egg content is treated.

Egg whites are whisked until firm

Egg yolks/whole eggs are whisked together with the sugar until thickened and lightened.

These types of biscuits range from straight-forward whisked egg whites with added sugar in the form of light as air meringues to more substantial biscuits such as coconut macaroons.

Melted Biscuits: The recipes which include liquid sweeteners use honey, golden (corn) syrup or molasses. The biscuit is prepared after melting all sweeteners (including sugar) with fat and stirred until mixed well. The other ingredients are added to the melted ingredients and mixed in the saucepan. The mixture can be soft enough to easily drop from a spoon.

Varagu Biscuits

Ingredients	Quantity
Varagu flour	: 100 g
Wheat flour	: 100 g
Sugar (powder)	: 100 g
Cold butter	: 100 g
Baking powder	: 1 tsp
Vanilla essence	: 1/2 tsp
Milk	: 2 tsp

Method

- Roast varagu flour on a low flame until a nice aroma of roasted varagu is got. Allow it to cool.



▲ Plate 5.3 Varagu Biscuit

- Sieve together varagu flour, wheat flour and baking powder.
- Cut butter into pieces and add to the sieved flour.
- Rub-in until the mixture is crumbled.
- Add powdered sugar and mix well.
- Add little milk at a time and make smooth dough.
- Refrigerate the dough for 15-20 minutes.
- Dust wheat flour and roll the dough.
- Use biscuit cutters and cut into desired shapes.
- Place on a greased tray and bake at 180°C for 15-20 minutes. Remove and cool the biscuits.

Short Bread Fingers

Ingredients Quantity

Maida	:	120 g
Sugar	:	60 g
Butter	:	80 g
Vanilla essence	:	a few drops
Egg	:	for coating
Salt	:	a pinch

Method

- Sieve maida twice and add sugar.
- Rub- in butter with finger tips.
- Knead till smooth dough is got.



▲ Plate 5.4 Short Bread Fingers

- Roll and cut into fingers of 3/4th inch thick.
- Brush the top of each biscuit with egg.
- Bake at 300° F for 15 minutes.

Cookies

Aim: To obtain the skill of preparing cookies to start a bakery.

Equipment needed Mixing bowl, spoon, mixie, oven, egg beater

Procedure

Cookies are baked or cooked goods that are small, flat and sweet. They usually contain flour, sugar and some type of oil or fat. It may include other ingredients such as raisins, oats, chocolate chips and nuts.

Drop cookies are made from relatively soft dough that is dropped by spoonful onto the baking sheet. During baking, the mounds of dough spread and flatten. Chocolate chip cookies, oatmeal cookies and rock cakes are popular examples of drop cookies.

Stiff batter cookies are prepared from a stiff dough. It is made stiffer by refrigerating it

before cutting and baking. Then they are rolled into cylinders which are sliced into round cookies before slicing them into cookies. Pinwheel cookies are the best example for this.

Meringue cookies are light, airy, sweet, and crisp because whipped egg whites and sugar is the base of them. With no flour they are a perfect sweet treat for those eating gluten-free.

Sponge cookies are light and airy like the meringue cookies but whole egg is used instead of only egg whites.

Raisin cookies

Ingredients	Quantity
Wheat flour	: 100 g
Varagu flour	: 50 g
Butter	: 150 g
Sugar	: 100 g
Raisins	: 50 g
Egg	: 40 g
Baking powder	: a pinch
Vanilla powder	: 2 drops



▲ Plate 5.5 Raisin Cookies

Method

- Preheat oven to 190°C.
- In a separate bowl, whisk together both the flours, baking powder and egg.
- Beat butter until smooth and creamy in a bowl.
- Add the flour mixture to the batter and mix thoroughly. Add enough milk to make a soft batter. Then add the raisins and beat until combined.
- For each cookie, drop about one tablespoon of batter onto the prepared baking sheet, spacing the cookies about 2 inches apart. Bake the cookies for about 15 to 20 minutes.
- Remove from oven and transfer the cookies onto a wire rack to cool.

Coconut cookies

Ingredients	Quantity
Maida	: 100g
Fat	: 50g
Sugar	: 50g
Desiccated coconut	: 30g
Granulated sugar	: 15g
Baking powder	: 1g



▲ Plate 5.6 Coconut Cookies

Method

- Sift the flour twice with baking powder.
- Mix all the ingredients to form homogenous dough.
- Break the dough into small pieces.
- Roll the dough and place over the baking sheet 1 inch apart.
- Bake at 250°F for 15-20 minutes.

Results and Discussion:



5.3 Visit to a Bakery Unit or Shop

Aim: To assess and record the functioning of a bakery unit.

- Visit a nearby bakery unit or shop
- Collect the information
- Interpret and make a report

Results and Discussion:

Format

1. Name of the bakery unit or shop :
2. Location :
3. Number of workers :
4. Equipment available (List) :
 - Production :
 - Storage :
 - Packing :
5. Cleanliness :
 - Uniform and head gear :
 - Hygienic handling :
 - a. Raw ingredients :
 - b. Baked product :
 - Counter tops :
 - Ovens and moulds :
 - Display racks :
6. Working area : Available/Not available
 - Cake making :
 - Bread making :
 - Biscuits making :
 - Cookies making :
 - Pastries making :

7. Items prepared for sale

S.No.	Name of the items	Cost/Item	Total production/day
1			
2			
3			
4			

8. Service :
- Self- service :
- Table service :
- Take away :
9. Utilization of waste :
10. Method of disposing waste :

(Interpret the observations and report)



6.1 Drying

Aim: To formulate recipes for the preparation of Onion vadagam and Sago vadagam.

Equipment needed: Drying trays, knives, table spoons, plastic sheets, vessels, chopping board, packaging machine and air-tight containers.

Importance of sun drying

Fresh vegetables, fish and meat are dried by sunlight to decrease the moisture level, to inhibit the growth of microorganism and to control enzyme activity. Selection of vegetables, washing, peeling, cutting and blanching are the essential steps in drying process.

Recipe Formulation – Onion Vadagam

Ingredients	Quantity
Small onions	: 500g
Green chillies	: 50g
Cumin seeds	: 15g
Black gram dhal	: 100g
Mustard	: 5g
Asafoetida	: 5g
Garlic	: 10g
Curry leaves	: 10g
Salt	: To taste

Method

- Remove the skin of the onions and chop or crush the onions.
- Soak black gram dhal in water till it becomes soft
- Grind black gram dhal, green chillies,



▲ Plate 6.1 Onion Vadagam

- garlic, cumin seeds and curry leaves
- Roast the mustard with little oil and add it to the ground dhal paste
- Add crushed onions, asafoetida and little salt
- Mix all the ingredients together into a thick consistency
- Take small balls and place over plastic sheet and allow it to dry in hot sun
- When it is fully dried, remove from the sheet and store it in an airtight container.

