

FOOD MANAGEMENT AND CHILD CARE

PRACTICAL I & II

**VOCATIONAL EDUCATION
HIGHER SECONDARY - SECOND YEAR**

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Untouchability is a sin
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Untouchability is inhuman



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XII STANDARD

Practical - I Syllabus

June

1. Quality of food

- 1.1 Identification of foods in the market certified by Agmark, BIS, FPO standards
- 1.2 Preliminary preparations in cooking
- 1.3 Development of a score card for sensory evaluation

2. Maternal and Infant Nutrition

- 2.1 Diet plan during pregnancy
- 2.2 Diet in infancy (6-12 months)
- 2.3 Immunization chart

July

3. Nutrition for children

- 3.1 Food and nutrient requirements of preschool children
- 3.2 Planning a days's menu for a child with Protein Energy Malnutrition
- 3.3 Planning a day's menu for a child with vitamin A deficiency
- 3.4 Planning a day's menu for an anaemic child

4. Therapeutic diets

- 4.1 Diet in fever
- 4.2 Diet in diabetes mellitus
- 4.3 Role and responsibilities of dietitian

August

5. Food Service Institutions

- 5.1 A model organizational chart of a hotel
- 5.2 Table setting
- 5.3 Equipment needed for a restaurant

September

6. Food Borne Infections and Food Poisoning

- 6.1 Examining spoilage in foods

7. Food Preservation

- 7.1 Preparation of jam
- 7.2 Determination of end point in jam preparation
- 7.3 Preparation of tomato sauce
- 7.4 Preparation of sprouted grams

October **8. Bakery Products**

- 8.1 Preparation of cakes
- 8.2 Cake decoration
- 8.3 Types of sugars
- 8.4 Preparation of biscuits

November **9. Preschool Education**

- 9.1 Layout for a preschool
- 9.2 Preparation of puppets
- 9.3 Indoor and outdoor play equipment
- 9.4 Creative activities

10. Activities in Preschool

- 10.1 Song for preschool children

December **11. Management**

- 11.1 Conservation of energy
- 11.2 Standardization and portion control of a product for small scale business

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- 1.1 Sensory evaluation of food
- 1.2 Selection of foods

2. Maternal and Infant Nutrition

- 2.1 Planning a day's menu for a lactating woman
- 2.2 Infant foods available in the market.
- 2.3 Preparation of supplementary foods

July **3. Nutrition for Children**

- 3.1 Packed lunch for a school going child
- 3.2 School noon meal programme
- 3.3 Common ailments among children and preventive measures

4. Therapeutic diets

- 4.1 Diet plan for ulcer patient

4.2 Oral dehydration Solution (ORS)

4.3 Diet plan for an obese person

August **5. Food Service Institutions**

5.1. Functioning of a small restaurant

5.2 Menu for a school canteen

5.3 Job specification of a personnel in a food service institution

September **6. Food Borne Infections and Food Poisoning**

6.1 Promoting the shelf life of foods

6.2 Healthy practices to avoid food borne infections

7. Food Preservation

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7.2. Preparation of squash

7.3. Preparation of lime squash cordial

7.4 Preparation of mango pickle

7.5 Preparation of fruit candy

October **8. Bakery Products**

8.1. Evaluation of the quality of cakes

8.2. Preparation of an eggless cake

8.3 Preparation of pastry - Demonstration

8.4 Preparation of cookies

November **9. Preschool Education**

9.1. Weekly schedule for a preschool

9.2. Science experiences

9.3 Water and sand play

9.4 Evaluation of toys and books for preschool children

10. Activities in Preschool

10.1 Story for preschool children

December **11. Management**

11.1 Sales promotion techniques

11.2 Budget for a restaurant

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INSTRUCTIONS TO TEACHERS

- This guide book is prepared to help the teachers and students of Food Management and Child Care, Vocational group.
- Simple and standardized recipes are given as sample recipes. If you want to make any changes in the recipe according to your convenience, affordability and time limitations, you can do so.
- Be ready with the food ingredients and other requirements before hand.
- Students should be instructed to enter the lab with apron, hand towel, guide book and observation note.
- Ensure safety while cooking in the lab and handling equipment.

INSTRUCTIONS TO STUDENTS

- Cleanliness is essential in all aspects and all areas.
- Utensils and equipment should be absolutely clean
- Wash your hands before starting the work
- Examine the food carefully for any spoilage, stones or worms
- Wash the fruits and vegetables well
- Organise work so that there is no wastage of time and fuel
- Clean the cooking area after use
- Taste the food before serving the recipe
- Serve the recipe in appropriate containers at right temperature
- Wash and dry the dishes and keep in proper places
- Always wear an apron and bring hand towel without fail
- Always bring this guide book for practicals.
- Complete procedure has been given in guide book and you can follow the same for all exercises.
- Can use originality and novel ideas while preparing programmes, toys etc.

PRACTICAL – I

1. QUALITY OF FOOD

1.1. Identification of Foods in the Market Certified by Agmark, BIS, FPO Standards

Aim: To identify the foods available in the market with food standards like Agmark, BIS, FPO.

Procedure: Visit a departmental / food store and identify the labels in the product and elicit the following information.



S. No.	Name of food	Name of the quality certificate	Shelf life	Approved			Manufacturing company
				Colour	Flavour	Chemical preservative	
1	Infant Supplementary food						
2	Fruit Juices						
3	Pickles						
4	Instant mixes						
5	Jam						

Results and Discussion:

1.2. Preliminary Preparations in Cooking

Aim: To know the techniques of preliminary preparation for cooking.

Equipment Needed: Vessels, peeler, cutter, knife, cutting board, grater, grinder, mixie, etc.

Preparations before cooking:

- **Cleaning / Washing:** Use of clean raw materials for cooking is very important to ensure microbiological safety of foods. The dry ingredients like cereals, and pulses are cleaned to remove stones, dirt and other foreign matter, before they are used for cooking.
- **Peeling:** Most of the fruits and vegetables have a firm outer covering called peel which protects the inner portion. If the peel is too tough to be cooked or digested, it should be removed before fruit or vegetable is cooked. There are some vegetables where the peel is not very tough and they are cooked with the peel like tomatoes, brinjals, ladiesfinger and so on.
- **Cutting:** Most of the vegetables and fruits are cut before use. Cutting vegetables into uniform pieces help to cook faster.
- **Grinding:** Grinding reduces food to a very fine form. Food can either be ground in a dry form as is done in grinding various masala powders or in wet form as is done for chutney, batter for idli, dosa, vada and so on.
- **Grating:** Some foods are grated or shredded to small pieces to make cooking easier or just added to give variety to cooking. Vegetables and fruits can be grated raw for making salads.
- **Soaking:** Foods are generally soaked to make them soft so that the cooking or grinding is faster and easier. For example legumes are soaked before cooking, rice and blackgram dhal are soaked before grinding for making batter.
- **Blanching:** In this method the food is plunged in boiling water followed by immersing in cold water. This destroys the enzymes present in the food and hence used as a preparation for preservation. Blanching also helps to loosen the skin of tomatoes and some fruits for easy removal.
- **Marinating:** The food is soaked in a marinade to add flavour and to tenderize it. A marinade is a liquid (thick consistency) made up of oil, flavour builders and acid.



Procedure: Take 100 g of vegetable for each treatment and process accordingly.

S.No.	Name of the food	Process to be done
1	Green leafy vegetables	Cleaning
2	Potato	Peeling
3	Onion	Cutting
4	Pulses	Soaking and grinding
5	Carrot	Grating
6	Tomato	Blanching
7	Cauliflower / chicken	Marinating

Results and Discussion:

1.3. Development of a Score Card for Sensory Evaluation

Aim: To gain skill in developing score card for sensory evaluation.

Equipment needed: Vessels, cutting board, knife, rolling pin, tawa, ladles, spoons and katories.

Importance of sensory evaluation:

- Sensory evaluation consists of judging the quality of food by a panel of judges.
- Sensory evaluation deals with measuring, analyzing and interpreting the qualities of food as they are perceived by the senses of sight, smell, taste and touch.
- Appearance, colour, flavour and mouth feel decide the acceptance of food.
- Sensory evaluation may be designed to maintain the quality of food at a given standard for the assessment of product improvement, variety and market analysis.

Procedure: Preparation of food items.

1. Recipe formulation – Rava Kesari

Ingredients	Quantity
White rava	– 200 g
Sugar	– 200 g
Ghee	– 50g
Water	– 400ml
Cardamom powder	– 1 tsp
Nuts (raisin, cashew, badam, pistha)	– 30g
Kesari yellow colour	– a pinch

Method:

1. Fry nuts in a small portion of ghee till golden brown and keep aside.
2. Fry rava in ghee till it becomes golden brown.
3. Boil water, add rava and kesari yellow colour and cook.
4. Add sugar and continue to cook till consistency is reached.
5. Add ghee and nuts before removing from fire.

2. Methi Chappathi

Ingredients	Quantity
Wheat flour	– 2 cups
Fenugreek leaves	- ½ bundle
Grated onion	- ½ cup
Turmeric powder	- ½ tsp
Chilli powder	- ½ tsp
Garam masala powder	- ½ tsp
Ani seed	- ½ tsp
Oil	– to fry
Salt	– to taste

Method:

1. Saute ani seeds and onion.
2. Add cleaned, finely chopped methi leaves and all the powders, salt and sauté for some time.
3. Make a dough with wheat flour and the above masala and knead well.
4. Roll into chappathi and fry on the tawa.

Score Card for Kesari

S. No	Evaluation	Groups			Total
		I	II	III	
1	Appearance Very Good - 3 Good - 2 Fair - 1				
2	Colour Orange - 3 Dark Orange - 2 Pale Orange - 1				
3	Texture Soft - 3 Under cooked - 2 Over cooked - 1				
4	Taste Very Good - 3 Good - 2 Fair - 1				
5	Flavour Highly Acceptable - 3 Moderately Acceptable - 2 Acceptable - 1				

Score card for Methi Chappathi

S. No	Evaluation	Groups			Total
		I	II	III	
1	Appearance (shape) Very Good - 3 Good - 2 Fair - 1				
2	Colour Golden brown - 3 Brown - 2 Dark brown - 1				
3	Texture Smooth - 3 Crisp - 2 Hard - 1				
4	Taste Very Good - 3 Good - 2 Fair - 1				
5	Flavour Highly Acceptable - 3 Moderately Acceptable - 2 Acceptable - 1				

Results and Discussion:

2. MATERNAL AND INFANT NUTRITION

2.1. Diet Plan During Pregnancy

Aim: To formulate a day's menu for a pregnant woman.

Equipment Needed: Vessels, tawa, cup, spoon, knife, cutting board, ladles, egg beater.

Dietary Principles:

- Importance should be given to nutrient dense food.
- Daily diet should contain 3 cups of milk.
- Two servings of either a non vegetarian or a source of complete protein, a dark or yellow vegetables and generous serving of citrus fruits should be included.
- Inclusion of small and frequent meals at regular intervals is preferable.
- Feeding pattern should be 5 to 6 meals / day.
- Iron rich food stuffs like whole grain cereals, rice flakes, dried fruits and green leafy vegetables can be included.
- More fluids should be given.
- Foods rich in dietary fibre like fresh fruits and vegetables, salads can be included.

Recipe Formulation – Vegetable Omlette

Ingredients	Quantity
Egg	– 2
Grated carrot	– ¼ cup
Onion chopped	– ¼ cup
Milk	– 1 tsp
Tomato	– 1
Coriander leaves	– a few
Green chillies (small)	– 2
Salt	– to taste
Oil	– as required.



Method:

1. Beat the eggs with one teaspoon of milk.
2. Chop the onions, tomato, green chillies and coriander leaves.
3. Grate the carrot.
4. Mix all the ingredients with beaten egg and add salt.
5. Heat the tawa and smear with oil, pour the required amount of egg mixture.
6. Cook both sides till done and garnish.

Results and Discussion:

2.2. Diet in Infancy (6-12 months)

Aim: To formulate a day's diet for an infant.

Equipment needed: Kadai, vessels, cups, ladles, spoons etc.

Dietary guidelines:

- Introduce only one food at a time. Give freshly prepared food.
- Weaning foods should be very thin in consistency to start with.
- Small amount of solid food should be given at the beginning and the amount gradually increased.
- Foods given should not be spicy. Fried foods should be avoided. Variety in child's diet is important to make it more appealing.
- To guide the child to learn to eat and enjoy food, the mother must be patient, resourceful and not too serious.
- Soft custard, boiled egg, kichadi, idli, malted cereal and gruels made out of rice, rice flour, rice flakes, corn flakes and milk can be given to the infant.

A Day's Menu (Infant aged more than 6 months)

An infant must be fed every 2-3 hours to meet the needs of rapid growth and the feedings should be adjusted with breast feeding.

Early morning 6 a.m.	:	Breast feeding or artificial feeding.
8 am	:	Ragi kanji with milk.
10 am	:	Poached egg (one)
12 noon	:	Stewed apple /cooked and mashed carrot
2 pm	:	Breast feeding or artificial feeding.
4 pm	:	Orange juice (diluted)
6 pm	:	Supplementary food 'Amirtham'
8 pm	:	Idli with milk
10 pm to 3 am	:	Breast feeding or artificial feeding



Recipe Formulation – ‘Amirtham’ (composition per 100 g)

Ingredients	Quantity
Wheat	– 38g
Roasted Bengal gram	– 19 g
Groundnut (roasted)	– 12 g
Defatted soya flour	– 6 g
Jaggery (powdered)	– 25 g

Method:

1. Roast cleaned wheat, bengal gram and groundnut over a medium flame individually.
2. Roast soya flour and add powdered jaggery and pulverize to a fine powder.
3. Take 15g of this powder, make a paste and cook with enough water.

Results and Discussion:

2.3. Immunization Chart

Aim: To know about the Immunization chart.

Immunization: The word immunization is used to develop immunity in an individual by injecting chemical substances to counteract the effect of toxins. Examples of illness produced by toxins include diphtheria and tetanus. The illness can be prevented by giving toxin in an altered form, so that it is no longer active.

Immunization Schedule: They are now very safe and people should take advantage of them for the health of their child. The Immunization schedule approved by the Indian Academy of Paediatrics (IAP, 2009) is as follows:

Age	Vaccine
Soon after birth	Hepatitis B 1st Dose OPV 1st Dose BCG
6 weeks	Hepatitis B 2nd Dose OPV 2nd Dose DPT 1st Dose
10 weeks	DPT 2nd Dose OPV 3rd Dose
14 weeks	DPT 3rd Dose OPV 4th Dose
6 months	OPV 5th Dose Hepatitis B 3rd Dose
9 months	Measles
15 to 18 months	MMR (Mumps, Measles, Rubella)
18 months	DPT, OPV 1st Booster
2 years	Typhoid Vaccine
5 years	DPT, OPV 2nd Booster Dose
8 years	Typhoid
10 years	Tetanus Toxoid

Abbreviations:

- BCG – Bacillus Calmette Guerin
- MMR – Mumps, Measles, Rubella
- DPT – Diphtheria, Pertusis and Tetanus
- OPV – Oral Polio Vaccine



3. NUTRITION FOR CHILDREN

3.1. Food and Nutrient Requirements of Preschool Children

Aim: To prepare a chart on food and nutrient requirements of preschool children.

Things needed: Chart paper, scale, sketch pen, etc.

Dietary Guidelines:

- The diet should be adequate in quantity and quality of different nutrients. In addition to milk, the child should have two small servings of protein rich foods.
- The diet should include variety of foods, so that the child has access to items from all food groups on a regular basis.
- Their food intake will improve, if the food is interesting and attractive. (eg.) Chappathi and pooris can be made in different shapes and served in attractive plates.
- Proper elimination is maintained by including fruits, vegetables and whole grain products.
- The energy density in a daily diet should be 1-1.2 k.cal / ml. This can be achieved by adding milk and oil to the diet.



Balanced Diet for Preschool Children

S.No.	Food Groups	Quantity (g)	
		1 - 3 years	4 - 6 years
1	Cereals & Millets	120	210
2	Pulses	30	45
3	Milk and milk products	500	500
4	Roots and tubers	50	100
5	Green leafy vegetables	50	50
6	Other vegetables	50	50
7	Fruits	100	100
8	Sugar	25	30
9	Fats & oils (visible)	20	25

Source: ICMR Dietary Guidelines for Indians - Manual NIN, 2005

ICMR Recommended Nutrient Allowances for Preschool Children

S.No.	Nutrients	Age (years)	
		1 - 3	4 - 6
1	Energy (kcal)	1240	1690
2	Protein (g)	22	30
3	Fat (g)	25	25
4	Calcium (mg)	400	400
5	Iron (mg)	12	18
	Vitamin A		
7	Retinol (µg)	400	400
8	Beta-carotene (µg)	1600	1600
9	Thiamine (mg)	0.6	0.9
10	Riboflavin (mg)	0.7	1.0
11	Folic acid (µg)	30	40
12	Vitamin C (mg)	40	40

Source: ICMR Dietary Guidelines for Indians - Manual NIN, 2005

Results and Discussion:

3.2. Planning a Day's Menu for a Child with Protein Energy Malnutrition

Aim: To formulate a day's menu for a PEM child.

Equipment needed: Pressure cooker, kadai, vessels, spoons, ladles, cups etc.

Protein Energy Malnutrition:

Protein energy malnutrition is one of the biggest public health problems in India. PEM is the deficiency of proteins and calories in the diet. It is not a disease, but a condition arising from an inadequate diet.

There are three types of PEM.

1. Marasmus – deficiency of both energy (carbohydrate) and protein.
2. Kwashiorkor – deficiency of protein.
3. An intermediate state of marasmus and kwashiorkor.

Clinical symptoms

- Oedema of the whole body especially belly- (pot belly)
- Moon face
- Wasting of muscles
- Retarded growth
- Fatty liver – hepatomegaly
- Colour changes in hair.

Dietary Management: The diet should,

- Consist of locally available staple foods.
- Consist of a minimum of 100ml of milk / day.
- Have cereal and pulse combination at 5:1 proportion, consist of all five food groups, inexpensive and easily digestible.
- Be high in calories by adding oil and banana, since banana is a bowel regulator and prevents constipation.
- Be evenly distributed throughout the day with many number of feedings to increase the quantity of food.