Recipe Formulation: Sago Vadagam

Ingredients	Quantity
Sago	: 500g
Water for cooking	: 2 litres
Green chillies	: 10 nos
Salt	: As needed

Method

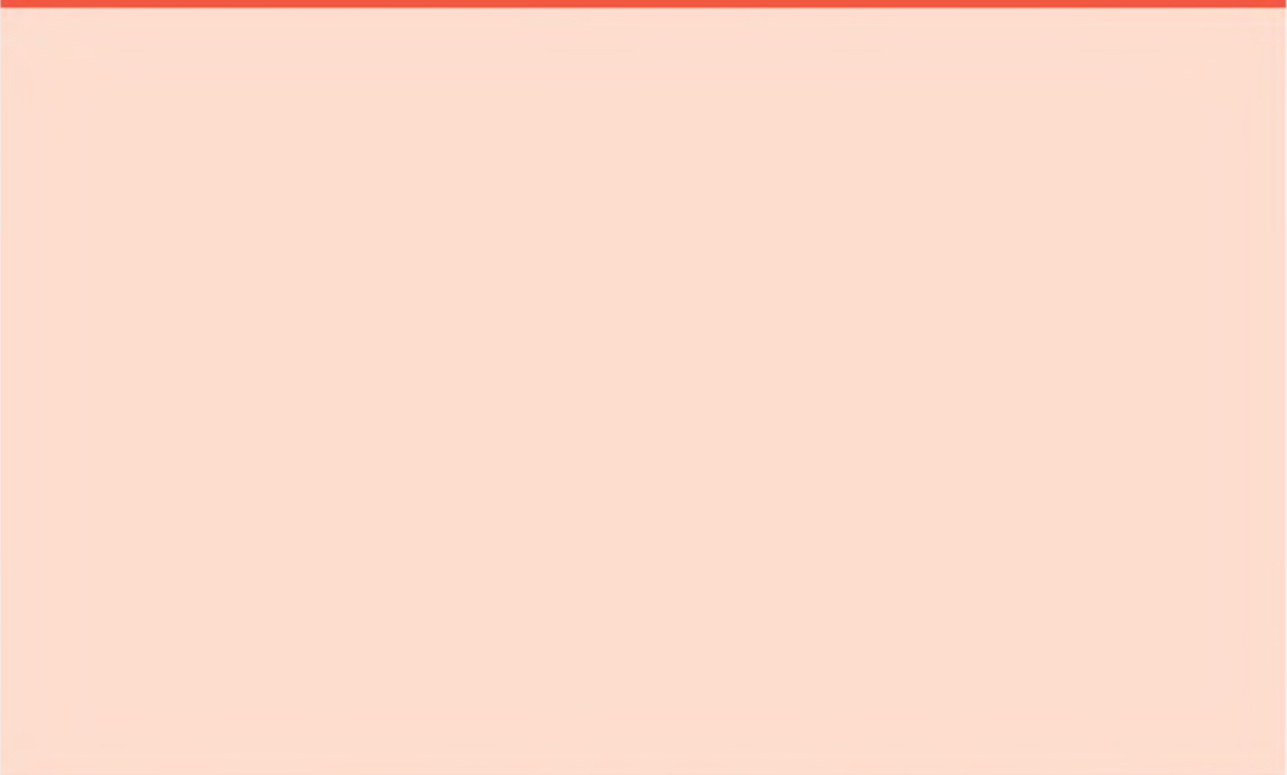
- Soak the sago for 1½ hours in water till it absorbs all the water. Add this to the hot water by adding salt and mashed green chillies paste.

- Boil the above mixture till it is a transparent liquid.
- Dry in sunlight by spreading with the table spoon to a round shape.
- Dry it till the moisture gets evaporated.
- Store it in an airtight container.



▲ Plate 6.2 Sago Vadagam

Results and Discussion:



6.2 Dry Powder

Aim: To formulate recipes for dry powder (Preparation of Kadamba powder and curry leaves powder and Nutri mix powder)

Equipment needed: Frying pan, mixie, teaspoons, polythene covers, air tight containers, packaging machine.

Importance of dry powders: Dried foods are preserved due to its low moisture content. It can be easily transported. Indian foods such as curry powders, vathal and vadagam are sun dried.

Recipe Formulation:

1. Kadhamba Podi

Ingredients	Quantity
Red gram dhal	: ½ cup
Bengal gram dhal	: ½ cup
Black gram dhal	: ½ cup
Green gram dhal	: ½ cup
Red chilli	: 10
Asafoetida	: ½ tsp
Curry leaves	: Little
Oil	: 2 tsp
Salt	: To taste



▲ Plate 6.3 Kadhamba Podi

Method

- Heat the pan and pour oil and fry red gram dhal, bengal gram dhal, black gram dhal and green gram dhal.
- Add red chilli, curry leaves, asafoetida powder and heat gently.
- Allow it to cool for some time and then grind it in a mixie coarsely.
- Either can be eaten with idli or mixed with rice.
- The powder can be stored for a month in an airtight container.

2. Curry Leaves Powder

Ingredients	Quantity
Curry leaves	: 1 cup
Black gram dhal	: ¾ cup
Bengal gram dhal	: ¼ cup
Red chilli	: 10
Garlic	: 10 pods
Oil/Ghee	: 2 tsp
Asafoetida	: ½ tsp
Salt	: To taste



▲ Plate 6.4 Curry Leaves Powder

Method

- Take curry leaves and dry it under shade.
- Heat the pan, add oil and fry Bengal gram dhal, black gram dhal and red chillies.
- Add curry leaves and garlic then fry the same by adding salt.
- Cool it and then grind it coarsely.
- The powder can be stored for a week in an airtight container.

3. Nutri Mix Powder (Sathu Mavu)

Ingredients	Quantity
Cereals	: 3 parts
Pulses	: 2 parts
Oil seeds	: 1 parts
Palatability component	: 2 parts

Method

- Clean and dry roast the ingredients separately.
- Cool and grind it in a mixie.
- Store in an airtight container for a month.



▲ Plate 6.5 Kanji Mavu

- Make it into a porridge/laddu with jaggery and serve
 - Any cereal or combination of cereals such as wheat/ragi/bajra/jowar can be taken.
 - Similarly any pulse/combination of pulses such as green gram/roasted Bengal gram dhal can be included.
 - Oil seeds such as peanuts/gingelly seeds/cashew nuts/almonds can be used.
 - As a palatability component jaggery, cardamom and flavouring agents can be incorporated.
 - Instead of sweet taste, salt can be added to porridge.

General instruction:

- Weigh the formulated product in terms of 50g, 100g and 250g
- Pack it in a polyethylene cover using a sealing machine or use ziplock cover.
- Label, calculate the total cost and determine the selling price.
- Advertise using proper audio visual aids.
- Sell the products within the campus and record the profit.



▲ Plate 6.6 Weighing of ingredients



▲ Plate 6.7 Packaging Machine



▲ Plate 6.8 Sealing of nuts using packaging machine



▲ Plate 6.9 Pickle stored in an air-tight container

Results and Discussion:

6.3 Preparation of Tomato and Lime Pickles

Aim: To formulate recipes for the preparation of tomato and lime pickles.

Equipment needed: Sauce pan, jars, weighing scale, measuring cups, vessels, spoons and ladles.

Importance: The process of preservation of food in common salt or in vinegar is called pickling. Spices and edible oil are added to make the product. Pickles are good appetizers and add to the palatability of the meal. Pickles aid digestion by stimulating the flow of gastric juice. Different kinds of pickles are made in several Indian homes. Some of the Indian pickles are mango, lime, tomato, onion, mixed vegetables such as potato, turnip, drumstick, beans and cauliflower.

Recipe formulation:

1. Tomato Pickle

Ingredients	Quantity
Tomato	: 500g
Garlic	: 50g
Red chillies	: 20g
Mustard	: 10g
Asafoetida powder	: 10g
Fenugreek	: 10g
Cumin seeds	: 10g
Turmeric powder	: Little
Tamarind	: 50g
Gingelly oil	: 250ml
Salt	: Required amount



▲ Plate 6.10 Tomato Pickle

Method

- Wash tomatoes and blanch in water. Cool and grind into a smooth paste in a mixie.
- Dry roast chillies, asafoetida, cumin seeds, fenugreek seeds and $\frac{3}{4}$ th quantity of mustard and powder them.
- Soak tamarind in little quantity of water and take the clean pulp.
- Keep frying pan over the fire, add the gingelly oil and the remaining portion of mustard seeds. When it starts sputtering, add the clean garlic and fry.
- Add the tamarind pulp, chilli powder, turmeric powder, powdered spices and salt one by one and mix well.
- Remove from fire cool and store in sterilized bottles.

2. Lime Pickle

Ingredients	Quantity
Lime	: 500g
Red chillies	: 100g
Mustard	: 1 tsp
Fenugreek	: 1 tsp

- Asafoetida : ½ tsp
- Gingelly oil : 250ml
- Salt : To taste



▲ Plate 6.11 Lime Pickle

- Heat the oil and add little mustard seeds till it sputter.
- Add the seasoned oil on the salted and sun dried lime.
- Keep in sunlight for few more days till ready for consumption.
- Store it in sterilized air tight container.

Results and Discussion:

Method

- Wash lemon and dry with a clean towel.
- Cut into pieces on a clean board to a desired size.
- Add salt and leave it in the sun light in a porcelain pot tied with the muslin cloth.
- Grind dry roasted red chillies, fenugreek seeds, mustard seeds into a coarse powder.
- Add this powder to the salted and sun-dried lime.

Student Performance Evaluation

Name of product	Sensory quality of the product	Techniques of packaging and Labelling	Selling price	Sales promotion technique	Profit

7.1 Preparation of a North Indian Cuisine

Aim: To know about the preparation of a recipe from North Indian cuisine.

Equipment needed: Pressure pan, kadai, spoons, cups, mixer/blender.

Unique Features of North Indian Cuisine

- Foods of North Indian cuisine are wholesome and very rich in nutrients and tasty.
- Milk and milk products like paneer, curd, cream are used abundantly.
- Spices, masala powders and curry powders are used.
- Channa masala or chole masala is a classic Indian vegetarian dish prepared with Kabul channa.

Channa Masala

Ingredients	Quantity
Channa/kondaikadalai	: 1 cup
Onion	: 2 medium
Tomato (Big ones)	: 2 large
Green chilli	: 1
Ginger	: 1 inch piece
Garlic	: 3 pods
Salt	: as required

Spice powder

Turmeric powder	:	¼ tsp
Chilli powder	:	1 tsp
Coriander powder	:	2 tsp
Channa masala powder	:	2 tsp



▲ Plate 7.1 Channa Masala

For the seasoning

Oil	:	2 tsp
Cumin seeds	:	1 tsp
Bay leaf	:	1



Method

- Soak channa overnight and pressure cook channa with a little salt for 4-5 whistles and cooked channa should be soft.

- Grind ginger, garlic, green chilli and onion to a fine paste. Keep it aside.
- Puree tomatoes in a blender and keep it aside.
- Heat oil in a pan, add cumin seeds and bay leaf.
- Add the ground onion paste and the spice powder and saute till it turns to golden brown, stirring continuously.

- Add the cooked channa with 4 cups of water and until everything gets blended with the masala.
- Garnish with coriander leaves and serve hot with poori or chappathi.

Instruction

The above recipe can be prepared and sold by the students in the school campus.

Results and Discussion:



7.2 Preparation of South Indian Cuisines

Aim: To know about the preparations of South Indian cuisines.

Equipment needed: Pressure cooker, vessels, cups, kadai, spoons, knives and mixer.

1. Preparation – Tamil Nadu cuisine

Vegetable Uthappam:

- Dosa is a South Indian cuisine; it is rich in carbohydrates and proteins.
- It is usually prepared for breakfast or dinner
- Uthappam is a variety of dosa, which is slightly thicker than dosa. It can be called as Indian pizza.
- Uthappam can be served plain or with toppings of our choice. There are varieties like vegetable, onion, tomato.

Ingredients	Quantity
Dosa batter	: 3 cups
Onions (medium)	: 1 (chopped)
Tomatoes (medium)	: 1 (chopped)
Carrot	: 3 tbsp (grated)
Capsicum (Optional)	: 2 tbsp (chopped)
Green chillies	: 3
Coriander leaves	: a little
Oil	: as needed

Preparation of Dosa batter

Parboiled idli rice	: 3 cups
Black gram dhal	: 1 cup



▲ Plate 7.2 Vegetable Uthappam

Fenugreek seeds	: ¾ tsp
Salt	: As needed

Method:

- Wash and soak both rice and dhal for 5-6 hours separately. Soak fenugreek seeds along with dhal.
- Drain the water and grind dhal and rice separately.
- Add salt in the ground batter and mix it well.
- Allow it to ferment for 7-8 hours.

Method (Uthappam)

- Grease the tawa with a little oil.
- Pour the dosa batter and spread it to a circle.
- Drizzle a teaspoon of oil around the uthappam.
- Sprinkle the finely chopped vegetables evenly on the top and drizzle a little oil around the uthappam.
- After the base is cooked, flip it over to the other side.
- Serve it with chutney or sambar.

Note: Add any toppings like grated paneer, grated beetroot, finely chopped mint leaves and make varieties.