A Day's Menu for a PEM Child

Meal time	Food Items
Early morning	Milk (Horlicks / Sathumavu kanji)
Breakfast	Idli, groundnut chutney, Banana
Mid morning	Apple milk shake
Lunch	Rice, drumstick sambar, carrot poriyal, egg, curd.
Evening	Green gram sundal, broken wheat payasam
Dinner	Chappathi with dhal, orange / banana

Recipe Formulation: Broken Wheat Payasam

Ingredients	Quantity
Broken wheat	– 50g
Milk	– 200ml
Sugar	– 100g
Cardamom powder	– ½ tsp
Cashew nuts and raisins	– 10g
Ghee	– 10 g
Grated coconut	– 10 g

Method:

1. Pressure cook broken wheat with milk and water.
2. Fry nuts to golden brown in ghee.
3. Add grated coconut, fried nuts and raisins, sugar and cardamom powder and finish cooking.
4. Garnish with fried nuts.

Calculation: Calculate the calories and protein in broken wheat and milk.

S.No.	Food substance	Amount	Energy (k.cal)	Protein (g)
1	Broken wheat	50 (g)		
2	Milk	200 (ml)		

Results and Discussion:

3.3. Planning a Day's Menu for a Child with Vitamin 'A' Deficiency

Aim: To formulate a day's menu for a child suffering from Vitamin 'A' deficiency.

Equipment needed: Pressure pan, vessels, egg beater, ladles, spoons, kattories etc.

Vitamin 'A' Deficiency

Inadequate dietary intake of Vitamin 'A' or its precursor (Beta carotene) is the most contributing factor for Vitamin 'A' deficiency. If Vitamin 'A' deficient diet is consumed by pregnant mothers, the offspring is born with poor liver stores of Vitamin 'A'.

Clinical Symptoms

A child suffering from Vitamin 'A' deficiency displays the following symptoms.

- Night blindness
- Bitot's spots
- Dryness in the conjunctiva and cornea
- Xerophthalmia
- Total blindness / Keratomalacia.

Food sources: Fish, egg, liver, milk, papaya, carrot, palak, coriander leaves, mint leaves and yellow vegetables.

Dietary Principles

- Ensure adequate intake of Vitamin 'A' and carotene rich foods by pregnant mothers.
- Early initiation of breast feeding (within one hour of delivery) to establish good lactation.
- Feeding of colostrum to build up Vitamin 'A' stores in infants.
- Ensuring regular intake of Vitamin 'A' and Beta carotene rich foods like carrots, papaya, pumpkin and mango.

A Day's Menu - Vitamin 'A' rich diet

Meal time	Food Items
Early morning	Milk
Breakfast	Vegetable kichadi, coconut chutney, banana
Mid morning	Papaya milk shake
Lunch	Rice, pumpkin sambar, greens poriyal, egg omlette, curd.
Evening	Carrot halwa, onion pakoda
Dinner	Naan with palak paneer, apple

Recipe formulation : Papaya Milk Shake

Ingredients	Quantity
Papaya	– 200 g
Milk	– 200ml
Sugar	– 20g
Essence	– as required.

Method:

1. Dissolve sugar in boiled milk and chill.
2. Cut papaya pieces, grind into pulp and blend with milk and essence in a mixie.
3. Serve chilled.

Calculation: Calculate calories and vitamin 'A' in papaya and milk.

S.No.	Food Items	Amount	Energy (k.cal)	Vitamin 'A'	Beta carotene (µg)
1	Papaya	200 (g)			
2	Milk	200 (ml)			

Results and Discussion:

3.4. Planning a Day's Menu for an Anaemic Child

Aim: To formulate a day's menu for an anaemic child.

Equipment needed: Pressure pan, vessels, ladles, spoons.

Anaemia:

Anaemia is caused by a lack of dietary iron or inadequate absorption and utilization of iron. Young children and pregnant women are the most affected groups. Severe anaemia is more frequently seen in severely undernourished children who also exhibit signs associated with deficiencies of calories, proteins, vitamins and minerals.

Clinical symptoms:

The symptoms include,

- Pale skin
- Spoon shaped nails or koilonychia.
- Atrophy of papillae of tongue, glossitis.
- Angular stomatitis and dysphagia.
- Lethargy, inability to do work.

Food sources: Dates, dry grapes, rice flakes, green leafy vegetables, ragi, dry sundakkai and liver.

Dietary Guidelines

- Promotion of consumption of pulses, green leafy vegetables and other vegetables.
- Addition of iron rich foods to weaning foods of infants.
- Regular consumption of foods rich in Vitamin A such as guava, orange, amla etc to promote iron absorption.
- Discouraging the consumption of foods and beverages like tea and tamarind that inhibit iron absorption.

A day's Menu - Iron Rich Menu

Meal time	Food Items
Early morning	Milk with dates syrup
Breakfast	Ragi dosai with mint chutney, boiled egg
Mid morning	Araikeerai soup
Lunch	Coriander rice, Beet root poriyal, and curd rice, pomegranate
Evening	Chilli cauliflower, dates halwa
Dinner	Chappati with vegetable kuruma, milk

Recipe Formulation : Dates Halwa

Ingredients	Quantity
Dates	– 200g
Milk	– 100ml
Jaggery	– 20g
Essence	– as required
Almonds and pista	– 20 g
Ghee	– 50g

Method:

1. Grind seedless dates with milk.
2. Heat ghee in a pan, fry the nuts into golden brown.
3. Add the ground mixture and stir often in a medium flame.
4. Add ghee side by side.
5. Cook till halwa consistency is reached.

Calculation:

Calculate the calories and iron content of dates and jaggery.

S.No.	Food Items	Amount (g)	Energy (k.cal)	Iron (mg)
1	Dates	200		
2	Jaggery	20		

Results and Discussion:

4. THERAPEUTIC DIETS

4.1. Diet in Fever

Aim: To formulate a diet for a person suffering from fever.

Equipment needed: Vessels, cup, spatula, spoons, etc.

Fever: Fever is an elevation in body temperature above the normal which may occur due to exogenous and endogenous factors.

Endogenous factors: Antigen – antibody reaction, malignancy.

Exogeneous factors: Bacteria or fungi.

- **Types: Short duration fever** – colds, tonsillitis, influenza and typhoid.
- **Chronic fever** - Tuberculosis
- **Intermittent fever** - Malaria.

Symptoms: Head ache, dry cough, frequent sneezing, sore throat, gastro intestinal symptoms – Anorexia, nausea, slight diarrhoea, vomiting, abdominal cramps.

Dietary principles: High calories and carbohydrates, low fat and high protein, supplements of Vitamin A, C and B complex can be given. Sodium chloride should be sufficient.

Dietary guidelines:

- High protein beverages may be used as supplements to the regular meals.
- Glucose must be given often to replenish glycogen stores.
- Fluid intake must be liberal.
- Fatty foods, highly fibrous foods, very spicy foods which are hard to digest should be avoided.
- Small quantities of food at intervals of 2 to 3 hours is ideal.

Permitted foods: Fruit juices with glucose, barley water, milk shakes, gruels, porridge, soups etc.



Restricted foods: Butter, ghee, chillies, spices, fried foods and pastries.

A Day's Menu - Fever

Meal time	Food Items (Every 3hours duration)
Early morning	Malted beverage or Horlicks
Breakfast	Idli with coconut chutney
Mid morning	Coconut water / Fruit juice or vegetable soup
Lunch	Rice, Tomato rasam, steamed vegetables, curd, boiled egg.
Evening	Milk with biscuits / bread
Dinner	Oats kanji, chutney, apple

Recipe Formulation – Oats Kanji

Ingredients	Quantity
Oats	– 100g
Milk	– 150 ml
Sugar / Salt	– as required

Method:

- Boil milk with 100 ml water
- Add oats, cook for 3 to 4 minutes
- Serve hot with sugar or salt.

Results and Discussion:

4.2. Diet in Diabetes Mellitus

Aim: To formulate a diet for a diabetic patient.

Equipment needed: Tawa, spatula, vessels, measuring cups, cutting board, knife, etc.

Diabetes: Diabetes mellitus is a chronic metabolic disorder that prevents the body to utilize glucose completely or partially. It is characterized by raised glucose concentration in the blood and alterations in carbohydrates, protein and fat metabolism. This can be due to failure in the formation of hormone insulin or liberation or action of insulin.

Symptoms: • Hyperglycemia – Increased glucose level in blood.

Normal level : 80 to 120mg / 100ml blood

Raises upto: 140mg / 100ml

- Glycosurea – Glucose in the urine.
- Fluid and electrolyte imbalance.
- Polydipsia – Severe thirst (dehydration)
- Polyurea – Increased urination
- Polyphagia – Increased appetite
- Weight loss
- Skin irritation or infection
- Delayed wound healing.

Dietary principles:

- High protein intake helps to increase insulin production and promotes satiety.
- Calories from carbohydrates can be 60-65%.
- Vitamin C and E supplements are essential.
- Low fat diet is preferred.
- High fibre is recommended because it reduces the rate at which glucose is absorbed in the blood.

Dietary guidelines:

- Distribution of calories for each meal should be even.
- Simple carbohydrates like sugar and honey are avoided.
- Diet should provide high fibre. Vegetable salad should be included in every meal.
- Whole grams and sprouted grams should be included in the diet.
- Patients should avoid fasting and feasting.
- Sodium is restricted in hypertensive diabetic patients.

Permitted foods: Green leafy vegetables, fruits except banana, salads, plain coffee or tea, skimmed milk and butter milk, chicken, fish.

Restricted foods: All simple sugars (glucose, honey, sweets), dry fruits, cake, candy, fried foods, jaggery, sweetened juices, meat.

A Day's Menu - Diabetes Mellitus

Meal time	Food Items
Early morning	Plain coffee without sugar
Breakfast	Ragi soya rotti, with tomato chutney
Mid morning	Araikeerai soup
Lunch	Rice with fish kulambu, beans poriyal, vegetable salad
Evening	Channa sundal, plain tea
Dinner	Idli, coriander chutney, skimmed milk without sugar - 1cup

Recipe Formulation – Ragi Soya Rotti

Ingredients	Quantity
Ragi flour	– 1 cup
Soya flour	– ¼ cup
Onion	– 1 cup
Green chillies	– 4
Cumin seeds	– 1 tsp.
Salt	– to taste
Oil	– 2 Tbs.

Method:

- Mix the above ingredients and add sufficient water to form a soft dough.
- Pat on a hot tawa into thin circles using wet hand.
- Cook for 5 to 7 minutes, turning rotti twice and smearing with oil. Roast to brown colour.
- Serve hot with chutney.

Results and Discussion:

4.3. Role and Responsibilities of a Dietitian

Aim: To prepare a chart to know about the role and responsibilities of a dietitian.

Dietitian: A dietitian is a person with legally recognized qualification in nutrition and/or dietetics, who applies the science of nutrition to the feeding and education of groups of people and individuals in health and disease.

Responsibilities: The following are the responsibilities of a dietitian in an organization or a hospital.

- Plans, develops, controls and evaluates any food service system.
- Develop short and long range departments plan.
- Manages and controls resources and budget for programmes.
- Coordinates and integrates clinical and administrative aspects of dietetics to provide quality nutritional care.
- Establishes and maintains standards of food production and service, sanitation, safety and security.
- Maintains effective written and verbal communications and public relations inter and intra departmentally.
- Develops menu patterns and evaluates client acceptance.
- Develops specifications for the procurement of food, equipment and supplies.
- Consults with the health care team concerning the nutritional care of clients.
- Develops, uses and evaluates educational materials related to services provided.



5. FOOD SERVICE INSTITUTIONS

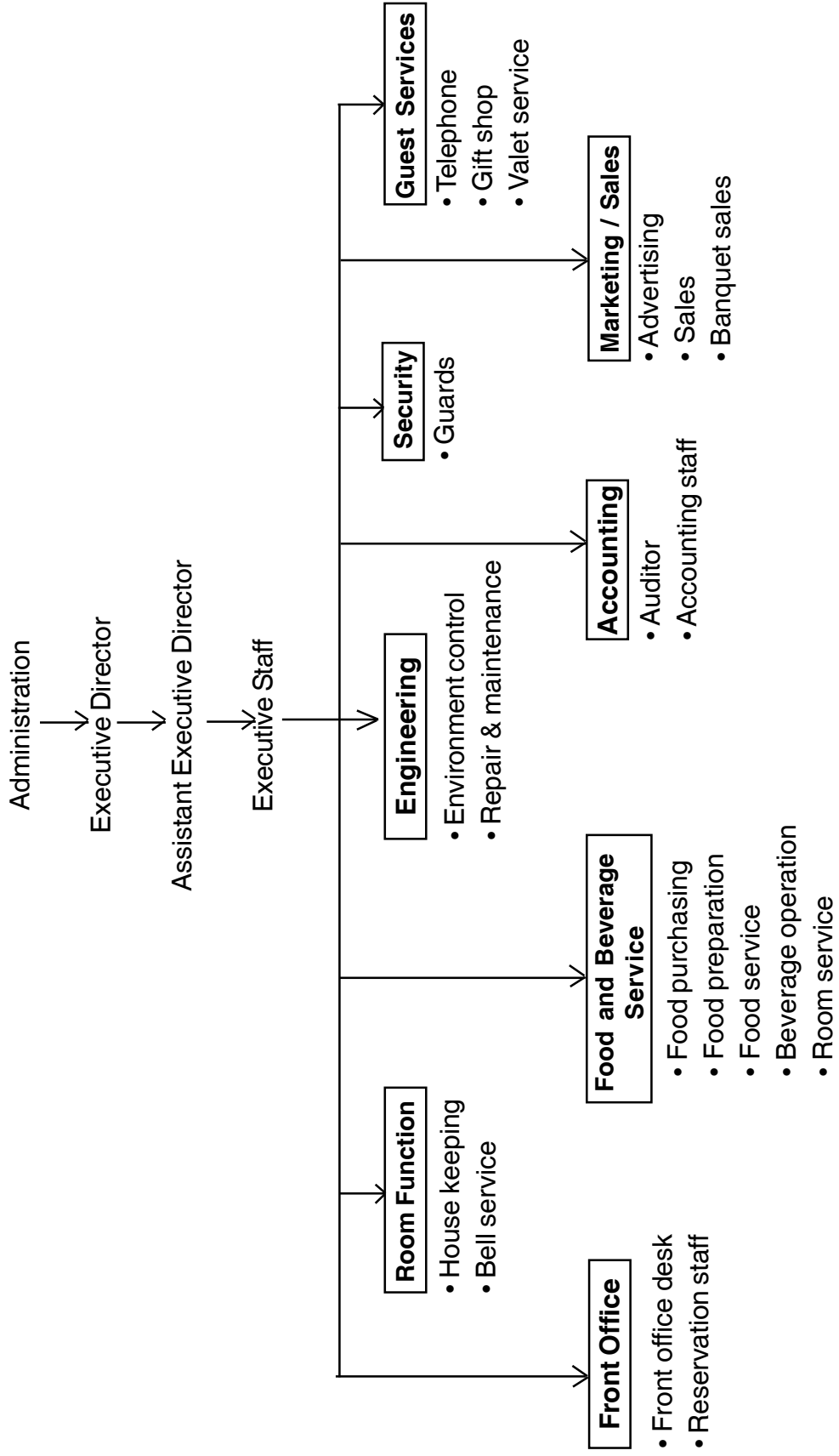
5.1. A Model Organizational Chart of a Hotel

Aim: To prepare a model organizational chart of a hotel.

Organization chart: An organisation chart shows the subordinate superior relationships and the lines of decision making authority that exist in an establishment in other words who reports to whom. It is also associated with a well set structure having functions logically arranged to achieve maximum efficiency.



ORGANIZATION OF A HOTEL



5.2. Table Setting

Aim: To know about a typical table service procedure.

Table setting: Several different types of table services are in current use, depending on the food service operation. Theme restaurants usually have their own particular type of service. Service styles become a distinguishing feature of any type of food service operation. These styles may also have their own variations based on the policies and geographical locations of food service operations. The various types of table services are French service, Russian service, English service, American service, Buffet service etc.

General Procedure:

The table space allotted to each customer to lay cutlery, crockery, glassware and linen to have a meal is referred as cover. This space is based on the type of restaurant and space that is available. On a normal dining table, the space required for one cover is 60cm x 38cm.

Setting the Table:

- Place the tables and chairs in their correct positions.
- Level the tables properly.
- Check the size of table cloth.
- See that the corners of table cloth should cover the legs of the table and not falling between the table legs.
- Place the overlap of the table cloth evenly all around the table.
- Keep all covers symmetrical.
- Cutlery and flatware are cleaned / polished and given final touches before setting on table.
- Lay the cutlery from the inside to the outside of cover.
- Once cover is laid, other table accompaniments are set.
- Place the knives and soup spoons on the right hand side of the cover. Cutting edge of knives should face to the left.
- Place the fork on the left hand side of a cover.
- Place the desert spoons and forks on the top of the cover.
- Place the side knife on a quarter plate and keep on the left side of the cover.
- Keep the water tumbler to the right of the cover, at the tip of the large knife.
- Place the napkins in the centre of the cover or in empty water tumbler.

- Cruet sets (salt & pepper) and a small flower vase should be placed at the centre of the table.

Service

- All food services are made from left hand side of the guest.
- A plate with meat or a main entrée always placed directly in front of the guest.
- All the beverages are served from right hand side of the guests.
- All food dishes are removed from right hand side of the guest.
- All beverages are removed from right hand side of the guest.



5.3. Equipment Needed for a Restaurant

Aim: To know the equipment needed for a restaurant.

Equipment Needed for a Restaurant

Equipment includes furniture, fixtures, linen, cutlery, crockery and glassware. Each of these components reflects the style, quality and standard of the restaurant. Several factors are considered when purchasing the equipment.

- Standard of the restaurant.
- Types of service.
- Décor and theme of the restaurant.
- Durability of equipment.
- Ease of maintenance.
- Availability when stocks run out.
- Storage
- Flexibility in use.
- Price factors.
- Standardisation.

The equipment required for food service facilities varies from one type of operation to another depending on the menu offerings, the nature of the food materials, the chosen method of preparation and service and the personal desires of owners, managers or chefs. The following list of equipment is presented, so that planners may evaluate the choices available and select the equipment that would be most appropriate for their particular project.

Furniture: Chairs, tables, cabinets, bins, trolleys, service stand for dish washer, grinder, refrigerator, drying rack, preparation table.

Preparation Equipment: Mixer, grinder, peeler, cutter, juicer, dough maker.

Kitchen ware: Table linen, napkins, cutlery (knives, fish knives, side knives, butter knives), flatware (forks and spoons), hollow ware (other utensils like fingerbowls, tea and coffee pots, sugar bowls etc), china ware (Full plate, soup plate, soup cup etc) and glassware (for drinking cold beverage).