2. Preparation of Kerala Cuisine

Ada Pradhaman: Ada pradhaman is traditionally prepared using rice ada, coconut milk and jaggery. Palada Pradhaman is prepared with milk, rice flakes and sugar. It is a main dish during Onam celebration in Kerala.

Ingredients	Quantity
Rice ada (Readymade)	: ½ cup
Milk	: 3 cups
Sugar	: ½ cup
Cardamom (powdered)	: ¼ tsp
Cashew nuts	: 10 gms
Raisins	: 10 gms
Butter/Ghee	: ½ tsp



▲ Plate 7.3 Rice Flakes (Ada)



▲ Plate 7.4 Ada Pradhaman

Method

- Soak ada in boiling water for 30 minutes.
- Wash the soaked ada in cold water for 2-3 minutes.
- Drain the water completely.
- Boil 3 cups of milk until it reduces to 2½ cups.
- Add the washed ada and stir in a low flame until it becomes soft.
- Add sugar and cardamom powder. Cook for some more time.
- Heat a teaspoon of ghee or butter fry cashew nuts and raisins separately.
- Add it to the payasam and serve it either hot or chill.

3. Preparation of Karnataka Cuisine

Vangi Bhat: Vangi Bhat is a Karnataka style recipe prepared with brinjal, takes less than 30 minutes with commonly available ingredients.

Ingredients	Quantity
Rice	: 1 cup
Brinjal	: ¼ kg
Onion (large)	: 1
Turmeric powder	: ¼ tsp
Masala powder	: 2 tsp
Jaggery	: 1 tsp (powdered)
Tamarind	: a small ball size
Salt	: As required
Oil	: As required
Mustard seeds	: 1 tsp
Black gram dhal	: 1 tsp
Bengal gram dhal	: 2 tsp

Asafoetida	:	a pinch
Curry leaves	:	5-6 leaves
Roasted peanuts	:	10 (as you like)
Coriander leaves	:	2 tbsp
Fresh lemon juice	:	1 tbsp



▲ Plate 7.5 Vangi Bhath

Vangi Bhath Masala Powder Preparation

Bengal gram	:	¼ cup
Black gram dhal	:	5 tsp
Coriander seeds	:	¼ cup
Dry red chillies	:	10
Pepper corns	:	¼ tsp
Desiccated coconut powder	:	¼ cup
Khuskhus	:	1 tsp
Cinnamon	:	1 piece
Cardamom	:	1
Cloves	:	4

Method

- Dry roast khuskhus in a pan and keep it aside.
- Dry roast the other ingredients (except coconut) on medium heat and keep it cool.

- Dry roast coconut powder slightly warm and add into the other ingredients.
- Powder all the ingredients.

Method – Vangi Bhath

- Spread the cooked rice on a plate to cool.
- Soak tamarind in 1/3 cup of water for 20 minutes. Extract thick juice.
- Wash and cut brinjals lengthwise and keep it in water to prevent discoloration.
- Heat oil in a pan; add mustard seeds, black gram dhal, bengal gram dhal, asafoetida, roasted peanuts and sauté.
- Add chopped onions and curry leaves.
- Add the brinjals, turmeric powder and salt.
- Cover and cook on low heat, stirring in between for even cooking
- Once it is cooked add vangi bath powder, jaggery powder and mix well.
- Add tamarind extract and cook.
- Once the brinjals are cooked add cooked rice, lemon juice and mix well.
- Garnish with coriander leaves and serve hot with pappads.

4. Preparation of Andhra Pradesh Cuisine

Pesarattu: Pesarattu is a very popular dish in Andhra Pradesh and it is served with uppuma as a breakfast menu.

Preparation

Ingredients	Quantity
Whole green gram	: 1 cup
Raw rice	: 1 tbsp

Green chillies	:	2-3
Ginger	:	1 piece
Salt	:	To taste
Onion (medium)	:	1 finelychopped
Oil	:	As needed



▲ Plate 7.6 Pesarattu

Method

- Wash and soak whole green gram and rice together for 4-5 hours.
- Grind it with ginger, green chillies and salt coarsely. Let it set for 15 minutes.
- Add finely chopped onions to the batter and mix well.
- Make dosa with oil and serve with coconut or tomato chutney.

Instruction

The above recipes can be prepared and sold by the students in the school campus.

Results and Discussion:

7.3 Preparation of a Traditional Tamilnadu Cuisine

Aim: To know about the preparation of traditional Chettinad cuisine.

Equipment needed: Vessels, kadai, cutter, spoons, cups, mixie/blender.

Unique Features of Chettinad Cuisine

- The traditional Chettinad dishes mostly used locally available spices like the star anise, pepper, kalpasi and marattimokku.
- Chettinad kitchen is one of the largest and most important places in a Karai-kudi house.
- Traditional meals served by Chettinad style on banana leaves follow a specific protocol.

Formulation of Recipe

Chicken Chettinad

Ingredients	Quantity
Chicken	: 500g
Onions	: 150g
Tomatoes	: 100g
Cinnamon	: 2g
Cardamom	: 1
Cloves	: 2g
Cumin seeds	: 5g
Curry leaves	: 2g
Coriander leaves	: 2g
Turmeric powder	: 10g
Salt	: As required



▲ Plate 7.7 Chettinad Chicken

For grinding

Onions	: 100g
Ginger	: 50g
Garlic	: 50g
Fennel seeds	: 50g
Cumin seeds	: 50g
Pepper corns	: 25g
Red chillies	: 10g
Coconut	: 100g