Equipment

Cooking	Storing	Serving
Microwave oven	Refrigerators	Buffet unit
Mixer	Ingredient bins	Tray slide & stand
Grinder	Freezer	Menu board
Bread slicer	Meat refrigerator	Napkin dispenser
Cookers	Storage cabinets	Salad bar
Grill	Utility carts	Tea maker
Kettle	Tables	Cutlery
Egg boiler	Shelves	Tumblers / Plates
Range	Bread cabinet	Serving plates (chinaware)
Steamer	Dish cabinets	Cups and saucers (glass ware)
Oven		Tea and coffee pots
Coffee maker		Soup bowls
Fryer		

Results and Discussion:

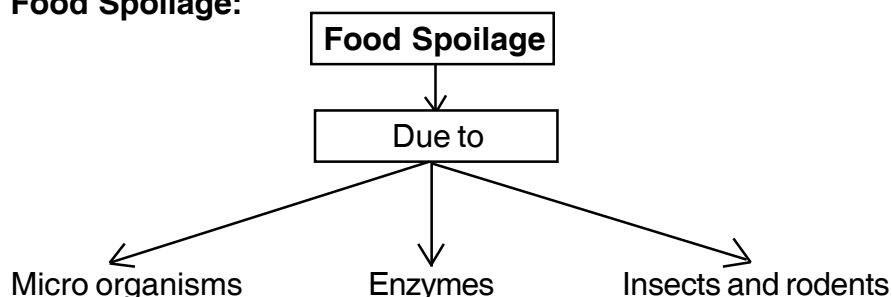
6. FOOD BORNE INFECTIONS AND FOOD POISONING

6.1. Examining Spoilage in Foods

Aim: To observe spoilage in selected foods.

Food Spoilage: Food is mostly subjected to physical, chemical and biological changes and these cause deterioration in the quality and ultimately leading to spoilage of food.

Causes of Food Spoilage:



The major causes of food spoilage include

- Micro organisms – their growth and activity.
- Action of native enzymes.
- Insects, rodents and parasites.
- Chemical reactions of the constituents of food.
- Environmental factors such as temperature, moisture, air and light.
- Time.

The above factors affect the quality of food. Preservation methods attempt to minimize the effect of these factors and enhance the storage stability and maintain the quality of foods for prolonged periods.

Procedure:

1. Select some of the food items (bread, milk, tomato, pickle) that are perishable due to the above factors.
2. Keep the selected foods, till they get spoiled.
3. Observe the changes from the day they are getting spoilt.

Details of Food Spoilage in Selected Foods

S. No.	Food	Day & Type of Spoilage					Remedial measures
		1	2	3	4	5	
1	Bread						
2	Milk						
3	Tomato						
4	Pickle						

Results and Discussion:

7. FOOD PRESERVATION

7.1. Preparation of Jam

Aim: To know about the preparation of mixed fruit jam.

Equipment needed: Thick bottom vessel, knife, plates, spatula, cutting board, measuring cups and spoons.

Jams: Jams may be made from a single fruit or combination of two or mixed fruits. Jam is prepared from fruit pulp or crushed fruit and used for spreading on toast, bread, chappathi, etc. They contain added acid for taste and flavour. Fresh fruits, slices and fruit pulp in the form of semisolid are boiled in an open kettle with the addition of sugar. Gelling agents, starch syrup and tartaric or citric acid are added and the product is thickened with constant stirring.

Mixed Fruit Jam

Ingredients	Quantity	
Papaya	– 4	} Fruit pulp 6 kg.
Sapota	– 6	
Apple	– 12	
Banana	– 12	
Pineapple	– 1	
Black grapes	– ½ kg	
Sugar	– 6 kg	
Citric acid	– 6 tsp	
Sodium benzoate	– 1½ tsp	

Method:

- Take pulp from all the fruits.
- Pass it through the strainer and then cook.
- To the cooked pulp add equal quantity of sugar and cook on fire till the required consistency is got.
- Dissolve 6 tsp. of citric acid and cook for 10 minutes before removing from the fire and test for doneness. Add raspberry red colour, strawberry essence / pineapple essence and sodium benzoate.
- Mix and bottle it immediately.

Yield: 12 bottles of 200g each.

Precautions:

- To get uniform consistency the pulp should be passed through a strainer.
- Citric acid should not be added in the beginning, otherwise inversion of sugar may take place.
- The jam bottles should be placed on a wooden plank while filling.
- No head space should be left on top of the bottle.
- Close the bottles after the jam cools.
- Overripe fruits should not be used as it produces a pasty product.

Score Card

Name of the item	Appearance	Colour	Texture	Flavour	Taste

Results and Discussion:

7.2. Determination of End Point in Jam Preparation

Aim: To know the tests for end point in jam preparation.

Equipment needed: Plates, fork, sauce pan, cutting board, knife, vessels etc.

End Point: In order to make a product of uniform quality, a definite quantity of fruit and sugar should always be used. Cooking should be done properly. Doneness of jam is determined by the following tests.

- 1. Cold Plate Test:** Keep a plate in the freezer for sometime. Place a drop of the boiling jam on the plate and tilt it slightly. The jam should come down as a whole mass forming U shape. Water should not separate out.
- 2. Fork Test:** Dip the fork into jam or jelly. Jam of correct consistency forms a sheet between the needles of the fork.
- 3. Sheet Test:** The mixture is allowed to drip from a large cool spoon or wooden ladle, cooled slightly and then allowed to drop off. If the syrup forms a sheet instead of two separate drops, the jam is done.
- 4. Bubble Test:** When the end point reaches, big bubbles can be seen throughout the jam mass.

Apple Jam

Ingredients	Quantity
Apple	– 1 kg
Sugar	– 1 kg
Citric acid	– 8 -10 g
Potassium metabisulphate	– 1g



Method:

- Peel and cut the apples. Add little water and boil till soft and make into pulp.
- Add sugar and cook on brisk heat, stirring well to prevent scorching.
- Remove when the right consistency has been reached.
- Find out the end point using any one of the above tests mentioned.
- Add preservatives, colour and essence.
- Fill jam into hot clean jars.

Score Card

Preparation	Appearance	Colour	Texture	Flavour	Taste

Results and Discussion:

7.3. Preparation of Tomato Sauce

Aim: To know about the preparation of tomato sauce.

Equipment needed: Sauce pan, mixie, spatula, ladles, cutting board, knives etc.

Importance of Tomato Sauce:

- Fresh tomatoes are highly refreshing and appetizing. They are good source of vitamins, particularly Vitamin 'C'.
- Large quantities of tomato sauces and ketchups are popular and are manufactured mostly in small units.
- Since tomatoes are available practically throughout the year in our country, there is scope for setting up a large scale tomato processing industry.
- Tomato products are judged by their colour, which in turn, depending on the degree of redness of tomatoes. Use only plant ripened red tomatoes.

Tomato Sauce

Ingredients	Quantity
Tomato	– 1kg
Garlic	– 5g
Onions	– 10g
Red chillies	– 5g
Salt	– to taste
Citric acid	– 2g
Cloves	– 3g
Cinnamon	– 3g
Black pepper	– 5g
Cumin seeds	– 3 g
Sodium Benzoate	– 1g
Sugar	– 40g



Method:

- Wash, cut and boil tomatoes.
- Add cut onion and garlic. Boil till tender.
- Strain and extract thick juice. Grind all the spices and tie in a loose bag.
- Drop this in the juice and boil.
- Add sugar and salt gradually.
- Press the spice bag regularly to extract the flavours.
- Cook till end point is reached.
- Remove from fire and add preservatives and citric acid.
- Bottle when still hot.
- Store in a cool and dry place.

Score Card

Preparation	Appearance	Colour	Texture	Flavour	Taste

Results and Discussion:

7.4. Preparation of Sprouted Grams

Aim: To learn the preparation of sprouted grams.

Equipment needed: Vessels, muslin cloth, knife, etc.

Germination:

- Germination improves the nutritive value of pulses.
- Germinated and sprouted pulses have been used to prevent and cure scurvy which is due to Vitamin C deficiency.
- Riboflavin, niacin, choline, biotin and folic acid contents of all pulses increase during germination.
- The sprouts may be used either as a salad or as a vegetable.
- Germination process reduces and / or eliminates most of the anti-nutritional and toxic factors in several pulses.
- Preparations obtained from sprouted pulses, such as horse gram, green gram and bengal gram are more delicious.
- Sprouting decreases cooking time. The thick outer coat bursts open the gram and the gram becomes soft, making it easier for the cooking water to penetrate the gram.

Procedure:

- Take 100g of green gram and soak overnight.
- Drain away the water.
- Tie the soaked grams in a loosely woven cotton cloth and hang.
- Sprinkle water twice or thrice a day.
- In a day or two germination takes place.

Note: • Moisture and warmth are essential for germination.

- During summer, germination process is faster than in winter.
- Bengal gram, horsegram, dry beans and dry peas can also be germinated.

Recipe Formulation: Sprouted Green Gram Salad

Ingredients	Quantity
Sprouted greengram –	100g
Grated carrot –	50g
Chopped onion –	50g
Green chillies –	2 no.
Lemon -	½ slice
Salt –	as required
Coriander leaves –	little

Method:

- Mix all the above ingredients with salt and lemon juice.
- Garnish with coriander leaves and serve freshly.



Score Card

Preparation	Appearance	Colour	Texture	Flavour	Taste

Results and Discussion:

8. BAKERY PRODUCTS

8.1. Preparation of Cakes

Aim: To gain skill in the preparation of cakes.

Equipment needed: Baking oven, knife, blender, vessels, spatulas, measuring cups, egg beaters.

Cakes: Cakes are baked products made from maida flour shortened with butter or margarine containing other ingredients such as eggs, sugar and baking powder as the leavening agent. Unshortened cakes do not contain fat. Many flavouring materials like vanilla, spices and synthetic flavours are used in small quantities in cake preparation. Other ingredients added for flavour and taste are cocoa, chocolate, fruit juices and other forms of fruits.

Tips for cake making:

Cake should be soft and spongy. It is due to the incorporation of air in the cake batter during,

- Creaming of butter and sugar.
- Beating of egg and
- Sieving of flour.

1. Before beginning to bake a cake consider the following:

- Use the correct basic recipe.
- Keep ready all necessary equipment. Weigh or measure all necessary ingredients.
- Preheat the oven in advance.
- Sift the dry ingredients like flour, baking powder, cocoa powder twice or thrice.
- To grease and flour a cake tin or baking tray, lightly brush with melted butter or margarine then sprinkle with flour and shake to coat evenly. Remove excess flour if any by inverting the tray.

2. Cream butter and sugar with a wooden spoon till light and fluffy.

3. Beat the egg with an egg beater till it is foamy.

4. If eggs are added too quickly to a creamed mixture, the mixture will curdle. If curdling occurs, fold in a little of the flour used in the recipe, then continue beating the eggs.

5. To prevent dried fruits from sinking to the bottom of a cake, toss the fruit in a tablespoon, before adding to the cake batter.

6. If cakes are browning too quickly during baking, cover the tops with grease proof paper or foil.

7. Never open the oven door during the early cooking stage.

8. Test cakes with a skewer at the end of the given baking time to see, if cooked throughout or not.
9. Use raising agents of the correct type and proportion for a good risen cake.
10. Mix to the correct consistency. If too dry, the cake will be hard. If too wet, fruits will sink to the bottom, texture will be spoiled or cake will lose its shape.

Sponge Cake

Ingredients		Quantity
Maida	–	100g
Sugar	–	100g
Butter	–	50g
Dalda	–	50g
Egg	–	2
Essence	–	few drops
Baking powder	-	½ tsp
Honey	–	1 tsp

Method:

1. Cream fat and sugar till light and fluffy.
2. Beat the egg adding essence.
3. Add beaten egg little by little to the above cream and mix well.
4. Sieve flour with baking powder twice.
5. Fold in flour and honey and mix well.
6. Put the cake batter in small cake cups and bake at 350°F for about 20-30 mins.

Fruit Cake

Ingredients		Quantity
Prepared fruits	–	550g
Butter	–	250g
Sugar	–	250g
Flour	–	250g
Egg	–	6
Caramalized sugar	–	4 tsp
Mixed spice powder	–	1 tsp
Marmalade	–	1 tsp
Baking powder	–	1 tsp
Vanilla essence	–	1 tsp

Almond essence – ½ tsp
Rum – 1 tsp

To prepare fruits

Cleaned halved kismis – 250g
Chopped cherries – 100g
Chopped dates – 50g
Ginger preserve – 50g
Chopped cashew nuts – 50g



Method

1. Mix together all the fruits, pour 2 tbsp. of rum and leave to soak for atleast 24 hours.
2. Cream butter and sugar.
3. Add sifted flour with baking powder and fold in well.
4. Add prepared fruits, spices, burnt sugar, marmalades and essence.
5. Fold in egg white beaten to a very stiff consistency.
6. Add rum, and pour into prepared moulds and bake at 350°F for one hour.

Results and Discussion:

8.2. Cake Decoration

Aim: To understand the methods of decoration of a cake.

Equipment needed: Piping tubes for cake decoration, assorted designs, measuring spoon set, cake moulds.

Cake Decoration – Icings:

Icings are sweet coverings – plain or with vivid pattern in which sugar is the main ingredient. Type of an icing depends upon the materials used in preparation as well as the method of mixing. There are various types of icings which can be classified under two groups.

1. Flat icings including a fondant icing melted by heat and when cooled will set to a firm coating.
2. Highly aerated icings are composed of a creamed mixture of shortening, confectioner's sugar, water, salt, flavour, eggs and milk powder.

Butter Icing

Ingredients	Quantity
Butter	– 250g
Icing sugar	– 500g
Vanilla essence	– 1 tsp.
Colouring	– as desired.

Method:

- Cream butter to a smooth consistency.
- Add icing sugar little at a time and cream.
- Finally add vanilla essence and colour as desired.

Note: For covering the cake the consistency of icing should be soft, while for piping it should be stiff.

Royal Icing

Ingredients	Quantity
Egg whites	– 2 nos.
Icing sugar	– 450 g
Cream of tartar	- ¼tsp.
Colour and flavour	– as desired.

- Add cream of tartar to egg whites and beat gradually.
- Add a tablespoonful of icing sugar and continue beating.
- Add colour and flavour as desired.
- Consistency for spreading should be soft, while for piping it should be stiff.

Precautions:

1. Egg whites should be separated neatly since even minute presence of egg yolk will spoil the icing.
2. Utensils in use should be absolutely grease free and dry.
3. Egg whites from refrigerator should be rested for sometime (3-4 hours) before using them.



Score Card

Preparation	Appearance	Colour	Texture	Flavour	Taste

Results and Discussion:

8.3. Types of Sugars

Aim: To identify the different types of sugars.

Types of sugar: Various forms of sugars are available in the market for use in food preparations. Some forms are crystalline solids and others are liquids (syrups).

The following are some of the solid forms of sugar.

- 1. Granulated sugar:** This is most extensively used in food preparation because of its sweetness, colour and solubility. It is available in different granule sizes.
- 2. Powdered sugar:** This is obtained by powdering the granulated sugar and used for coating food products.
- 3. Icing sugar:** Such sugar is made by pulverizing granulated sugar with or without the addition of any edible starch. Starch, if added absorbs moisture and prevents the caking of powdered sugar.
- 4. Rock sugar:** This is available in broken or whole slabs or in uniform small cubes. This is used during festive occasion and for sweets like laddu.
- 5. Jaggery:** It is obtained from sugarcane and also from palmyra, date palm and coconut. The sugarcane juice is freed from coarse suspended impurities and boiled in open pans. During heating vegetable and chemical extracts are added to the juice to precipitate colloidal impurities. The juice is clarified and boiled vigorously to 115-117°C with constant stirring to yield a concentrated semisolid mass. This, on cooling solidifies into jaggery. It is preferred to sugar because it is rich in iron, gives colour and has a typical flavour.
- 6. Corn syrup:** It contains 75% carbohydrates and 25% water. Acid and high temperature are applied to hydrolyse cornstarch. The carbohydrates of the resulting product comprises of 10 to 36% glucose and 9 to 20% maltose, the remaining consist of higher sugars and dextrans. Corn syrup inhibits crystallisation in selected foods. It is useful in baked products. Further acid hydrolysis of this will yield glucose.

Sugar, their characteristics and uses:

The following table gives the different types of sugar, their characteristics and uses.

S. No.	Types	Characterisitcs	Uses
1	Granulated sugar	Crystals of medium size cubes.	Common sweetening agent.
2	Powdered sugar	Powdered sugar granules.	Doughnut, hard puris.
3	Icing sugar	Fine powder.	Decorating the cake, mainly for icing.

S. No.	Types	Characterisitcs	Uses
4	Rock sugar	Broken or whole slabs.	For sweets like laddu.
5	Jaggery	Mould or big mass or powdered light brown or yellow in colour, good flavour and keeping quality.	Used for making sweets and candies.
6	Corn syrup	High sugar dextrin in the form of syrup.	Used for dry beverages, food mixes, instant breakfast mixes.



Instructions: Make the students to identify the various types of sugars and write down their characteristics and uses.

8.4. Preparation of Biscuits

Aim: To learn the method of preparation of biscuits.

Equipment needed: Baking oven, basin, baking sheet, knife, rolling board and pin.

Biscuits: This is one of the processed wheat product which has found acceptability even in the rural parts of the country. The proportion of flour (5 parts) to liquid in the form of milk (1 part) is important. The other ingredients are baking powder, fat and salt. The dry ingredients are mixed and sifted together and fat is cut into the flour mixture. Vegetable oil can satisfactorily replace solid fat.

1. Recipe Formulation – Cinnamon Biscuits

Ingredients	Quantity (g)
Maida flour	– 100
Shortening	– 55
Sugar powder	– 55
Whole egg	– 30
Fresh milk	– as required
Cinnamon powder	– ¼ tsp.
Granulated sugar	– 10
Vanilla essence	– ¼ tsp.

Method:

1. Sift the maida flour.
2. Rub fat in the flour so as to resemble bread crumbs.
3. Add powdered sugar.
4. Whip eggs with vanilla essence and add to the flour and mix.
5. Add little milk if necessary and mix to a smooth and stiff biscuit dough consistency. Avoid over mixing.
6. Roll out thinly into rectangular shape.
7. Wash with half the portion of egg and sprinkle cinnamon powder, mix with granulated sugar.
8. Fold the remaining half over it.
9. Cut biscuits into definite shape and place on baking sheet.
10. Bake at 350°F for about 15 minutes.



2. Melting Moments

Ingredients	Quantity (g)
Flour	– 100
Sugar	– 65
Shortening	– 75
Whole egg	– 16
Baking powder	– ¼ tsp.
Vanilla essence	– ¼ tsp.
Corn flakes	– 20

Method:

1. Sift flour and baking powder twice.
2. Cream fat and sugar.
3. Beat egg with vanilla essence and add to creamed mixture.
4. Add flour and mix gently into a soft dough.
5. Break into small pieces (walnut size) and roll into desiccated coconut or crushed corn flakes.
6. Place on baking sheet an inch apart.
7. Bake at 375°F for about 15 minutes.

Note: This dough is sticky in nature, hence while breaking it into pieces it is advised to moisten hands with oil.

Results and Discussion:

9. PRESCHOOL EDUCATION

9.1. Layout for a Preschool

Aim: To understand the planning of layout for a balwadi / preschool.

Preschool: Preschool is a living place for growing children, primarily interested in educating them the glorious art of living and not a place of formal learning where the main purpose is to communicate a certain prescribed quantum of knowledge. The preschool environment thus helps or hinders the realization of these goals.

Essentials of a good building: The essentials of a good pre school building are,

1. Plan
2. Site
3. Surroundings.

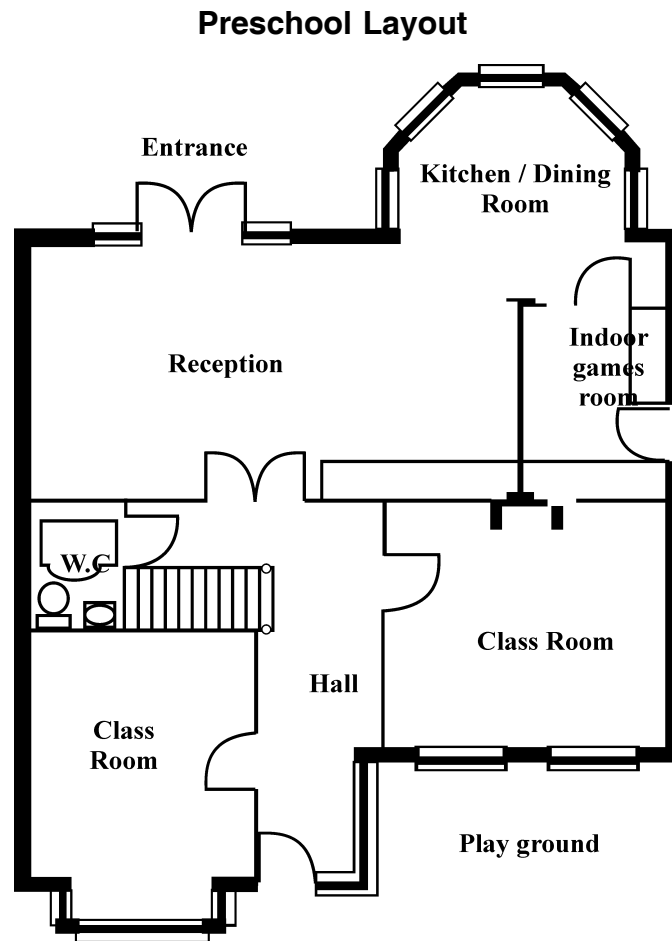
Building plan: The plan for the preschool building would vary with the needs.

The following suggestions would facilitate in evolving a desirable blue print.

- The building should be planned to conform strictly to the laws of sanitation, hygiene, ventilation and lighting to allow the life giving sun rays to reach all rooms. It should permit free and easy access of fresh air to all parts of the building.
- The building should fulfil the minimum requirements of play rooms, lavatories and wash rooms. Every child must have at least 1.5 sq. meter of floor area. No play room should be more than 9 mts. in length. A single storey building is preferable for convenience and safety.



Keeping these requirements in mind, plan a building for a preschool with the minimum space availability. A model preschool plan is given below:



Design of Elements

- Vital – classroom storage, teachers room, display, chalkboard, provisions for the disabled.
- Desirable – floor colour, wall décor

Design of Spaces

- Vital – size, shape, ventilation, illumination, verandah, teachers room, toilets.
- Desirable – acoustics, school layout, kitchen, balwadi.

Site Planning

- Vital – master plan, general layout, location of toilet and drinking water facilities.
- Desirable – location of kitchen, balwadi, open space, landscape, boundary, rain water harvesting, solar energy.

Results and Discussion:

9.2. Preparation of Puppets

Aim: To learn the preparation of puppets.

Materials needed: Paper plastic cup, straw, toy, old gloves, paper bag, scraps of paper, pieces of waste cloth, rod or stick.

Values of play: Child's development does not happen without play. Play is the child's response to life. Every healthy, happy young child plays for the major part of the day. Play is an integral part of the life of any child. During play the child and its innermost thoughts, feelings and attitudes find a free natural spontaneous expression.

Puppets: Puppets are almost universally appealing to young children. They are approachable interesting and funny. Puppets are not 'Real' and yet.... they move and talk like real live things do.

Puppet is a moving thing looks like a person or an animal or a thing 'moves and speaks'. Puppet is an ancient art form. It is ideal to use as an announcer for a marionette show either pushed through a slit in the curtain or through a small opening in the side.

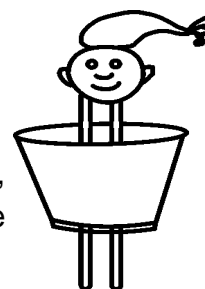
Procedure for the preparation of different types of puppets

(1) Pop up stick puppets

Materials needed: Paper or plastic cup, straw, toy.

Method:

- Poke a hole in the bottom of a paper or plastic cup.
- Fit a plastic straw through the hole.
- Attach a small toy or a face on a small ball to the end of the straw, so that it can pop in and out of the cup when you moves the straw.
- There are many ways you could elaborate this simple puppet.



(2) Pop up stick puppets Materials needed

- Paper bag.
- Scraps of paper or anything similar.
- Pieces of cloth waste material.
- Rod or stick.



Method:

- Take a paper bag and fill it with anything similar to scraps of paper or pieces of cloth.
- Draw face on it and colour the face or paste pieces on the bag in the shape of a face.
- The pieces should be large and in strong bold colours.
- Insert a rod or stick in the bag, tying up the bottom of the bag securely so that the rod does not slip out. Now the puppet is ready.

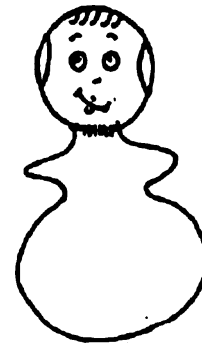
(3) Ball puppet

Materials needed:

- Old rubber ball.
- Cloth bag stuffed with rags and scraps.
- Coconut shell.
- Plastic bottle.

Method:

- Take an old rubber ball and paint a face on it.
- Make a hole in the ball and push the rod in.
- To dress the puppet, fold a piece of cloth and stitch it on to a bag, leaving a hole at one end.
- Slip it over the rubber face and tie it around the rod.



Instruction: The puppets preparation can be modified according to students imagination.

Results and Discussion:

9.3. Indoor and Outdoor Play Equipment

Aim: To know about the indoor and outdoor play and their importance to the child's growth and development.

Importance of play: Play is fundamental to life. Just as any good workman needs the tools best suited for work, so children need play equipment suited to their age, strength and interest. Its importance for a child's physical, intellectual, social, emotional and creative development is emphasized.

Contributions of play equipment: Toys are friends and educational aids to children. Play equipment enable children,

1. To learn – shape, size, colour, texture, number and qualities of objects as well as their significance.
2. To explore, collect, experiment and acquire information / cognition that cannot be obtained by any other means.
3. To manipulate and handle objects.
4. To communicate and learn language.
5. To have divergent thinking and analysis.
6. To observe and sharpen perception.
7. To use gross muscles, finer muscles and achieve eye hand co-ordination.
8. To release surplus energy.
9. To exercise the whole body.
10. To learn to adjust with peers and adults.
11. To give and take share, co-operate and to be tolerant.
12. To give vent to their emotions.
13. To relate with outside world events and objects.
14. To learn a sense of responsibility and leadership.

Play equipment for children (3-5 years)

Children of the age range between 3 and 5 years are beginning to control fine muscles, while the large ones are still growing. These children show interest in people other than themselves and begin to reach out to the world beyond home.

They need the following types of toys,

Water play: Early child hood education have traditionally capitalized or the child's natural affinity for water play by including it as an inevitable activity in the class room (Taylon, 1991) and by featuring it outdoors in warm water.

Nature and significance of water play: Water is one of the basic raw materials, for purposeful play. Just like sand, clay and blocks, children can use water without being constrained by the one right way to use it.

S.No.	Indoor Play equipment	Outdoor Equipment
I	Toys for strengthening muscles	
	Pull push toys, Jumping ropes Blocks, Carpentry tools	Climbers, Swings Large balls, Gardening tools
II	Toys for widening the mind	
	Lock with key, Magnet, Aquarium, Bubble set, Matching picture games, Books with simple stories	Jingles, Water play toys
III	Toys for pretending	
	Washable, unbreakable dolls Housekeeping equipment, Costume box Farm/zoo animal sets	Transportation toys, Sheet/Blanket for play tent First aid box
IV	Toys for releasing feelings	
	Clay, crayons, Painting materials Blunt scissors, hammer, nails Puppets, musical instruments	Sand pit toys, Rocking chair Wading pool, Tumbling mat

- Water play corner can be a catalyst for building concepts developing language, and promoting social skills.
- Water play is developmentally appropriate regardless of the child's physical condition, mental condition, age, language, gender.
- Water play is absorbing and soothing children who will stay with it for a long time.

Water play and development: Researches in the filed of water play have revealed that it helps in the following way.

- **Mathematics learning through water play:** A sample of mathematical concepts that can be built through water play is given below,

Empty / Full	Thick / Thin	Shallow / Deep	Rational counting
Many / Few	More / Less	Same / different	Liquid measure
Before / After	Hard/ Soft	Greater / lesser	Linear measure

- **Science learning through water play:** Concepts about force, enegy, properties of liquids, states of matter displacement, surface tension, pollution, solutions and ecology can be developed.
- **Development of physical skills through water play:** A water play centre promote use of both large and small muscles as well as the skills needed to co-ordinate eye and hand movements.
- **Learning social skills through water play:** Water play may be solitary, parallel associative or even co-operative with group goal. The form of play depends on the felt needs of the children.

9.4. Creative Activities

Aim: To know about the uses and types of creative activities.

Creative work: Creativity is the capacity of persons to produce composition products or ideas of any sort which are essentially new or novel and previously unknown to the producer.

Characteristics of creative work:

- It should be an imaginative activity.
- It involves forming of new patterns and combination of information derived from past experiences and transplanting of old relationships to new situations.
- It is not an idle fantasy act, but purposeful or goal oriented.
- It is an artistic approach, literacy or scientific production or may be of a procedural nature.

Examples of creative activity: The young child is most creative when he works with uncommon materials like water, sand, clay, paint, finger paint, crayons, paste, soap, wood, fabrics and paper. Tools such as pencils, brushes, crayons, scissors, hammers, drills, saws and other tools may be used.

Block building, drawing and painting wood work, singing, collecting objects, modeling, printing, toy making, collage, fabric painting, paper marking, filling drawings with glitter, stones, beads, chumki, cotton, saw dust, feathers, egg shell, pencil scrap, woollen thread, chocolate paper etc.

The following suggestions are given for the promotion of creativity

1. The child should be made free to express her ideas.
2. The originality of the children should be encouraged.
3. The children should be allowed freely and flexibly in finding solution to the problem.
4. The curiosity of the child should be satisfied with affection, sympathy and tolerance.
5. The child should be appointed wherever it deserves.
6. The curriculum for the child should be designed to have ample scope for creative thinking.
7. Children should be provided more opportunities for developing creative thinking by giving assignments.
8. The creative reading and writing should occupy the topmost place in the curriculum and examination system.
9. The children should be helped to imbibe the qualities like resistance, reliance, self-confidence, divergent thinking, originality, flexibility which are essential for creativity.
10. The child should be given opportunities to visit exhibitions, museums the center of creative art and scientific and industrial creative work.
11. The artists, scientists and creative persons in any field may also be invited to school to narrate the experiences in developing creative thinking.
12. Parents and teachers should be role models in creative thinking.

10. ACTIVITIES IN PRESCHOOL

10.1. Song for Preschool Children

Aim: To acquire skill to prepare and teach a song to balwadi children.

Equipment needed: Song book, pictures, charts.

Importance of music: Children require outlets for their feelings. Music is one of the constructive ways in which children can give vent to their feelings. Developing an appreciation of music will be a life long asset. The world is full of sounds. Even the still stone gives music to the listening child.

Suggestions about the types of songs to choose: Every language has many songs for children. A balanced variety should be maintained.

Criteria for choosing songs:

- 1. Content:** Songs should be related to familiar things that they see and do like toys, animals, trains, cars, boats and places of interest.
- 2. Vocabulary:** Explain all the new words in a song, which is in the mother language. Each and every word of a song in a foreign language should be explained well.
- 3. Tune:** Keep variety in types of tunes, pitches high and low with differing degrees of movements up and down the scale and range.
- 4. Rhythm:** Have some fast, some slow, some even, some syncopated and some simulating definite movements like marching. All should be with a clear identifiable beat.
- 5. Volume:** Loud and soft, loud becoming gradually softer and the opposite.
- 6. Actions:** Some songs will have set actions to fit the words, either sitting, standing, or moving.

The Role of the Teacher in Teaching Music:

The most important role of the teacher is to discover the developmental stages of each child and then plan experiences which will be beneficial to him. The teacher must discover the interest, concepts and abilities of the child and plan the programme accordingly. The teacher should incorporate music during other activities – creative dramatic play, free play or snack time in order to create new interests and ideas.

Note: Students can select any songs suited for preschool children.



11. MANAGEMENT

11.1. Conservation of Energy

Aim: To know about the tips for conservation of energy.

Importance of conserving fuels:

Wise selection of fuels and ovens help to conserve time and energy of the homemaker and induce economy in family finance. Combustible substances used for the production of heat are known as fuels. They can be graded according to the amount of heat produced. No home or industry can exist without them. A good fuel should be,

- Exothermic
- Inexpensive
- Easily storable and transportable.
- The products of combustion should be easily disposable.

For domestic use, liquefied petroleum gas is generally supplied in steel cylinders and used in gas stoves. Cooking in gas stoves is efficient, as heat is easily regulated. Some of the tips for conserving energy are as follows:

- Use of pressure cooker saves fuel and time and different items may be cooked at the same time.
- When food is cooked in adequate amount of water, fuel can be saved.
- Soaking hasten the process of cooking.
- Closing of the pan while cooking saves fuel.
- Marinating is soaking a food in a marinade to add flavor or to tenderize it or both.
- Marinating reduces cooking time.
- Preparations like cutting, sieving etc. before cooking helps in faster cooking. Wasting of fuel can be avoided.
- Medium flame is used while cooking foods which facilitates uniform cooking.
- Thawing (to bring to the room temperature) of foods from the refrigerator before cooking saves energy.

Results and Discussion:

11.2. Standardization and Portion Control of a Product for Small Scale Business

Aim: To understand the method of preparation, standardization and portion control of a ready mix for a small business.

Equipment needed: Kadai, spatula, drying pans, etc.

Standardization:

Standardized recipe is one that has been tried and adapted for several times for use by a given foodservice operation. It has been found to produce the same good results and yield every time when the exact procedures are used with the same types of equipment and the same quantity and quality of ingredients.

Using standardized recipes provides many benefits for small scale production. Because it gives consistent food quality, predictable yield and food cost control.

Portion Control:

Careful control of the amount of food served to every customer or portion control is essential if we need profit margins.

Recipe formulation : Idli Powder (Podi)

Ingredients	Quantity (g)
Black gram dhal (dehusked)	– 200
Black gram dhal	– 25
Red gram dhal	– 100
Bengal gram dhal	– 100
Red chillies	– 50
Sesame (white)	- 25
Curry leaves	– as required
Asafoetida powder	- ½tsp
Crystal salt	– as required

Method:

1. Fry all the above ingredients separately and dry in hot sun.
2. Grind coarsely and pack.
3. Prepare packets weighing 50g.

Note: Find out the amount of idli powder obtained.

Calculate the cost of raw ingredients used.

Find out the cost of each portion (eg)	50g
Total cost of raw ingredients (eg)	100
Number of portions	20
Cost of each packet is Rs.	5.00

Results and Discussion:

QUESTION BANK FOR XII STANDARD

Practical I

Marks : 150

1. A) Tabulate the latest immunization chart. (25)
B) i. Plan a day's menu for an anaemic child. Write the clinical symptoms and dietary guidelines.
ii. Prepare any one food item and calculate the calories and iron content of any two food ingredients. (35)
C) Write the recipe for preparation of mixed fruit jam. (15)
2. A) Prepare a model organizational chart of a hotel. (25)
B) Plan a day's menu for an infant of 8 months, write the dietary guidelines and prepare a weaning food. (35)
C) List the values of play equipment. (15)
3. A) Write down the general procedures for setting up the table. (25)
B) Write the importance of germination and prepare any one dish/item using sprouted gram. (35)
C) Plan a layout for a preschool. (15)
4. A) Explain the different types of sugar and their characteristics. (25)
B) Plan a day's menu for a pregnant woman, write the dietary principles and prepare any one item. (35)
C) Suggest some tips for conserving fuel. (15)
5. A) Explain the tests for determination of endpoint in jam preparation. (25)
B) Explain the different types of puppets and prepare any one. (35)
C) Write the recipe for preparing a biscuit. (15)
6. A) List the tips for cake making (25)
B) i. Plan a day's menu for a PEM child, write the clinical symptoms and dietary management.
ii. Prepare any one dish/item and calculate the calories and protein for any two ingredients. (35)
C) Write the recipe for fruit cake preparation. (15)
7. A) Enumerate the steps involved in food preparation before cooking. (25)
B) Plan a day's diet for a diabetic patient and prepare any one food item. Write down the following.
i. Symptoms ii. Dietary principles and guidelines
iii. Permitted and restricted foods (35)
C) Write about water play. (15)

9. A) Explain the responsibilities of a dietitian. (25)
 B. Plan a day's diet and prepare a food item for a person suffering from fever and write down the following.
 i. factors and symptoms
 ii. dietary principles and guidelines
 iii. permitted and restricted foods (35)
 C) Write the recipe for sponge cake. (15)
10. A) Explain the procedure for different types of decorating a cake. (25)
 B) Plan a day's menu for a child suffering from vitamin A deficiency and prepare any one food item. Write down the following.
 i. Clinical symptoms and dietary principles
 ii. Calculate calories and vitamin A for any 2 food items. (35)
 C) How will you promote creativity among children? (15)
11. A) Write the food and nutrient requirements for preschool children. (25)
 B) Prepare a food item and develop a score card for sensory evaluation. (35)
 C) Explain the criteria for selecting and teaching a song for pre schoolers. (15)
12. A) List the storage and production equipment needed for a restaurant. (25)
 B) Prepare tomato sauce and develop a score card. (35)
 C) How will you promote creativity among children? (15)
13. A) Bring out the need for immunization and tabulate the latest immunization schedule. (25)
 B) Prepare methi chappathi and develop a score card. (35)
 C) Write on indoor play and water play. (15)
14. A) Explain the tests for determination of endpoint in Jam preparation. (25)
 B) How will you promote creativity among children? Prepare any two creative activities. (35)
 C) Write the recipe for sponge cake. (15)
15. A) Write the food and nutrient requirements of pre school children. (25)
 B) Plan a day's menu for a child suffering from kwashiorkor and prepare any one food item. Write down the following
 i. Clinical symptoms and dietary principles
 ii. Calculate the calories and protein for any two food items (35)
 C) What is ORS? How will you prepare it? (15)
16. A) Write down the general procedure of setting up the table. (25)
 B) Plan a day's diet for a diabetic patient and prepare any one food item. Write down the following:
 i. Symptoms
 ii. Dietary principles and guidelines
 iii. Permitted and restricted foods (35)
 C) Plan a layout for a preschool (15)

**XII STANDARD
BLUE PRINT**

Total Marks	-	200
A. Internal assessment	-	50
B. External assessment	-	150
A. Internal Assessment	-	50
Record + Album	-	15
Assignment	-	10
Project	-	10
Attendance	-	5
Tests	-	10
B. External Assessment	-	150
Procedure (write up)	-	75
Preparation	-	50
Presentation / display	-	25

PRACTICAL – II

1. QUALITY OF FOOD

1.1. Sensory Evaluation of Food

Aim: To develop skill in identifying the different tastes of food.