Method

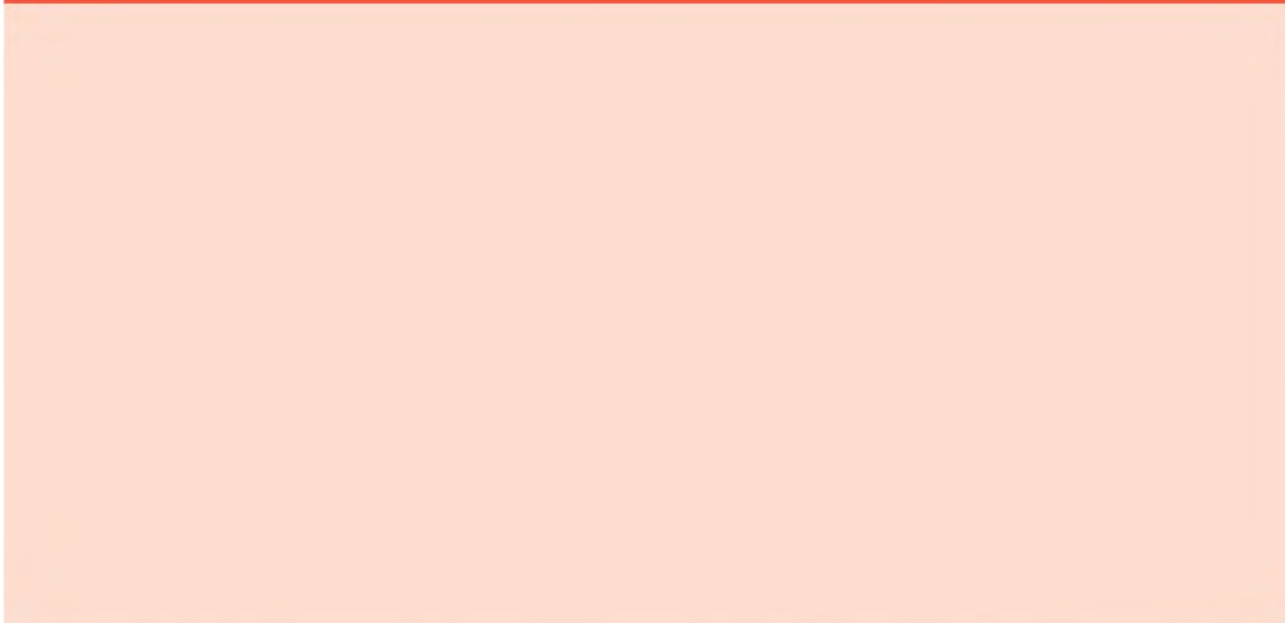
- Grind the ingredients to a paste.
- Clean and cut the chicken into pieces. Marinate the chicken with the paste.
- Chop the tomatoes, coriander leaves and the onions.
- Heat oil and add the cinnamon, cardamom, cloves and cumin seeds.
- Add the chopped onions and the curry leaves.
- Add the tomatoes and sauté for 5 minutes.
- Add the marinated chicken and turmeric powder.

- Sauté for 10 minutes, sprinkling water at intervals
- Add enough salt, cover with a lid and cook until done. Add more chilli or pepper, if required.

Instruction

The above recipe can be prepared and sold by the students in the school campus.

Results and Discussion:









8.1 Role of Microorganisms in Fermentation

Aim: To know the role of microorganisms in common fermented foods

Equipment needed: Stainless steel bowl lid, mixer, ladle, tawa

Fermentation: Fermentation is a metabolic process that consumes sugar in the absence of oxygen. The products are organic acids, gases, or alcohol. It occurs in yeast and bacteria, and also in oxygen-starved muscle cells, as in the case of lactic acid fermentation.

Table 8.1 Fermentation

Food	Fermented products obtained	Name of microbes
Cereals and millets	 <p>▲ Plate 8.1 Malt beverages</p>	Yeast
Pulses	 <p>▲ Plate 8.2 Dhokla</p>	Yeast
Cereals and pulses	 <p>▲ Plate 8.3 Idli and Dosa</p>	Lacto bacteria lactis <i>Streptococcus lactis</i>
Milk	 <p>▲ Plate 8.4 Curd</p>	Lacto bacilli

Recipe formulation - Foxtail Millet Dosa

Ingredients	Quantity
Foxtail millet	: 3 cup
Black gram dhal	: 1 cup
Fenugreek seeds	: 2 tsp
Salt	: as required
Oil	: as needed



▲ Plate 8.5 Foxtail Millet Dosa

Method

- Wash and soak foxtail millet, fenugreek seeds and black gram dhal separately for 5–6 hours.
- Grind separately to a smooth batter.
- Mix the batter with salt.
- Allow it to ferment for 5–6 hours.
- Heat tawa, pour a ladle of dosa batter on the centre and spread it round.
- Drizzle cooking oil and turn it, cook both sides until golden brown.
- Serve with any chutney.

Results and Discussion:

8.2 Tabulating Microorganisms Causing Food Spoilage

Aim: To tabulate microorganisms causing food spoilage in day today life

Table 8.2 Microorganisms Causing Food Spoilage and its Effect on Health

S.No.	Microorganisms	Mode of Transmission	Effect
I	Bacteria		
1.	<i>Clostridium Botulinum</i>	Canned foods such as peas, beans, meat, fish and other sea foods	Nausea, vomiting, diarrhoea, dry skin, even paralysis and death.
2.	<i>Staphylococcus bacteria</i>	Cream, filled baked goods, meat, poultry, gravies, sauces with cream and dairy products	Nausea, vomiting, diarrhoea, abdominal cramps, sweating.
3.	<i>Clostridium Perfringens</i>	Poorly cooked meat, fish, poultry	Nausea, abdominal pain and diarrhoea.
4.	<i>Salmonella bacteria</i>	Meat products, warmed up left overs, salads	Abdominal pain with fever, shivering, head ache
5.	<i>Shigella</i>	Poor hygiene of people handling food	Dysentery.
6.	<i>Streptococcal infection</i>	Contaminated drinking water, spoiled milk and milk products	Diarrhoea and other gastric disturbances.
II	Yeast	Through air causing fermentation in foods	Acidity and gastric disorders.
III	Molds	Through air and settling on moist foods like bread, fruits	Gastro intestinal disturbances.

Results and Discussion:

8.3 Observation of Hygienic Practices in a Hotel/Restaurant

Aim: To observe the hygienic practices in a hotel/ restaurant.

Tools: Questionnaire

Method: Observation and interview method using a questionnaire.

1. Name of the Restaurant :

2. Area : Rural/Urban

3. Hygiene

Kitchen

1. Did the kitchen have all the equipment? List them.
2. Whether the ceiling, walls and floor are clean? Yes/No
3. Was pre-preparation done properly? Yes/No
4. Equipment cleanliness: Good/Poor
5. Is there proper ventilation in the kitchen? Yes/No
6. Are there enough taps with running water? Yes/No
7. Is the kitchen well lighted? Yes/No
8. Did the cooks hygienically handle food? Yes/No
9. What kind of storage facilities do they have?
Dry Cold - Refrigeration Freezing
10. Is the food served immediately after being cooked? Yes/No
11. Hot foods are stored in Bain-marie or hot cases or cabinets Yes/No
12. Are the cooks clean and well groomed? Yes/No
13. Mention the safety techniques followed in the kitchen?
14. Whether the kitchen is spacious? Yes/No
15. How many cooks and helpers are there?

- 16. How many dishes are made in the kitchen?
- 17. How do they dispose waste?
- 18. Do they clean the kitchen after work and before they start work? Yes/No
- 19. What is the time for last order?
- 20. Are the sharp instruments kept safely? Yes/No

Record the Visit with the Questionnaire and Report

Results and Discussion:



Chapter

9

Attitude and Personality Requirements

9.1 Observation of General Etiquettes of Food Service Personnel

Aim: To observe the General Etiquettes of Food Service Personnel.