Equipment needed: Tumblers, spoon, vessel, ladles.

Sensory evaluation: Quality is the ultimate criterion of the desirability of any food product. Food quality can be evaluated by sensory and objective methods. Sensory evaluation consists of judging the quality of food by means of human sensory organs, everytime food is eaten judgement is made.

Sensory quality: It is a combination of different senses of perception coming into play in choosing and eating a food. Appearance, flavour and mouth feel decide the acceptance of food. The effective characteristics is not the property of the food, but the subjects reaction to the sensory qualities of foods, which determines the acceptability.

Types of tests: Different sensory tests are employed for food evaluation among which the details of two tests namely paired comparison test and triangle test are explained below:

Paired comparison test: Several pairs of samples are taken. There may be different or same samples in each pair. Samples are given code numbers. Different samples given in each pair differ in the intensity of one character. For example sweetness or bitterness. In each pair the sample with high or low intense taste will have to be picked out.

Procedure:

1. Take water in two glasses and dissolve 1 teaspoon and 2 teaspoons of sugar respectively.
2. Give code numbers to the glasses (A,B)
3. Identify the glass having highest content of sugar.

Result:

Triangle test: This test employs three samples, two identical and one different, presented simultaneously to the panel. The judge is asked to determine which of the three is the odd sample. A positive answer is required even if it is a guess.

Procedure:

1. Take 3 glasses of water and dissolve 1 teaspoon of sugar in 2 glasses and 2 teaspoons of sugar in one glass.
2. Give code numbers to the glasses (1,2,3)
3. Identify the odd one

Result:

Results and Discussion

1.2: Selection of Foods

Aim: To learn the criteria for selection of food items from food groups.

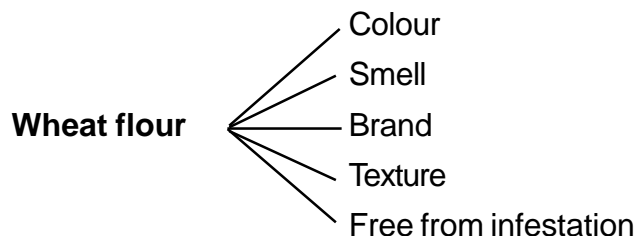
Selection: The following are the general rules for selection of food items

- Seasonal foods should be selected for consumption to economize on food cost due to good supply.
- Vegetables and fruits must be clean, undamaged and not bruised.
- Buy the less expensive forms of food (eg) bread rolls are more expensive than bread loaves.
- Bakery products such as cakes, pastries, pies, pizzas and other items like pickles, squashes, chips etc. cost more when bought readymade than prepared at home.
- Essential commodities such as rice, wheat, redgram dhal, sugar and jaggery can be purchased in sufficient quantities for the whole year during season.
- Packaged foods cost more than the unpacked ones.
- Avoid impulse buying. It should be need based
- Buy all the monthly requirements from a good store preferably a super bazar to ensure uniformity of quality, correct weight and moderate price.

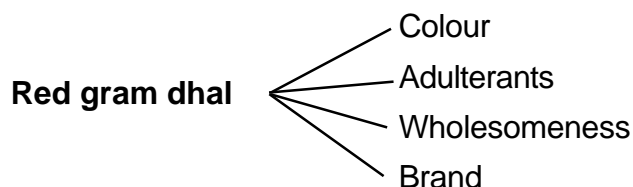
Identifying the points to be considered in the selection of food items:

Select foods from basic food groups as wheat (cereal), redgram dhal (pulses), greens, vegetables, fruits. While selecting these foods following norms should be followed:

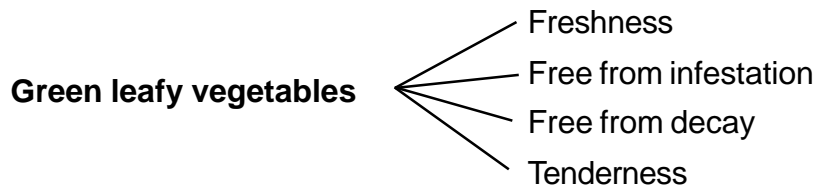
1. Cereals - (eg) Wheat flour: Wheat flour is selected based on the following points:



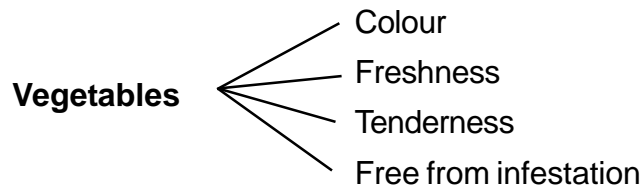
2. Pulses: (eg) Red gram dhal: It is selected based on the following criteria.



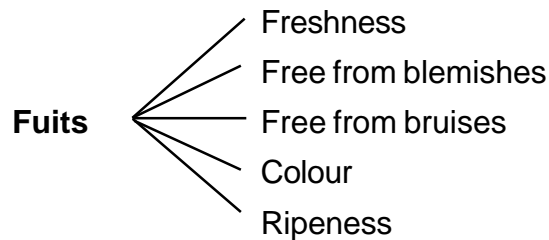
3. Green leafy vegetables: The criteria for selecting greenleafy vegetables are given below:



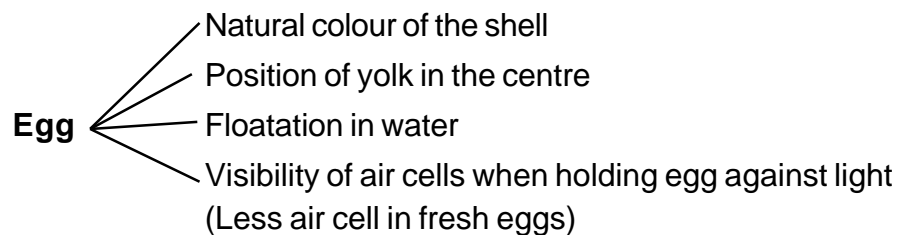
4. Vegetables: (eg) Beans: Vegetables selection includes



5. Fruits: While buying fruits consider the following points.



6. Eggs: Agmark certified eggs are available in many super markets. Eggs are selected based on the following points.



Note: Visit a shop and select food items accordingly and make a report.

2. MATERNAL AND INFANT NUTRITION

2.1: Planning a day's menu for a lactating woman

Aim: To formulate a day's menu for a lactating woman.

Equipment needed: Vessels, cup, spoon, ladles.

Dietary principles: Diet should be balanced to meet the requirement and number of meals can be increased.

- The diet can include lactogogues which stimulate the production of milk. Garlic, milk, almonds and garden cress seeds are considered to increase the milk production.
- Weight gain beyond that is desirable for body size should be avoided.
- It is better to control maternal constipation by including raw and cooked fruits and vegetables, whole grain and an adequate amount of water in the diet.

Sample Menu

Early morning	-	Milk with malt
Breakfast	-	Pongal, coconut chutney, vadai, tea
Mid morning	-	Vegetable soup with rice vadam
Lunch	-	Rice, keerai masiyal, carrot poriyal, rasam, curd, egg omlette, banana
Evening	-	Badam kheer, sprouted green gram sundal
Dinner	-	Chappathies, vegetable kuruma, Apple
Bed time	-	Milk

Pongal - Recipe Formulation

Ingredients	Quantity
Rice	100g
Green gram dhal	50g
Ghee	2 tbs.
Ginger	½ cube
Cashew nut	10g
Pepper, Jeera, curry leaves	for seasoning
Salt	to taste

Method:

- Soak rice and dhal and cook it with salt in a pressure cooker
- Heat the ghee and add finely chopped ginger, broken cashew nut, pepper, jeera and curry leaves
- Mix them well and serve hot with chutney.

Results and Discussion:

2.2: Infant foods available in the market

Aim: To identify the various infant foods available in the market.

Procedure: Visit a departmental store / food mal and identify the infant foods available and elicit the following information.

S.No.	Name of the food	Composition	Nutritive value	Amount	Cost Rs.	Manufacturer
1.	Farex					
2.	Nestum					
3.	Cerelac					
4.	Amul					
5.	Amul Spray					
6.	Others					

Results and Discussion:

2.3: Preparation of supplementary foods

Aim: To know about supplementary foods for children.

Equipment needed: Vessels, tawa, ladles, spoons

Supplementary food: The foods that are introduced in addition to breast milk are called supplementary foods. Types of supplementary foods.

1. Liquid supplements : Milk, fruit juices, soups
2. Semi-solid supplements : Cooked, mashed vegetables like potatoes, carrots, green leafy vegetables
3. Solid supplements : Idli, rice, dhal, chppathi

Some of the selected supplementary foods are soup, stewed apple, poached egg, boiled potato

Recipe formulation - Vegetable Soup

Ingredients	Quantity
Onion	: 100g
Carrot	: 100g
Green peas	: 100g
Butter	: 3 g
Corn flour	: 10 g.
Cauliflower florets	: 100g
Milk	: 200 ml
Salt, Pepper powder	: to taste

Method:

- Cut all the vegetables into cubes (except green peas)
- Pressure cook and strain the stock
- Heat a pan and melt butter
- Fry sliced onion and green peas
- Add flour and milk mixture
- Pour the vegetable stock and cook for a few minutes
- Serve the hot soup with salt and pepper

II. Stewed apple: This is a gentle method of cooking apple in a pan with tight fitting lid using small quantities of liquid.

III. Poached egg: Poach an egg with little addition of salt or vinegar to the cooking liquid which lowers the temperature of coagulation of proteins

IV. Boiled potato: Cut potato and immerse in water and boil till the potato becomes tender.

Results and Discussion:

3. NUTRITION FOR CHILDREN

3.1: Packed lunch for a school going child

Aim: To learn the preparation of packed lunch for a school going child.

Equipment needed: Pressure pan, vessel, tawa, ladles, cups, spoons

School going child: School age period is called the latent time of growth. The rate of growth slows down and the body changes occur gradually.

Dietary guidelines:

- Nutritional requirement should meet their increasing activity and growth.
- Children are generally rushed to go to school in the morning, so dishes should be quick to eat and satisfy, nutritional value
- Menus need to provide variety in colour, texture, taste and flavour
- In hot weather conditions extra liquids and salts need to be given.
- Food should be offered at regular intervals until the child learns to accept it.
- Food should suit their likes and dislikes. For example salads can be incorporated in recipes like sandwiches.

Packed lunch: It is a lunch that is packed in a tiffin box to be eaten by the child while away from home.

Points to be considered in planning a packed lunch

- The packed lunch should meet one third daily requirements of calories and protein of the child.
- Foods from the basic five food groups should be included for the preparation of packed lunch
- One serving of green leafy vegetables in a meal would take care of one third requirement of vitamins and minerals.
- Inclusion of milk or milk products like curd would improve vegetable protein.
- Foods like whole fruit or butter milk in a bottle or chips in polythene bag can be given to make the lunch appetizing
- Monotony should be avoided
- The food should have correct consistency for a packed lunch

Suggested packed lunches:

- Vegetable pulao, boiled egg, tomato raita and orange fruit
- Chappathi stuffed with potato, carrot, methi chappathi
- Idli with thick tomato / coriander chutney
- Sambar rice, amaranth poriyal / avial / curd rice
- Coriander rice with potato chips

Recipe formulation - Coriander Rice

Ingredients	Quantity
Rice	: 1 cup
Coriander leaves	: ½ bunch
Big onion	: 20 g
Green chillies	: 3 g
Ginger garlic paste	: 1 tsp.
Grated coconut	: 2 tsp.
Ghee	: 3 tsp.
Aniseeds, cinnamon, cloves, cardamom	: For seasoning

Method:

- Heat ghee in a pan and fry aniseeds, cloves, cardamom, cinnamon with ginger garlic paste.
- Grind coriander leaves, grated coconut and green chillies
- Add this ground paste into the frying mixture and stir well.
- Soak rice in water and after straining add rice to the pan and cook with enough water.
- After cooking, cool it and put in the lunch box and pack it.



Results and Discussion:

3.2: School Noon Meal Programme

Aim: To collect information regarding noon-meal programme in the school.

Noon meal programmes: Objectives: To

- Provide food for undernourished children and to improve their nutritional status
- Increase school enrolment and attendance of the children
- Inculcate good food habits
- Incorporate nutrition education as a part of the curriculum
- Improve the educational performance of the students
- Encourage the use of locally available nutritious foods
- Encourage community participation in the feeding programme and
- Provide facilities for all round development.

Method:

Observing noon-meal programme in the school

Observe noon meal programme in your school and note down the information in the format given below:

Name of the School :
No. of children consuming
noon-meal in the school :
Menu for the whole week :
1.
2.
3.
4.
5.
Budget per person :
Type of fuel used :
Facilities available (cooking, :
washing, storage, serving)
No. of persons helping : Cook :
Assistant cook :
Helper :
Records maintained :

Results and Discussion

3.3: Common Ailments among Children and Preventive Measures

Aim: To know about the common ailments among children and suitable preventive measures.

Procedure: Select any five common ailments and tabulate the symptoms and preventive measures.

S.No.	Ailments	Signs / Symptoms	Preventive measures
1.	Cough and cold	Sneezing, severe cough, nose block, drowsiness, running nose, head ache, irritability, body pain	<ul style="list-style-type: none"> * Isolate the children, teach them not to spit or clean the nose indiscriminately. * Teach them to cover the nose while sneezing or coughing
2.	Rashes with fever	Elevated body temperature, rashes in the body, red in colour, body pain	<ul style="list-style-type: none"> * Isolate the patient. Keep the patient in darkened room. * Dressings which have been in contact with patient are burnt or buried
3.	Diarrhoea, vomiting	Nausea, dehydration sunken tearless eyes, dry mouth and thirst, loss of skin elasticity, sunken fontanelle, little or no urine	<ul style="list-style-type: none"> * Give the child plain boiled water to drink. * Chlorinate all drinking water sources. * Stool and vomit are to be disposed hygienically so that flies do not settle on them. * All foods should be covered for protection. * Hand should be washed before and after handling food * Eating utensils should be washed properly
4.	Constipation	Head ache, coated tongue, foul breath and lack of appetite	<ul style="list-style-type: none"> * Plenty of water should be given between meals. * Suitable exercise and massage should be done * Diet should contain more fruits and fresh vegetables. * High fibre diet is highly recommended
5.	Ear ache	Severe pain in the ear, fever, body pain	<ul style="list-style-type: none"> * Gently rub the child at his back. * Give warm water to drink * Ear drops recommended by the physician should be used

Results and Discussion:

4. THERAPEUTIC DIETS

4.1: Diet Plan for Ulcer Patient

Aim: To formulate a diet for a person suffering from ulcer.

Equipment needed: Pressure pan, vessels, egg beater, spoons

Ulcer: Ulcer occur in the oesophagus and stomach. Whatever be the location of the ulcer in the gastro intestinal tract, the symptoms that are produced by the ulcer are similar. Hence, dietary treatment is the same for all gastro-intestinal ulcers.

Symptoms

- Epigastric pain and heart burn
- Discomfort and flatulence in upper part of abdomen
- Haemorrhage is the indication of an ulcer
- Weight loss and iron deficiency anaemia.

Dietary Principles

- Optimum overall nutritional intake to support recovery and maintain healthy tissue based on individual needs and food tolerance is essential.
- Avoidance of secretogogues such as spices, tea, coffee and alcohol are essential.

Dietary Guidelines:

- Moderate use of seasonings are permitted
- Regularity of meal time is essential. The patient gets benefitted by small and frequent meals.
- Heavy meals should be avoided
- Foods should be eaten slowly and chewed well
- Meals should be eaten in a relaxed atmosphere
- Protein rich snacks should be taken in between meals
- Recipes including milk, cream, butter and cheese are suggested.

Permitted foods: All milk beverages, weak tea, cereals, eggs (not fried), steamed fish, cooked vegetables, custards, malted drinks.



Restricted foods: Alcohol, strong tea, coffee, cola beverages, gravies, pickles, spices, chillies, curries, condiments, all fried foods, pastries, heavy sweets like halwa, burfi etc.

Sample Menu

Meal time	Food items
Early morning	Malt drink - 1 glass
Breakfast	Appam - 2, coconut milk - ½ cup Poached or boiled egg - 1
Mid morning	Steamed custard - 1 cup
Lunch	Rice - 1 cup, thin dhal - ½ cup, mashed greens - ½ cup, steamed fish - 2, curd - ½ cup
Evening	Bun - 2, milk - ½ glass
Dinner	Chappathi - 2, pumpkin curry - ½ cup, rice porridge - ½ cup
Bed time	Apple milk shake - 1 glass

Recipe Formulation : Steamed custard

Ingredients	Quantity
Milk	: ½ cup
Sugar	: 1 tbsp.
Egg	: 1
Vanilla essence	: ¼ tsp.

Method:

- Mix all the ingredients
- Steam in a pressure pan
- Serve after cooling

Results and Discussion

4.2: Oral Rehydration Solution (ORS)

Aim: To understand the composition and preparation of oral rehydration solution formula

Need for Oral Rehydration Solution : If diarrhoea is prolonged and dehydration becomes evident it is desirable to rehydrate the child orally by administering a solution.

Oral Rehydration Therapy: Oral rehydration therapy based on the administration of correct oral fluids while allowing food intake provides a balanced water and electrolyte replacement at low cost and saves lives. Rehydration with fluids improves appetite allowing better feeding and continued weight gain.

Composition: The recommended formula of the oral rehydration powder according to WHO/UNICEF is as follows:

Sodium chloride	:	3.5 g
Sodium bicarbonate	:	2.5 g
Potassium chloride	:	1.5 g
Glucose	:	20 g
Water	:	1 litre.

Preparation: To one litre of boiled and cooled water, mix 20g glucose or 40g sugar or in one litre of water add 50g (or 2 heaped tablespoon) rice powder and boil for 4-5 minutes then add

Sodium chloride	- ½ teaspoon (common salt)
Sodium bi-carbonate	- ½ teaspoon
Potassium chloride	- ¼ teaspoon or a little lemon juice.

Give atleast 4-6 glasses/day. The rice formula can be kept at room temperature for 5-6 hours and in a refrigerator for 24 hours. It is an effective measure for controlling diarrhoea.



4.3: Diet Plan for Obese Person

Aim: To formulate a day's menu for an obese person.

Equipment needed: Vessels, cups, ladles, spoon, idli vessel

Obesity: A person who is more than 20 per cent above the normal ideal body weight for his sex, age and height is said to be obese. One must be able to distinguish between weight due to well developed muscle mass and due to excessive fat deposition.

Causes for obesity:

1. Hereditary factor
2. Social and cultural factors
3. Emotional factors
4. Abnormalities of glandular functioning or metabolism.

Dietary guidelines:

- Reducing diets is to provide lesser calories than what the person requires.
- Normal protein intake is essential
- About 4 teaspoons of fat per day is recommended
- Carbohydrate should contribute not more than 70 per cent of the total calorie intake. A diet with good amount of fibre helps to achieve a feeling of fullness with lesser amount of calories.
- Simple carbohydrates like sugar, jam, squash, syrup and fruit juices are to be avoided since they contribute bulk to the diet.
- Exercise need to be practised regularly.

Permitted foods: Raw green vegetables, vitamin A rich vegetables, thin butter milk, clear soups, fish, lean meat, wheat, rice, jowar, bajra, ragi, orange, sweet lime, guava, grapes, watermelon.

Restricted foods: Sweets, jaggery, jam, jelly, candies, cake, cream biscuits, pastries, burfi, all fried foods, fatty meat cuts, alcoholic beverages, ghee, vanaspathi, cream, oil dressing.

Sample Menu

Meal time	Food items
Early morning	: Tea
Breakfast	: Idli - 2, skimmed milk - 1 glass, orange - 1
Midmorning	: Keerai soup - 1 cup
Lunch	: Phulkas - 2, palak curry - ½ cup, rice - ½ cup, thick dhal - ½ cup, curd - 1 cup, vegetable salad - 1 cup
Evening	: Tea - 1 glass, green gram dhal dokla - ½ cup
Dinner	: Chappathi - 2, cabbage curry - ½ cup, rice - ½ cup, curd - ½ cup

Recipe Formulation: Greengram Dhal Dokla

Ingredients	Quantity
Greengram dhal	1 cup
Bengal gram dhal	1 tbsp.
Curd	¼ cup
Green chilli paste	2 tsp.
Cumin seeds powder	1 tsp.
Grated carrot	1 tsp.
Salt	to taste



Method:

- Soak green gram dhal and grind coarsely
- Add bengal gram flour, curd, green chilli paste, carrot, cumin seeds powder and salt to taste
- Stir the mixture well and pour into idli plates and steam
- Serve hot.

Results and Discussion

5. FOOD SERVICE INSTITUTIONS

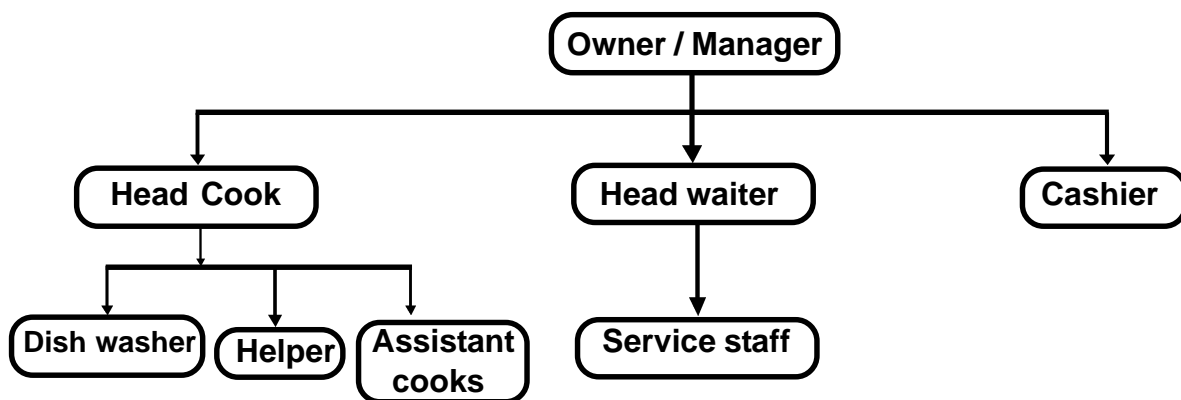
5:1 Functioning of a Small Restaurant

Aim: To understand the organisational set up of the catering institutions.

Structure of the organisation: An organisation should establish a structure for effective functioning. An organisation structure is a framework to establish the relationship between to job positions as well as establish the channel of communication.

Small restaurant operations: The manager / owner would have a direct control of operations. The structure given below is a typical organisational structure of a small restaurant.

Organisation Chart of a Small Restaurant



Assignment:

Visit a small restaurant nearest to your school and find out the following details and make a report.

1. Structure of the organisation :
 2. Total number of workers :
 3. Menu :
- Types of food - veg/Non-veg :
- Fast food / Chinese
 - North Indian / Chat items/
 - Bakery items/ ice cream bar/
 - Juice section

4. Cost of menu items

S.No.	Name of food	Price Rs.
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		

5. Facilities available

- No. of rooms A/C or Non A/C :
- Family room / single room :
- Deluxe room :
- Car parking :
- 6. Location :
- 7. Type of customers :
- 8. Any other relevant information :

Note: Report on the data collected.

5:2 Menu for a School Canteen

Aim: To acquire skill in planning menus for a school canteen.

Equipment needed: Tawa, vessels, ladles, small plates, cooking range, pressure cooker

Canteen: Canteen makes up a huge part of the food service business and creates extensive employment. It caters to the food needs of students. It is a place to restore health. Canteens in schools mainly aim at offering nutritious, healthy foods for growing children.

Procedure:

Activity: To plan food preparations for mid morning snacks, lunch and evening tea items.

Midmorning snacks: Salad, sprouted sundal, sweet corn, carrot juice, vegetable soup, masala ground nut, bread sandwich, lime juice, etc.

Lunch: Mushroom biriyani, Coriander rice, Tomato rice, Chappathi kuruma and Curd rice

Tea : Bhel puri, samosa, cakes, biscuit, cookies, ribbon pakoda, ragi pakoda, keerai vadai, keerai bonda.

Recipe Formulation - Mushroom Biriyani

Ingredients	Quantity
Biriyani rice	: 500g
Mushroom	: 250g
Coconut milk	: 250ml
Cloves, cinnamon, cardamom	: 4 each
Coriander powder	: 2 tsp.
Ginger garlic paste	: 1 tbsp.
Green chillies	: 4
Khus khus	: ½ tsp.
Ani seed	: ½ tsp.
Ghee	: 1 tsp.
Oil	: 1 tbsp.
Big onion	: 1
Salt	: to taste

Method:

- Wash and soak the rice for half an hour
- Grind coriander powder, ginger garlic, green chillies, ani seed, khus khus and spices
- Heat oil and ghee in a pressure pan and fry cut onion, till golden brown
- Clean mushroom and cut into halves
- Add masala and mushrooms
- Pour required amount of water along with coconut milk
- When it boils add rice and cook it for 10 minutes
- Open the pressure pan, garnish with fresh coriander leaves and fried cashew nuts.

Results and Discussion

5.3: Job Specification of a Personnel in a Food Service Institution

Aim: To frame a job specification of restaurant manager.

Job descriptions: These are essential to all organisations. It is a descriptive statement of the job so that an employee knows exactly what is expected of him.

Job specification: It explains the education and experience required as well as additional technical training and certification required.

The benefits of job specifications are

- They are useful when planning for job advertisements.
- They act as a checklist to look for a candidate at the time of interview
- It sets the standards of behaviour and skills in performing a job
- An employee knows exactly what is expected from him or her.

Job specification of Restaurant Manager

Job title	:	Restaurant Manager
Reports to	:	1. Food and Beverage Manager 2. General Manager
Job summary	:	To recommend and meet budgets and goals by leading a service team that ensures quality service standard with personalised guest attention.

Duties and Responsibilities:

- Recommend and monitor a budget and plan for the year
- Lead, train and motivate service team
- Conduct daily briefings ensuring two-way communication training and policy information.
- Check the mis-en scene and mis-en-place done by the team.
- Control expenses of the restaurant.
- Develop innovative ways to create sales of the restaurant by up-selling menu items, food promotions, merchandising etc.
- Meet and greet guests and develop a personal guest database to ensure continued patronage.
- Ensure the safety and hygiene of the restaurant
- Maintain discipline and conduct staff appraisals
- Co-ordinate with the chef for menu offers and operational co-ordination.

Supervise: Senior cook, hostess, servers, busboys and apprentices.

Limits of Authority:

- Evaluates
- Performance of staff
- Discipline of staff
- Can avoid unnecessary checks



Co-ordinates with:

Kitchen - on food preparation matters, kitchen stewarding for the supply of clean service ware.

House keeping - for cleanliness and supply of linen and flowers

Accounts - for budgets and depositing daily sales

Engineering - on matters of maintenance and safety

Security - on matters of security and safety

Marketing - on matters of sales and promotions

Stores - for supply of alcoholic beverages, operational supplies

Minimum Educational Qualification : Diploma in Hotel Management

Experience - Minimum 2 years of experience as Hotel Manager or 3 years as restaurant supervisor.

Skills and competencies:

- Thorough knowledge of food and beverage management and service.
- Proficiency in English language. Another foreign language preferred
- Training skills
- Guest handling skills

Results and Discussion:

6. FOOD BORNE INFECTIONS AND FOOD POISONING

6.1: Promoting the Shelf Life of Foods

Aim: To observe the desirable methods of storage to improve the shelf life of foods.

Storage: Despite the fact that food is free from harmful levels of micro organisms when it is brought home there is still a danger of food spoilage due to food enzyme, insects, parasites, temperature, moisture, oxygen and air. In order to avoid it in home, standard of hygiene should be maintained in all aspects of food preservation. Personal hygiene and kitchen sanitation practice should be maintained.

Factors affecting storage life

- Respiration and metabolism
- Loss of water
- Microbial spoilage

Factors that extends shelf life

- Harvesting at optimum maturity with minimum injuries
- Using proper sanitation procedures
- Providing optimum storage conditions namely temperature, humidity and also the storage atmosphere during all marketing steps.

Instruction: Observe the shelf life of the following product

Banana / Apple : Sprinkle sugar, soak in a sugar solution and honey

Peas: Storage with pod, without pod in refrigerator

Coriander leaves: Fresh form, polythene bag, plastic container, storage in refrigerator.

Cakes: Packed in brown paper, aluminium foil, tissue paper, plastic container - store in room temperature and refrigerator temperature.

Note: Observe and find out the best method of storing foods to increase the shelf life of the above product.

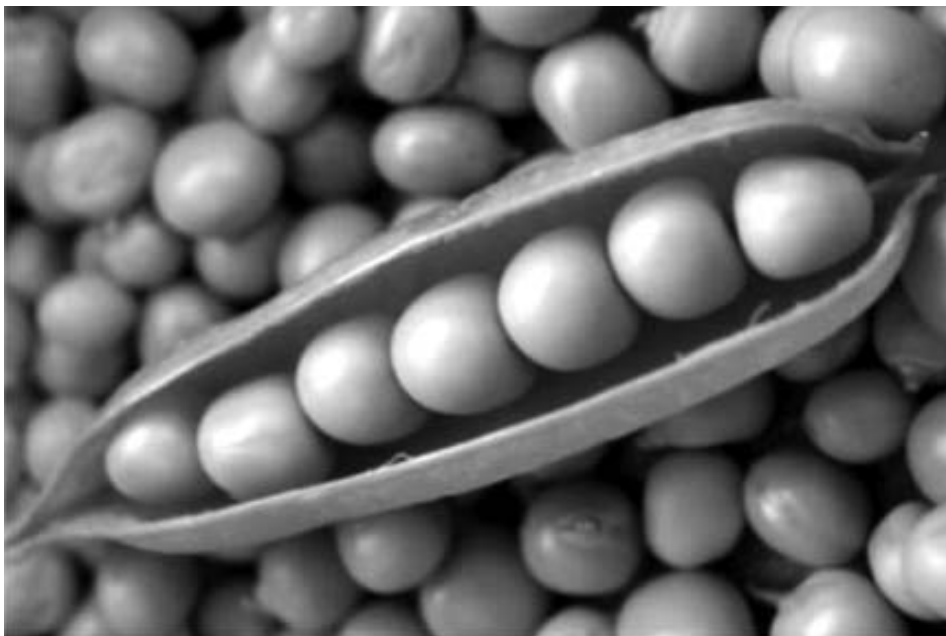
Evaluate the product using the following score card.

Criteria	Characteristics	Score	Actual score
Colour	Original form	3	
	Slightly dark	2	
	Not original colour	1	
Appearance	Good	3	
	Fair	2	
	Poor	1	
Freshness	Fresh	3	
	Slightly fresh	2	
	Dry	1	

Name of the product	Type of storage	Time of commencing browning reaction	
		Banana	Apple
Use cut banana or apple	No treatment Sprinkle sugar Soaked in sugar solution Soaked in honey		

Shelf Life Study

Name of the food	Form of food	Type of storage	No. of days without spoilage
Peas	With pod Without pod With pod Without pod With pod Without pod	Room temperature Room temperature Refrigerator Refrigerator Freezer Freezer	



Results and Discussion:

6.2: Healthy Practices to Avoid Food Borne Infections

Aim: To know about the healthy practices to avoid food borne infections.

In order to avoid food borne infections and food intoxication following health practices must be practised:

Personal hygiene:

- Individuals who have cold, sore throat, flu or pimples, boils on face, hands etc should not handle food until recovered from them.
- Handle food with clean hands and finger nails, clean hair and wear clean clothing
- Always wash hands after using the toilet, avoid scratching the head or other parts of the body or blowing the nose while handling food.
- Wash hands after handling raw food and garbage.
- Use tongs to lift food and spoons to mix and serve
- Avoid handling food with hands as much as possible
- Avoid sneezing near food, cover mouth and nose while doing so.
- Do not retain tasting spoon or lids placed on kitchen slab without washing them
- Wash hands thoroughly before starting cooking.
- Keep your nails trimmed and clean.
- Tie your hair to avoid their falling into the food, a scarf or a cap or hair net can be used while working in the kitchen.
- Avoid walking into the kitchen with dirty feet / slippers / clothing. These can carry millions of bacteria that can infect and spoil your food.
- Avoid cooking food by a sick person. An unhealthy food handler can spread sickness to other members.

Hygiene in food selection and storage

- Select foods from markets that maintain high standards of sanitation
- Protect foods at home or in the market place from flies, insects, rodents or contamination by unnecessary handling, sneezing or coughing.
- Keep cereals, flours, dhals, sugar and other dry ingredients in closed containers at room temperature.
- Permit adequate circulation of air around foods in refrigeration.
- Use frozen foods within a week

Hygiene in handling and care of equipment

- Clean all kitchen equipment after each use
- Clean all surfaces before placing any food on them
- Use warm water and a good detergent for washing dishes and surfaces. Rinse well and allow to drain dry
- Keep equipment storage space free of insects and rodents.



Hygiene in the kitchen

- Keep the kitchen clean and free from household pests like rats, flies, cockroaches, mosquitoes etc.
- Light the kitchen well, so that the dirt or insect can be seen
- As far as possible, a kitchen facing the sunlight helps in removing dampness, besides killing germs.
- Ensure proper drainage. Keep the drains free and see that the water does not stagnate
- Keep a covered dust bin in the kitchen. Ensure that it is emptied daily.
- Clean the kitchen cloths / dusters regularly. Wash them with hot water and suitable detergent.

Note: Prepare a booklet on the healthy practices to avoid food borne infections.

7. FOOD PRESERVATION

7.1. Preparation of Jelly

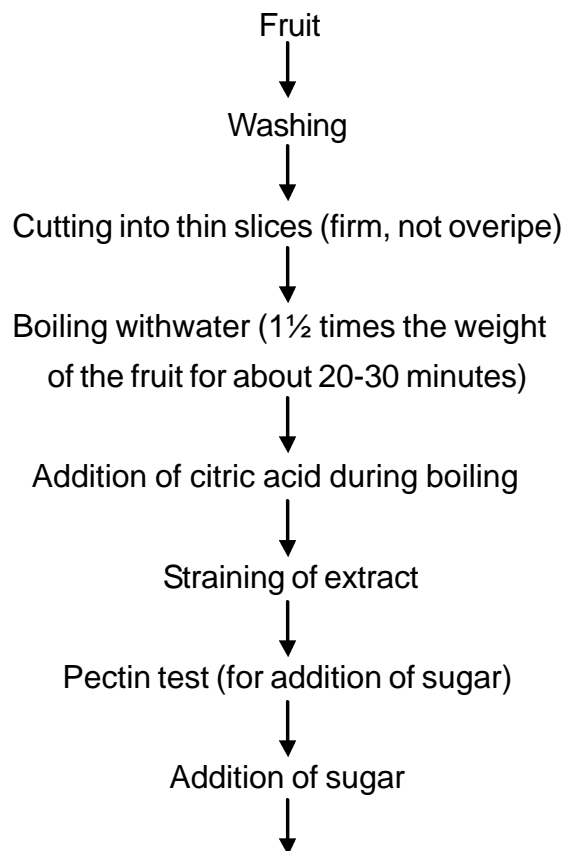
Aim: To gain skill in jelly preparation

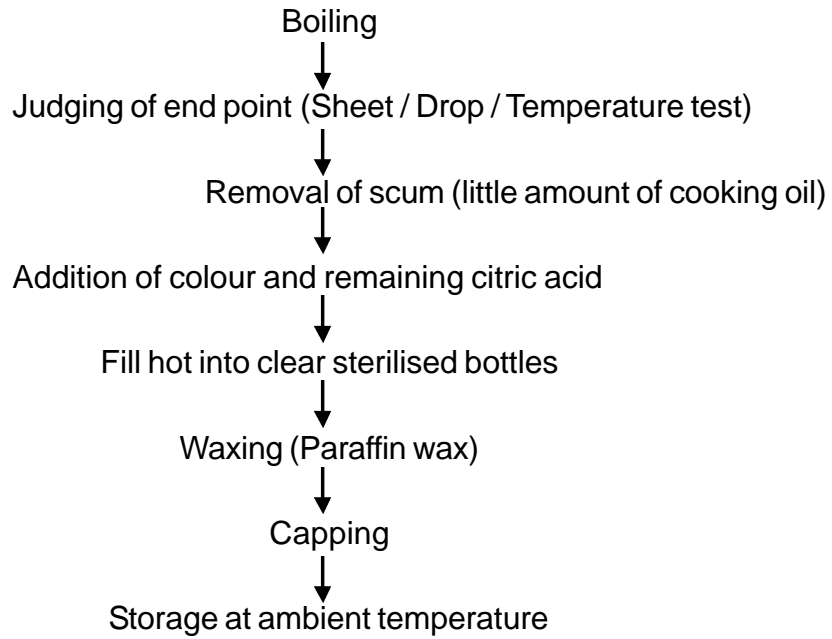
Equipment needed: Thick bottomed vessels, knives, strainer, gelmeter, fork, ladle, plates etc.