Tool: Questionnaire

Method: Observation and interview method using a questionnaire.

1. Name of the Restaurant :
2. Area : Rural/Urban

Etiquettes of the Food Service Personnel

- | | | |
|--|---|----------------------------------|
| 1. Receiving guests with a smile | | Yes/No |
| 2. Greeting the guests politely | | Yes/No |
| 3. Providing proper seating facility | | Yes/No |
| 4. Presenting the menu card | : | Yes/No |
| 5. Suggestions while taking orders | : | Yes/No |
| 6. Information about the time of preparation of menu ordered | : | Given/Not given |
| 7. Serving manner | | |
| Preplated | : | Right/Left |
| Individual items | : | Right/Left |
| 8. Whether attentive to guest | : | Very attentive/
Not attentive |
| 9. Fulfilling the personal requirements of the guests | : | Yes/No |



Hygiene

Personal Grooming

- | | | |
|-------------------------------|---|--------|
| 1. Hair neatly cut and combed | : | Yes/No |
| 2. Nails cut short and clean | : | Yes/No |

- | | | |
|---------------------------------------|---|--------|
| 3. Gloves while serving | : | Yes/No |
| 4. Apron and uniform clean and ironed | : | Yes/No |

Attitude

- | | | |
|---|---|--------|
| 1. Always polite | : | Yes/No |
| 2. Always with a smile | : | Yes/No |
| 3. Attentive to guests | : | Yes/No |
| 4. Positive body language and gesture | : | Yes/No |
| 5. Listen to guests complaints carefully and solve them | : | Yes/No |

Record the Visit with the Questionnaire and Report

Results and Discussion:

MODEL QUESTIONS

I. Spotters

(5 x 3 = 15)

- | | | |
|-----------|-----------------|-----------------------------|
| Group I | A. Thulasi | B. Measuring equipment |
| | C. Steaming | D. French Cuisine |
| | | E. Fungus |
| Group II | A. Curry leaves | B. Prepreparation equipment |
| | C. Frying | D. Chinese Cuisine |
| | | E. Yeast |
| Group III | A. Coriander | B. Cooking equipment |
| | C. Blanching | D. Italian Cuisine |
| | | E. Drying |

- | | | |
|----------|---------------------|-------------------------|
| Group IV | A. Mint | B. Serving equipment |
| | C. Pouching | D. North Indian Cuisine |
| | | E. Salting |
| Group V | A. Fenugreek leaves | B. Cleaning tool |
| | C. Toasting | D. South Indian Cuisine |
| | | E. Pickling |

II. Questions

(1 x 60 (20+40) =60)

1. Elaborate on the production equipment and prepare a recipe using only one equipment.
2. Plan a day's menu using four food group and food pyramid. Prepare the item marked.
3. Write a note on any five herbs and prepare a recipe using any one herb.
4. List and describe the types of cutting? Prepare one recipe using any one of the methods of cutting.
5. What are the stages of sugar cookery? Prepare a recipe based on it.
6. Give a short note on cooking without fire. Prepare a recipe related to it.
7. Explain the North Indian cookery. Prepare a recipe on it.
8. Indicate any five significant South Indian dishes. Prepare a recipe based on it and display.
9. What do you mean by cookies and explain. Prepare a recipe.
10. Describe the preparation of yeast solution. Prepare a recipe using yeast.
11. Bring out the importance of pickling and explain the pickling methods . Prepare a recipe.
12. Briefly write on drying foods. Prepare a dry powder.
13. Plan a questionnaire to assess the star category of hotels.

Internal Marks - 25

Record	:	10
Project/Assignment/Case Study	:	5
Attendance	:	5
Test	:	5
Total	:	25

External Marks - 75

Spotters	: 15
Answer for a question	: 20

Practical skill - (40)

Colour	: 5
Taste	: 5
Appearance	: 5
Texture	: 5
Menu card	: 10
Display	: 10
Total	: 75

Guidelines for Project and Case Study

Project

- I. Identification/formulation of topics
- II. Objectives
- III. Collection of Data (Questionnaire/Observation/Interview)
- IV. Interpretation of Data
- V. Findings and Conclusion

Case Study

1. Name of the food service institution :
2. Location :
3. Type of institution : Commercial/Non Commercial:
4. Year of starting :
5. Name of the person in-charge :

I. Organizational set up

1. Number of departments :
2. Organizational chart :
3. Lay out :
4. Equipment :
 - a) Production
 - b) Storage
 - c) Distribution
5. Insurance :

II. Service

1. Types of menu :
2. Types of cuisines :
3. Whether standardized recipes followed : Yes/No
4. Food cost :
5. Types of service :

III. Employees

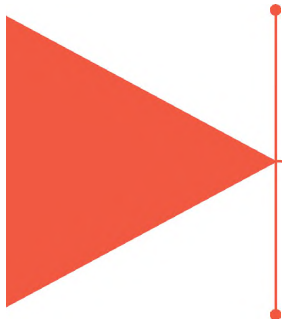
1. Number of employees (Departmental wise) :
2. Employee's benefit :
3. Grooming :

IV. Cleanliness

1. Personal Cleanliness :
2. Environment Cleanliness :

V. Miscellaneous

1. Problems faced by institutions :
2. Customer satisfaction :



Food Service Management Model Question Paper



STD XI

MARKS: 90

TIME: 2.30

I. Choose the correct answer:

(1x15 = 15)

- The three T's due to which hospitality industry emerged was
 - Travel, Tourism, Treatment
 - Travel, Tourism, Trade
 - Travel, technology, Trade
 - Travel, Treatment, Technology
- Storage area is best located near a..... in a food service
 - kitchen
 - food service area
 - Washing area
 - Security area
- Cereals are rich source of
 - Carbohydrates
 - Proteins
 - Vitamins and Minerals
 - Fats
- is the sense of food.
 - Texture
 - Ambience
 - Appearance
 - Taste
- Purchasing through is suitable for large food service operation.
 - Auction
 - Online
 - Formal
 - Direct
- can be poached.
 - Greens
 - Apples
 - Eggs
 - Chicken
- When is stressed the slicer will determine the amount to be sliced.
 - Balance
 - Portion control
 - Variety
 - Appearance
- is used to keep food warm in a buffet.
 - Chafing dish
 - Salad bowl
 - Platter
 - Utensils

9. Browning of baked items is due to
- Coagulation of gluten and eggs
 - Caramelization of sugar
 - Reaction between amino acids and reducing sugars
 - Gelatinization of starch
10. has a retarding effect on yeast fermentation.
- Salt
 - Sugar
 - Water
 - Honey
11. Removal of microorganisms is called
- Filtration
 - Asepsis
 - Dehydration
 - Drying
12. A la carte means
- Thali
 - Entrée
 - Host table
 - Selective menu
13. Mono sodium glutamate is used in cuisine.
- Italian
 - Indian
 - Chinese
 - French
14. When yeast converts sugar into, carbon -di-oxide is formed which helps in the raising of dough in bread.
- Hydrogen sulphide
 - Aldehyde
 - Alcohol
 - Sodium Chloride
15. will bring in more customers and will generate revenue.
- Frown
 - Whistle
 - Smile
 - Punctuality

II. Answer any 10 of the following:

(3x10=30)

Question 16 is compulsory

- Define food service management. What is its main objective?
- Enumerate the principles of food and health.
- Tabulate the food purchase chart.
- What are the risks of fast food consumption?
- How are equipment classified based on the mode of operation?
- Explain tools for blending.
- What is margarine? Why is it used in the baking industry?
- Give an account on post-harvest losses.
- Write a note on foods prepared by fermentation.
- Enlist the types of menu?
- List the courses of menu served in Tamilnadu.
- Give a short account on cheese.
- Enumerate the tips on positive body language.

III. Answer any 5 of the following:

(5x5=25)

Question 29 is compulsory

29. What are the general etiquette in food service operations?
30. How will you handle the knife safely? Why is uniform cutting of vegetables important?
31. Tabulate the ideal ways of storing food.
32. Mention the different types of equipment used in different food service areas.
33. Give an account on leavening agents.
34. Write a note on canning.
35. How will you prepare a menu card?

IV. Answer in detail:

(10x2=20)

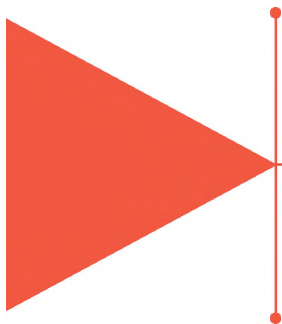
36. How to make food suitable for a customer in food service?
37. Explain the types of International cuisines?

OR

OR

Give a detail account on care, maintenance and sanitation of equipment.

How can you safe guard food? Mention the hygienic practices.



Web-Links



1. FOOD SERVICE OPERATIONS

<https://www.youtube.com/watch?v=7HcaObhA82I> – How to Operate a Successful Restaurant

<https://www.youtube.com/watch?v=QpYX4GfSiH> -A Food Costs Formula: How to Calculate Restaurant Food Cost Percentage

<https://www.youtube.com/watch?v=dCKDAzwqe-M--> Motor hotel- 2 star

2. BASICS OF FOOD

https://www.youtube.com/watch?v=Gmh_xMMJ2Pw -How to Create a Healthy Plate

<https://www.youtube.com/watch?v=G-Fg7l7G1zw-> Basic Knife Skills

3. SELECTION OF FOODS AND METHODS OF COOKING

https://www.youtube.com/watch?v=_QuU6rs-n5Q&t=1s-Cooking Methods

4. FOOD SERVICE EQUIPMENT

<https://www.youtube.com/watch?v=rTbZyZANI80--> Minimum Equipment Requirements for a Restaurant Set Up

5. BAKERY

<https://www.youtube.com/watch?v=AWo9NcOTp0U-> Rubbing method

6. FOOD PRESERVATION

<https://www.youtube.com/watch?v=UWhkFYDB8J4-> Need and Benefits of food Preservation

<https://www.youtube.com/watch?v=RXDSJQWylUE-> NEWS7 TAMIL Mango pulp units in Krishnagiri Tamilnadu

<https://www.youtube.com/watch?v=UxFdzkzAOEo->”chakka varuthathu- YouTube

<https://www.youtube.com/watch?v=z3iQ9fpylXg-> RTS juice processing and packaging line- YouTube

7. MENUS AND CUISINES

<https://www.youtube.com/watch?v=dDJca97viS4>-Types of Menus

<https://www.youtube.com/watch?v=ry1E1uzPSU0>-What Does the World Eat for Breakfast?

8. FOOD MICROBIOLOGY

<https://www.youtube.com/watch?v=BlKP35bct2o> - Microorganism in food

9. ATTITUDE AND PERSONALITY REQUIREMENTS

<https://www.youtube.com/watch?v=Le3dW7iCN90> – Body Language experts.

<https://www.4hoteliers.com/features/article/4580> - Understanding body language – Lesson for hospitality managers

<https://www.youtube.com/watch?v=pwmhl6rzvpm>-Learn how to manage people and be a better leader

<https://www.youtube.com/watch?v=7e-cwdnsiow>-- a.p.j.abdul kalam inspirational lessons for life time- how to manage failure and success

https://www.youtube.com/watch?v=l_-obnk12-4---Talking about your personality- Ambivert/ Extravert / Introvert

<https://www.youtube.com/watch?v=njmfnto3qga> - Top 10 hotel management tips for managers in the hospitality industry

<https://mail.google.com/mail/u/0/#inbox/1617fa60afe4444e?projector=1>-- Element of competency

Glossary



S.NO	WORD	MEANING
1.	Aerobic	ஆக்ஸிஜன் இருக்கும் நிலை
2.	Ambience	ஓரிடத்தின் சூழல் மற்றும் தன்மை
3.	Anaerobic	ஆக்ஸிஜன் இல்லாமல் இருப்பது
4.	Antioxidants	ஆக்ஸிஜனேற்றம் அடையாமல் தடுக்கக்கூடிய பொருட்கள்
5.	Asepsis	நுண்ணுயிரிகள் இல்லாமல் இருப்பது
6.	A'la Carte	பிரென்ச் வார்த்தை - உணவுபட்டியலின் படி
7.	Bactericidal	பேக்டீரியாவை அழிப்பது
8.	Bacteriostatic	பேக்டீரியாவின் வளர்ச்சியைத் தடுப்பது
9.	Bain marie	உணவுவகைகளை சூடாக வைத்திருக்க உதவும் சுடுநீர் பாத்திரம்
10.	Banquet	அதிக நபர்களுக்கான விருந்து
12.	Beverage	நீரைத் தவிர மற்ற பானங்கள்
13.	Blanching	நொதிகளை செயலிழக்கச் செய்யும் ஒரு உணவு தயாரிக்கும் முறை
14.	Blemishes	நிறமாற்றம்
15.	Bruises	சிதைவு
16.	Brunoise	மிகச்சிறியதாக வெட்டுதல்
17.	Canning	நுண்ணுயிரிகளை அழிப்பதற்கான வெப்பநிலையில் உணவு வெப்பப்படுத்தப்பட்டு காற்றுப்புகாவண்ணம் பாட்டில்களில் அடைத்து வைப்பது