Jelly:

- Jelly is prepared by boiling the fruit, with or without addition of water, straining the extract and mixing the clear extract with sugar and boiling the mixture to a stage at which it sets to a clear gel.
- A perfect jelly should be transparent, well-set, not too stiff and should have the original flavour of the fruit.
- It should be attractive in colour and should retain its shape and show a clean cut surface
- Guava, sour apple, plum, wood apple, papaya, grapes and gooseberry are generally used for preparation of jelly.
- Pectin, acid, sugar (65%) and water are the four essential ingredients. Pectin test and determination of end-point of jelly formation are very important for good quality jelly.

Process:





Recipe Formulation : Fruit Jelly (Guava)

Ingredients	Quantity
Fruit juice	: 1 cup
Sugar	: $\frac{3}{4}$ cup (depends on the pectin content)
Citric acid	: 2g for every 1kg of fruit
Alcohol	: 1 tsp.

Method:

1. Wash and cut fruits into big pieces
2. Put in to a thick bottomed vessel and pour water till fruit pieces sink
3. Keep it on the stove till it starts boiling
4. Cook for 20 minutes and remove from fire without shaking the vessel
5. The extract is drained in a muslin cloth without shaking the fruit pieces
6. The extract is rested for its pectin content by alcohol precipitation method or by gelmeter test

To identify the pectin content of the fruit extract

- While fruit is being cooked for extraction of pectin, a teaspoonful of the juice free from pulp, seeds and skins, is taken out and poured into a glass tumbler. After cooling it, three teaspoonful of methyl alcohol are added gently along the sides of the tumbler and mixed with extract by rotating the tumbler carefully. The mixture is then allowed to stand for a few minutes. If the extract is rich in pectin, it will form a single transparent lump of jelly like consistency, but if the pectin is present only in a moderate quantity, the clot will be less firm and fragmented. The presence of insufficient pectin will result in numerous small granular clots.

After testing for pectin, sugar is added accordingly

- a. For one cup of extract add $\frac{1}{4}$ cup of sugar (If small soft clots)
 - b. For one cup of extract add $\frac{1}{2}$ cup of sugar (If pectin is seen as 2 clots).
7. Add sugar to the extract and strain again
 8. The mixture is boiled for 15-20 minutes till the desired consistency is reached
 9. Add citric acid finally
 10. The end point in boiling a jelly can be judged by the following ways
 - a. Cold plate test :** A drop of the boiling liquid from the pan is taken and placed on a plate and allowed to cool quickly. If the jelly is about to set, the mixture on the plate will crinkle when pushed with a finger.
 - b. Sheet or flake test:** This test is more reliable than the plate test. A small portion of the jelly is taken with a large spoon or wooden ladle, cooled slightly and then allowed to drop off. If the jelly drips in the form of flakes or sheet, the end point has been reached.
 11. The finished jelly is packed in sterilised glass jars or bottles.

Note: Black grapes can be used instead of guava for preparing jelly.

Results and Discussion

7.2. Preparation of Squash

Aim: To know about the preparation of squash

Equipment needed: Vessels, knives, mixie, strainer, bottles, bottling machine, capping machine, etc.

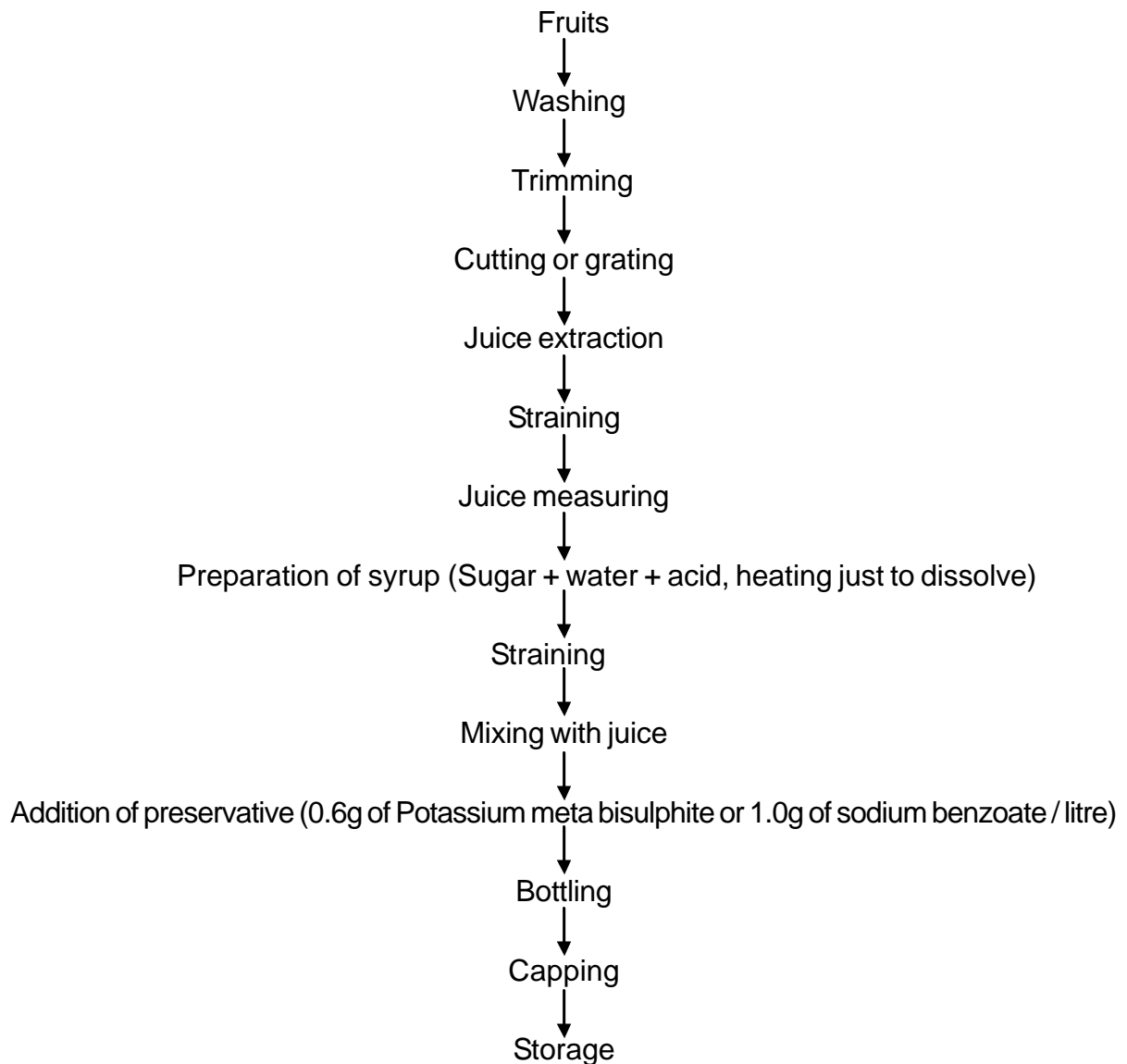
Squash:

This is a type of fruit beverage containing atleast 25 per cent of fruit juice and 40 to 50 per cent sugar of commercially, It also contains citric acid and sodium benzoate or potassium metabisulphite (chemical preservative).

This consists essentially of strained juice containing moderate quantities of fruit pulp to which cane sugar is added for sweetening.

Mango, orange, pineapple and lemon are used for making squash.

Process:



Squashes can be prepared according to the following proportions

S.No.	Fruit	Ingredients for one litre pulp / juice			
		Sugar (kg)	Water (l)	Citric acid (g)	Preservative (g)
1.	Orange	1.75	1.0	20	2.5 KMS
2.	Mango	1.75	1.0	20	2.5 KMS
3.	Lime/Lemon	2.0	1.0	–	2.5 KMS
4.	Pineapple	1.75	1.0	20	1.9 KMS
5.	Guava	1.80	1.0	20	1.9 KMS
6.	Papaya	1.80	1.0	20	2.0 KMS
7.	Plum	1.90	1.0	10	4.0 KMS
8.	Watermelon	0.50	1.0	10	1.5 SB
9.	Grapes	2.0	0.5	15	700 SB

KMS : Potassium Metabisulphite; SB: Sodium Benzoate

1. Orange Squash

Ingredients	Quantity
Orange juice	1 litre
Sugar	1.75 kg
Water	1 litre
Citric acid	20g
Potassium meta bisulphite	2.5g

Method:

- Wash and cut oranges into two halves and squeeze the juice.
- Strain the juice
- Make a syrup with sugar and citric acid. Strain and cool it.
- Mix the fruit juice and sugar syrup. Strain in a muslin cloth, if needed heat it
- Dissolve potassium metabisulphite in water and add with the juice mixture. Mix nicely and store in a bottle.

2. Grape Squash

Ingredients	Quantity
Grape juice	1 litre
Sugar	2 kg
Water	½ litre
Citric acid	15g
Sodium benzoate	700mg

Method:

- Wash well ripened grapes in water.
- Add little water and cook till it is soft
- Grind in the mixie, strain and extract the juice
- Make syrup with sugar and citric acid. Strain and cool it
- Mix the syrup with fruit juice and add sodium benzoate (dissolved in water)
- Store in a sterilised bottle

3. Pineapple Squash

Ingredients	Quantity
Pineapple juice	1 litre
Sugar	1.75 kg
Water	1 litre
Citric acid	20g
Potassium metabisulphite	1.9 g

Method:

- Wash firm, well ripened fruits
- Remove the skin and rind and take out the pulp
- Grind in a mixie and strain it.
- Make a syrup with sugar and citric acid. Strain and cool.
- Mix the sugar surup with fruit extracts strain through a muslin cloth and add potassium metabisulphite dissolved in water
- Store in a sterilized bottle.



4. Mango Squash



Ingredients	Quantity
Mango pulp	1 kg
Sugar	1.75 kg
Water	1 litre
Citric acid	20g
Potassium metabisulphite	2.5 g

Method:

- Follows the same procedure as for pineappla squash
- Remove the peel and inner kernel of mango before making pulp

Results and Discussion :

7.3. Preparation of Lime Squash Cordial

Aim: To gain skill in preparing cordial of lime juice.

Equipment needed: Knives, strainer, weighing machine, glass containers, vessels etc.

Cordial:

It is a sparkling, clear, sweetened fruit juice from which pulp and other insoluble substances have been completely removed. It contains 30-40 per cent sugar and about 33 per cent fruit juice.

Lime Juice Cordial

Ingredients	Quantity
Lime juice	1 litre
Sugar	1.25 kg
Water	1 litre
Potassium metabisulphite	2 g



Procedure:

- Wash the fruits and cut into halves
- Extract the juice and strain it
- Add potassium metabisulphite as a preservative (1g/litre juice)
- Store in a glass container for 10-15 days for clarification (suspended materials settle down)
- Syphon off the supernatant clear juice
- Strain and measure
- Prepare the sugar syrup
- Strain the syrup and mix it with the juice
- Add the chemical preservative (0.6g/litre of the mixture)
- Store in a bottle and close with a lid
- Keep it in a cool place.

Results and Discussion :

7.4. Preparation of Mango Pickle

Aim: To gain skill in preparing mango pickle.

Equipment needed: Weighing machine, measuring cups, cooking utensils, knives, glass jars etc..

Pickles:

Pickles of various kinds are known throughout India and in many parts of the world. Some of the typical Indian pickles made from mango, lime, cauliflower, amla have become popular in several countries. Pickles are also manufactured on a large scale and exported to other countries. In Indian pickles oil, mustard and fenugreek powder, sesame oil are generally used. Some pickles are made in lime juice or vinegar.

Recipe Formulation - Mango Pickle

Ingredients	Quantity
Mango pieces	1 kg
Salt	150 kg
Fenugreek (powdered)	25 g
Turmeric powder	15 g
Red chilli powder	10 g
Asafoetida	2 g
Sesame oil	350 ml (just sufficient to cover the pieces)

Method:

- Wash mature, green coloured mangoes
- Remove the kernel and cut into pieces
- Dip the pieces in 2 per cent salt solution to prevent browning
- Drain off water and dry in shades for few hours
- Heat oil in a kadai, fry mustard and add the mango pieces and mix
- Add all the powders one by one and mix nicely. After five minutes remove from fire
- Fill in the jar, add the remaining oil and cover the jar with a cloth and tie it.
- Dry under the sun at regular intervals.



Results and Discussion

7.5: Preparation of a Fruit Candy

Aim: To gain skill in preparing fruit candy.

Equipment needed: Frying pan, knives, ladles, vessels.

Fruit Candy:

- A fruit impregnated with canesugar and glucose and subsequently drained and dried, is called a candied fruit.
- Candied fruit covered or coated with a thin transparent coating of sugar, which imparts to it a glossy appearance, is called glazed fruit.
- When candied fruit is coated with crystals of sugar, either by rolling it in finely powdered sugar or by allowing the sugar crystals to form a dense syrup to deposit on it, it becomes what is called crystallised fruit.
- Fruits like papaya, banana and mango can be utilised for the preparation of preserves and candies.

Recipe Formulation - Papaya Candy

Ingredients	Quantity
Papaya pulp	1 kg
Sugar	750 g
Glucose	100 g
Skim milk powder	150 g
Butter	200 g
Chocolate powder	1 teaspoon

Method:

- Wash fruits and remove the skin and seeds and cut into pieces
- Grind in a mixer and strain
- Heat the pulp in a pan and add sugar
- After sugar dissolves, add glucose
- Mix milk powder in warm water without lumps and add to the fruit pulp
- Add chocolate powder and half the amount of butter.
- After thickening, add the remaining butter and stir until it becomes non-sticky
- Remove from fire and pour it into a butter greased plate. Cut after it cools. Otherwise make balls and wrap it in butter paper.

(Instead of chocolate powder, essence can be used)

Results and Discussion :

8. BAKERY PRODUCTS

8.1: Evaluation of the Quality of Cakes

Aim: To gain skill in evaluating the quality of cakes

Equipment needed: Baking oven, beater, vessels, knives, spatula.

Evaluation of the quality of cakes:

S.No.	Characteristics	Quality of cake
1.	Symmetry	Should be even and baked well Should not have low edges, high edges, low centres, high centres and unevenness
2.	Bloom (Luster & Sheen)	Lively and brilliance of the colour
3.	Colour of the crust	Differs in different types of cakes Crust colour may be scored according to the ideal colour for the type of cake
4.	Volume	Should not be too small and too large, but a medium volume results in good appearance and construction
5.	Consistency of crust (Conditions of the crust)	A tender crust is desirable Crust should not be too tender because it breaks easily
6.	Colour of crumb It varies with the kind of cake made	A clear colour is desirable. The degree of deepness of colour will depend upon the formula and ingredients used
7.	Grain The cake should be cut across the middle in judging the grain	Grains in cake shows variation, depending upon the type of cakes. Uniformity of size with thin walled cells is most desirable. Coarseness, thick celled walls, uneven cell size and large holes are indicative of poor grain
8.	Texture Freshly cut surface is required for judging	Tips of the fingers are pressed lightly upon the cut surface and moved gently over it. A perfect texture should be free from lumps and harshness and should present a smooth silky surface

S.No.	Characteristics	Quality of cake Judging
9.	Odour	The odour should be appetizing, rich, sweet, fresh and natural
10.	Taste	Sweet, pleasant and appetizing tastes are desirable
11.	Keeping quality	Should have a good keeping quality and should stay fresh or moist condition without molding



In order to judge a cake intelligently, the judge should have a picture of a perfect cake in his mind and know how to interpret the terms correctly.

Note: Prepare a cake and judge the qualities

Results and Discussion :

8.2: Preparation of an Eggless Cake

Aim: To gain skill in the preparation of an eggless cake

Equipment needed: Vessels, oven, knives, spatula.

Eggless Cake

Ingredients	Quantity
Maida flour	100 g
Corn flour	10 g
Butter	60 g
Sugar	80 g
Milk powder	15 g
Baking powder	1.5 g
Water	70 ml
Vanilla or rose essence	1 g
Cardamom powder	0.5 g
Raisins	25 g

Method:

1. Cream butter and sugar till light and fluffy
2. Sift flour, corn flour, milk powder and baking powder twice
3. Add sifted flour and flavouring agents to the creamed mixture and mix gently
4. Add water and mix to the cake batter consistency
5. Clean the raisins and add to the mixture
6. Put the mixture into paper cups and bake at 375⁰F for about 20 minutes.

Note:

1. The quantity of water may vary according to the type of flour. The main point to watch is the consistency of the batter which should be like standard cake batter.
2. The mixture could be baked in medium size pans also but care should be taken while releasing the cake from the pan after baking as it is very delicate while hot.

Results and Discussion :

8.3: Preparation of Pastry - Demonstration

Aim: To learn the preparation of pastries

Equipment needed: Rolling pin, knife, vessels, baking oven, pastry cutter.

Pastries:

- Puff pastry is a rolled pastry in which layers of shortenings are intervened between layers of dough so that, upon baking an open network of crisp and flaky layers are formed.
- The main ingredients used in pastry are flour, shortening, salt and water.
- The common puff pastry dough consists of equal parts of flour and shortening. If less shortening is used, the end products will be tougher.
- In order to get the best results, the dough and shortening should be of the same consistency.