S.NO	WORD	MEANING
18.	Chaat	வட இந்தியாவின் சிற்றுண்டி உணவு (எ.கா) பானிபூரி
19.	Chafing dish	உணவு வழங்கும்போது அதனை தூடாக வைத்திருக்க உதவும் பாத்திரம்
20.	Chef	தொழில் ரீதியான சமையல்காரர் / ஒரு உணவகத்தின் தலைமை சமையல்காரர்
21.	Chop	ஒன்றிரண்டாக வெட்டுவது
22.	Concasser	ஒரு குறிப்பிட்ட வடிவம் இல்லாமல் வெட்டுவது
23.	Contamination	தூய்மைக்கேடு
24.	Coquina	லத்தீன் வார்த்தை - சமைப்பதற்காக
25.	Courtesy	மரியாதை / உபசரித்தல்
26.	Cuisine	உணவு வகைகள்
27.	Denature	இயற்கைத் தன்மையில் மாற்றம்
28.	Dhal Makhani	உளுந்து, சிவப்பு பீன்ஸ், வெண்ணெய் மற்றும் கிரீம் சேர்த்து தயாரிக்கப்பட்ட உணவு
29.	Dhokla	அரிசி மற்றும் உடைத்த கொண்டைக் கடலையிலிருந்து தயாரிக்கப்பட்ட உணவு
30.	Dicing	கனசதுரமாக வெட்டுதல்
31.	Dollies	உணவுவகைகளை ஓரிடத்திலிருந்து மற்றொரு இடத்திற்கு எடுத்துச் செல்ல உதவுபவை
32.	Du jour	பிரென்ச் வார்த்தை -(According to the menu) ஒரு உணவகத்தில் அன்றையநாளில் வழங்கப்படும் உணவுவகை
33.	Entrepreneur	தொழில் முனைவோர்
34.	Entrée	பரிமாறும் வரிசையில் பிரதான உணவு
35.	Etiquette	பண்பாடு
36.	Exhausting	வாயுக்களை வெளியேற்றும் செயல்
37.	Fluctuations	தொடர்ச்சியாக அல்லாமல் அடிக்கடி மாற்றம் ஏற்படுதல்

S.NO	WORD	MEANING
38.	Food Corporation of India	இந்திய உணவு கழகம்
39.	Food preservation	உணவு கெடாமல் பாதுகாக்கும் முறை
40.	Hospitality	விருந்தோம்பல் / விருந்தினரின் அடிப்படைத் தேவைகளான உணவு, பானங்கள் வழங்குதல் மற்றும் இருப்பிடம் தொடர்பாக வரவேற்பு அளித்தல்
41.	Hot holding cabinet	உணவினை சூடாக வைத்திருப்பவை
42.	Julienne	சாலட் மற்றும் நூடுல்ஸ் தயாரித்தலின் போது நேர்த்தியாகவும், நீளமாகவும் ஒரே சீராக வெட்டுதல்
43.	Kefir and Liben	புளிக்கவைக்கப்பட்ட ஆட்டுப்பால்
44.	Kulchas	புளிக்கவைத்து ஊறவைக்கப்பட்ட மாவிலிருந்து செய்யப்பட்ட ரொட்டி
45.	Kumiss	புளிக்க வைக்கப்பட்ட குதிரைபால்
46.	Lactometer	பாலின் தரத்தினை அறிய உதவும் கருவி
47.	Lounge	ஓய்விடம்
48.	Maillard Reaction	அமினோ அமிலங்கள் மற்றும் எளிமையான சர்க்கரையோடு வேதிவினை புரிந்து மணம் மற்றும் நிறமாற்றம் அடையும் போது உணவிற்கு பிரத்யேக மணம் ஏற்படும்.
49.	Meringue	முட்டையின் வெள்ளைக்கருவுடன் சர்க்கரை சேர்க்கப்பட்டு மிருதுவான அடுமனை உணவு வகை தயாரிக்கப்படுகிறது.
50.	Mince	பொடிப் பொடியாக நறுக்குதல்
51.	Mutter paneer	பட்டாணி மற்றும் பன்னீரிலிருந்து தயாரிக்கப்பட்ட உணவு
52.	Naan	களிமண் தந்தூர் அடுப்பில் சுடப்பட்ட ரொட்டி
53.	Non-perishable	நீண்ட நாட்களுக்கு கெடாமல் இருப்பவை
54.	Norcotics	மனநிலை அல்லது நடத்தையை பாதிக்கும் ஒரு சட்டவிரோத போதை மருந்து

S.NO	WORD	MEANING
55.	Palatability	சுவையில் ஏற்புத்தன்மை
56.	Pasteurisation	நோய் உருவாக்கும் நுண்ணுயிரிகளை வெப்பம் (Steam under pressure) மூலம் பால் போன்ற உணவுகளைப்பாதுகாக்கும் முறை
57.	Perishable	எளிதாக அழுகக்கூடிய உணவுகள்
58.	Putrid	மாமிசம் போன்ற அசைவ உணவுகள் கெடும்போது உண்டாகும் நாற்றம்
59.	Rancidity	கொழுப்பு சார்ந்த உணவுகளான எண்ணெய் மற்றும் கொழுப்பு கெட்டுப் போதல்
60.	Range	பலவிதமான சமையல் செய்ய உதவும் அடுப்பு
61.	Semi-perishable	சில நாட்களுக்கு மட்டும் கெடாமல் இருக்கக்கூடியவை
62.	Shelf life	உணவு தரத்தினை நீண்டகாலம் பாதுகாத்தல்
63.	Shred	சன்னமாக, நீளமாக வெட்டுதல்
64.	பச்சை உருளைக்கிழங்கு மற்றும் அதைச்சார்ந்த தாவரங்களில் இருக்கக்கூடிய விஷத்தன்மை வாய்ந்த பொருள்	
65.	Sterilisation	வெப்பப்படுத்துதல் மூலம் உணவு கெடுவதற்கு காரணமான நுண்ணுயிரிகளை அழிப்பது
66.	Stuffed paratha	பல்வேறு விதமான சைவ மற்றும் அசைவ மசாலாக்களை நிரப்பி சுடப்பட்ட கோதுமை/ மைதா ரொட்டி.
67.	Table d'hote	பிரென்ச் வார்த்தை – விருந்தளிப்பவரின் மேஜை
68.	Thermometer	வெப்பத்தை அளக்க உதவும் கருவி
69.	Toxin	குறிப்பிட்ட பாக்டீரியா போன்ற நுண்ணுயிரியால் வெளிப்படும் விஷம்
70.	Transit	ஓரிடத்திலிருந்து மற்றொரு இடத்திற்கு செல்லும்வழி
71.	Translucent	ஒளி ஊடுருவும் தன்மை
72.	Trolleys	உணவுவகைகளை ஓரிடத்திலிருந்து மற்றொரு இடத்திற்கு எடுத்துச் செல்ல உதவும் வண்டி
73.	Viscous	பிசு பிசுப்பு

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