Important points in pastry making

- Keep everything as cool as possible during preparation to ensure a light pastry.
- Estimate the amount of pastry required to avoid waste and prevent more than one rolling as far as possible.
- Handle as little as possible, since too much handling makes the pastry warm and therefore tough.

Puff Pastry (Demonstration)

Ingredients	Quantity
Maida flour	200 g
Salt	5 g
Water	120 ml
Fat	20 g
Fat (for folding)	120 g

Method:

1. Sift flour, dissolve salt in water and strain through cloth
2. Mix flour, salt and water, knead in 10 per cent fat. The dough should be smooth and soft
3. Rest the dough under moist cloth for 20 mins.
4. Roll the dough into a rectangular sheet of even thickness and mark the sheet lengthwise into two equal parts.
5. Divide the fat into three equal parts, fat should be smooth and plastic.
6. Spread evenly one part of fat on 2/3 part of the rolled dough sheet leaving about 1/2" of edges uncovered with fat.
7. Fold 'C' over 'B' and 'A' over 'C' so that it makes 3 sheets of dough alternated by 2 sheets of fat (A, B and C denotes the 3 sheets of dough)



8. Rest for 20 mins. Cover with moist cloth
9. Roll again and repeat the process of rolling and folding twice with 20 mins. rest in between the rolling
10. Give three similar folding without fat
11. Rest the dough under moist cloth for one hour.'
12. Roll out the paste to 2mm in thickness and cut into 10 cm squares
13. Fold the square into triangle
14. Cut 1 cm from the apex of the triangle. Do this for the 2 sides of the triangle and unfold.
15. Damp the square and then fold the point 'a' to meet 'b' and the point 'c' to meet 'd'. Press down these firmly
16. Allow a minimum of half an hour rest
17. Egg wash the pastry and bake
18. When cool fill the centre with vegetable fillings or jam as preferred.

Vegetable fillings

Ingredients	Quantity
Potato	2 (big)
Onion	2 (big)
Green chilli	5
Ginger	5 g
Curry and coriander leaves	Few
Curry powder	10 g
Salt	1 tsp.
Oil	2 tsp.
Mustard	½ tsp.
Lime Juice	1 tsp.

Method:

1. Boil and peel potatoes
2. Season mustard, chopped onions, green chillies, ginger, curry and coriander leaves in hot oil.
3. Add curry powder and fry
4. Add salt and peeled potatoes and mix
5. Remove from fire and add lime juice / vinegar and use for filling.

Results and Discussion:

8.4: Preparation of Cookies

Aim: To gain skill on the preparation of cookies

Equipment needed: Baking oven, spatula, measuring cups, egg beater, knives etc.

Cookies

Cookies are often referred to as small sweet cakes. Only quality ingredients with correct method of processing will produce products of high standards. The general procedure for mixing a cookie dough is to cream the sugar, shortening, salt and flavour. Then add the eggs, moisture and then the flour. Cookie dough should be mixed just enough to blend the ingredients homogenously.

Tips on baking cookies:

1. If the oven is too hot, cookie will set immediately before it has an opportunity to spread.
2. If the oven is too cool, the cookie will have too much spread, too much moisture loss due to longer baking period and also loss of flavour
3. Cookies should be removed from the oven while they are still a little soft as they will continue to bake on hot pans.
4. Cookies should be placed far enough apart on the pans to avoid sticking during baking.
5. When the pans are greased the cookies will spread more to retard spreading, dust the pans with flour after they are greased
6. Eggs should be thawed at room temperature before use.
7. Egg wash which is high in egg will delay spread of cookies. One part of eggs and 2 parts of milk are used for preparation of egg wash.
8. Baking powder should be checked for expiry date
9. If raisins and currants are used for toppings they should be soaked in a malt solution before they are used. Malt solution is prepared by dissolving one part of malt with 10 parts of water
10. Cookies should always be stored in an airtight container. Allow the cookies to cool completely on wire cooling racks before storing.
11. If the cookies dough are made up ahead of time and stored in a cool place then these dough should be made little softer as these will tighten up during storage. It has been experienced that such dough can be easily handled giving the finished product more tenderness.

Recipes of Cookies :

1. Coconut Cookies

Ingredients	Quantity
Maida flour	20 g
Sugar	60 g
Butter	40 g
Dalda	40 g
Essence	Few drops
Salt	a pinch
Dessicated coconut	20 g
Baking powder	¼ tsp.

Method:

1. Sieve flour with baking powder twice and add salt
2. Cream fat and sugar till light and fluffy
3. Fold in flour and make a smooth dough
4. Take small balls and roll each one in dessicated coconut
5. Place a piece of cherry on top of each cookie
6. Bake at 350°F for about 20 mins.

2. Milan Heart

Ingredients	Quantity
Maida	100 g
Sugar	50 g
Butter	30 g
Dalda	40 g
Essence	Few drops
Egg	2
Salt	a pinch
Crystal sugar	5 tsp.

Method:

1. Sieve flour twice and add salt
2. Rub in fat and add sugar
3. Add beaten egg and make a smooth dough
4. Roll out and cut with a heart shaped biscuit cutter
5. Coat each biscuit with beaten egg and sprinkle crystal sugar on top of each biscuit
6. Bake at 350°F for about 15 mins.

Results and Discussion:

9. PRE SCHOOL EDUCATION

9.1: Weekly Schedule for a Preschool

Aim: To acquire skill in the preparation of a weekly schedule for Balwadi children.

Equipment needed: Paper, pencil

Importance of weekly schedule: For proper implementation of the curriculum, a selection of themes related to the child's life can be carefully done.

The criteria for selection of a theme

- Relevance
- Opportunities for application of skills
- Availability of resources
- Interests of a teacher
- Time of the year

Based on these, various experiences can be offered to the child

Characteristics of a balanced curriculum for Balwadi school

- A good curriculum provides many opportunities for developing social adjustment and developing effective cognitive skills
- It should be need based and the environment around the child is explored and fully utilised.
- It should include equal number of free play activities and guided activities
- The activities should alternate between active and quite activities
- It should satisfy the group and individual needs of the children



WEEKLY PROGRAMME

Theme : Flowers

Group: 4-5 years

Date of the week

Activities	Timings	Monday	Tuesday	Wednesday	Thursday	Friday
Arrival of children	9.15 am to 9.30 am	←..... Arrival of children→				
Outdoor play / Indoor activities	9.30 am to 10.00 am	←..... Outdoor play / Indoor activities→				
Physical exercise / General readiness	10.00 am to 10.10 am	←..... Physical exercise / General readiness activities→				
Prayer, Informal talk and music	10.10 am to 10.20 am	Name of flowers	Colour of flowers	Use of flowers	Parts of flowers	Smell of flowers
		Songs related with flowers, other songs eg. Ring a ringa roses				
Readiness programmes	10.20 am to 10.45 am	English reading and writing	Tamil reading and writing	Science reading and writing	Number work	General concept
Washing up and mid morning juice	10.45 am to 10.55 am	Washing up / midmorning juice				
Creative activities Basic / Special theme related	10.55 am to 11.15 am	Crayon drawing	Thread printing	Colouring pictures	Threading beads	Field trip to a garden
Story	11.15 am to 11.40 am	Story related with the theme				
Science Experience	11.40 am to 11.50 am	Flowering stages	Sowing flower seeds	Flower carpets	Flower arrangement	Field trip to a garden
Organised games	11.50 am to 12.15 pm	Theme related games inside / outside the class room				
Washing up and lunch	12.15 pm to 12.45 pm	Washing up and lunch				
Rest and sleep	12.45 pm to 2.40 pm	Rest and sleep				
Washing up and evening snacks	2.40 pm to 3.00 pm	Washing up taking and evening snacks				
Out door play and departure	3.00 pm to 3.30 pm	Outdoor / Free play and departure				

Note: The other themes that could be taken up for activities are given below

- House
- School
- Wild animals;
- Domestic animals
- Birds
- Fruits
- Environment, sanitation and hygiene

Results and Discussion:

9.2: Science Experience

Aim: To learn about science experience related to pre school children.

Equipment needed: Ice cubes, tub, blocks, stone.

Importance of science experience: Modern man lives in a world of scientific actions. The preschool children can learn a great deal about the subjects (Chemistry, physics, biology) if they are observant, deeply interested and stimulated. Science concepts can be inculcated in many ways through science experiences.

The benefits derived by children from science experiences

- Helps to gain first hand experience
- Increase the skill of observation
- Develop basic concepts and increase basic knowledge
- Give opportunities to use tools, experiment and familiarise with materials
- Aid them in problem solving
- Stimulate their curiosity and desire for exploration



Simple Science Experiments for Pre schoolers:

- For teaching concepts like hot and cold it is not enough if you touch ice and say it is cold or dip your finger in hot water and say hot, instead the child touches something cold and hot and learn the concept.
- For teaching concepts like light weight particles, floating and heavy objects do the following experiment:

Give the child a cup of water, one stone and a plastic bead, let him put both in water one by one and observe. He can learn clearly that stone is heavy in weight and so sinks and plastic bead is light in weight and so floats in water.

Results and Discussion:

9.3: Water and Sand Play

Aim: To learn the technique of water and sand play.

Items needed: Tin cans, magnifying glass, blocks, clay, etc.

Values of play: Play is a child's unique way of experiencing the world. It satisfies many needs in a child's life as follows:

- **Physical values:** Provides exercise to the body, blood circulation, sensory motor co-ordination and body balance. Play skills releases extra energy.
- **Social values:** It gives a sense of self, social awareness, self assertion, tolerance, sympathy, co-operation and sharing.
- **Emotional values:** Provides a sense of security, self control, self-motivation, self expression and aesthetic appreciation
- **Educational values:** Provides a spirit of innovation and discovery, attention, comprehension, memory, sharing and acquisition of concepts.
- **Moral values:** Differentiate between right and wrong. Knowledge of good and bad, tolerance towards other religion etc.
- **Sand and water play:** Both sand and water play lead children into experiences with gravity and children gain greater awareness of specific causal relationship.

Water play: For water play prepare a set of tin cans of identical size that have holes of various sizes in various positions. Make one with a large hole, one with a small hole and one with several fine holes and one with two holes of different sizes and other cans with different numbers of small holes in the side. Stuff can with paper or cloth to prevent collapses while hammering holes.

Children will delight in using falling water as they wish. Other types of water play includes experiment with sounds of water splashing, pouring or pumping together and against other objects, filling containers to different levels and then striking with other objects as wooden stick, block, spoon, etc.

Sand play: Block or block structures (objects such as sticks) when stuck into sand cast shadows in different directions and of different lengths according to their distance from the light source. Experimentation in creating shadows of different lengths and shapes can be followed.

Basic Equipment: Container, commercially sold sand table, wooden box lined with heavy plastic, child's small plastic swimming pool.

- **Sand** - beach quality, clean
- **Boxes for storing accessories** (Miniature, scoops, funnels, containers)

Preferred location: Locate where the floor covering will be least likely to be damaged by sand such as cement area or outside.

- If children are supplied with a magnifying glass while playing with sand, they might enjoy examining sand crystals. The source of the sand may be interesting to some children especially if different types of sand from different sources (river sand, pond sand, sea sand) are available for close examination.
- Children can be asked to prepare clay boat, clay objects, etc.



Results and Discussion:

9.4. Evaluation of Toys and Books for Preschool Children

Aim: To learn to evaluate pre school toys and books.

Equipment needed: Selected types of toys and books for preschool children.

Need for evaluation: Evaluation is a checking up process by which it may help one to move forward. The success or failure of the product must be evaluated on the basis of set goals or ends. Educational evaluation is the estimation of the growth and progress of students towards the objectives and values set in the curriculum.

Preschool toys: Toys and play equipment are the tools for play and childhood is the age of toys. They need to be chosen carefully in order to facilitate learning.

Criteria for selection:

- The price of the play materials should be proportional to the value of play and to the expected life of the toy.
- They should be suitable to the age and maturity of the child
- Toys should be sturdy and durable
- The size of the toys must be proportionate to the control, competence and safety of the child.

Flexibility and versatility are also important

Criteria for evaluation: Toys should be evaluated in the following way.

1. Price of the toy : Expensive / Affordable
2. Suitability to the age : Complicated / Easy to handle
3. Durability : Durable / Breakable
4. Safety of the toys : Safe / Unsafe
5. Choice of toys : Stimulate creativity and imagination / Non imagination
6. Flexibility of toys : Multiple use / Used for only one play
7. Adaptability and suitability of toys : Suitable to the age / Not suitable
8. Form and colour of the toys : Use of primary colours / Monotonous and dull colours
9. Muscular Co-ordination : Co-ordination of large and smaller muscles / Use of any one muscles
10. Material of which the toy is made : Wood / Fabric

Books:

Books open up new world for children. They try out their ideas, expresses their concern, learn about the environment, initiate activities, learn social techniques and communicate with others and peers through books.

Books help children in the following ways:

- To give first hand experience
- To stimulate new ideas
- To build correct concepts
- To appreciate nature and beauty
- To encourage good reading habits



Criteria for evaluation: Books for Balwadi should be evaluated in the following ways.

- | | | |
|-----------------------------|---|---|
| 1. Concepts | : | Correct concepts / confusion |
| 2. Stimulation | : | New ideas / old one |
| 3. Experience | : | Gives first hand experience / Not giving any new experience |
| 4. Appreciation | : | Beauty of nature / Not applicable |
| 5. Encouraging | : | Good reading habits / Not innovative |
| 6. Observation | : | Helps to develop observation / Casual |
| 7. Imagination | : | Promotes imagination / Non-imaginative |
| 8. Verbal communication | : | Encourages / Discourages |
| 9. Social relationship | : | Builds / Avoids |
| 10. Attraction and Interest | : | Creates Interest / Dull and monotony |

Results and Discussion:

10. ACTIVITIES IN PRESCHOOL

10.1: Story for Preschool Children

Aim: To learn the method of telling story for pre school children.

Items needed: Charts, colour pictures, flannel board etc.

Importance of story telling: Story telling is one of the activities by which the teacher becomes acquainted with the children and thus builds relationship with them. The teacher also learns through planning and executing story experiences.

- Interest in various subjects is answered through story telling
- Children learn to identify with the feelings of others.
- They learn the tradition of their own nation and religion and are introduced to foreigners
- Moral lessons can be incorporated as the meaning of the story
- Awareness of the language and vocabulary increases as new words are learnt.
- Sharpens the memory as they recall persons and events

Criteria for the selection of stories: In order to gain maximum value from the story telling experience, it is important that following criteria are observed for the selection of stories.

Nature and contents of story:

- Realistic since pre schoolers have much difficulty in distinguishing between real and fantasy.
- It should create interest to children
- Entertaining with colourful pictures and element of surprise are necessary
- Accurate in information since incorrect information would be detrimental to young minds.
- Promoting child's learning by supporting first hand experience.
- Promoting interest to children so that he experiments and explores the world, interesting in words, sounds or play or sounds.
- It should be short in length
- Simple in style form and mannerism, unnecessary details should be eliminated
- Appropriate language is essential
- Illustrations shown should closely represent the written text.

Method of telling story: Gather the children as group sitting close to each other or in several rows close to each other. The teacher should sit on a low chair or stool so that the children at the back in the group can see the face of the teacher. The atmosphere should be very informal and cozy. Story telling should have warm intimate quality about it, since it is an art like dramatization. It involves gestures, voice modulation, volume fluctuations from low to high to higher. The tempo should be even, slow and quick depending on the story.

Look at each child constantly making your eyes from the nearest to farthest and from extreme right to extreme left. No child should feel neglected. The story teller and the listener is very important to bring about the feeling of closeness.



Sometimes the children should tell stories to the whole class, this helps them to organize their thoughts and to be able to pick out the highlights and important parts of a story. This sorting and elimination and retention of ideas is one of the basic principles of human thought process. Children learn it easily through story telling. Learning new words helps the child's vocabulary. While telling a story each new word should be explained.

Note: Select stories accordingly.

Results and Discussion:

11. MANAGEMENT

11.1: Sales Promotion Techniques

Aim: To know about the different techniques used for sales promotion.

Sales Promotion: Sales promotions are short-term incentives to encourage the purchase or sale of a product or service. Sales promotion is any initiative undertaken by an organisation to promote an increase in sales or usage or trial of a production.

Techniques of sales promotion: They are original and creative and hence a comprehensive list is available. Some examples of popular sales promotion activities are as follows:

- **Buy One Get One Free (BOGOF)** which is an example of a self liquidating promotion. This is known as premium sales promotion tactics.
- **Customer Relationship Management (CRM):** Incentives such as bonus points or money or coupons. There are many examples of CRM from banks to supermarkets.
- **Merchandising:** Additions such as points of sale materials and product demonstrations.
- **Free gifts:** For a purchase of each 1 kg of sweets a gift card free for ½ kg mixture.
- **Discounted prices:** During summer season Jet Air Ways offer their customer with the latest low-price deals, or when new flights are released or additional destinations are announced.
- **Joint promotions:** Between brands owned by a company, or with another company's brands. For example fast food restaurants often run sales promotions where toys, relating to a specific movie release are given away with promoted meals.
- **Free samples:** Samples are given for example, tasting of food and drink in supermarkets. Shampoo packets are given with magazines.
- **Vouchers and coupons:** Often seen in newspapers and magazines or packs.
- **Competitions and prize draws:** In newspaper, magazines, TV and radio or on the Internet and on packs.
- **Cause related and fair trade:** Products that raise money for charities and the less well off farmers and producers are becoming more popular.

Finance deals: For example 0% finance over 3 years on selected vehicles.

Many of the examples above are focused upon consumers. The promotion aimed at wholesales and distribution as well. These are known as Trade sales promotions. For example, joint promotion between a manufacture and a distribution, sales promotion leaflets and other materials (such as T-shirts) and incentives for distribution to sales people and their retail clients.

Assignment: Visit a departmental store and identify the sales promotion techniques adopted for any two products.

11.2: Budget for a Restaurant

Aim: To understand the various types of budgets for a restaurant.

Budget: A budget is generally a list of all planned expenses and revenues. It is a plan for saving and spending.

1. Master budget: It is a summary of restaurant plans, that sets specific target for sales, production, distribution and financing activities. This budget represents a comprehensive expression of management's plans for future and how these plans are to be accomplished.

2. Sales budget: It is a detailed schedule showing the expected sales for the budget period. An accurate sales budget is the key to the entire budgeting. These are called "Interdependent Budgets".

3. Production budget: It lists the number of units that must be produced during each budget period to meet sales needs.

4. Direct labour budget: It is developed from the production budget. Direct labour requirements must be computed so that the company will know whether sufficient labour time is available to meet the budgetted production needs.

5. Cash budget: It is composed of four major sections:

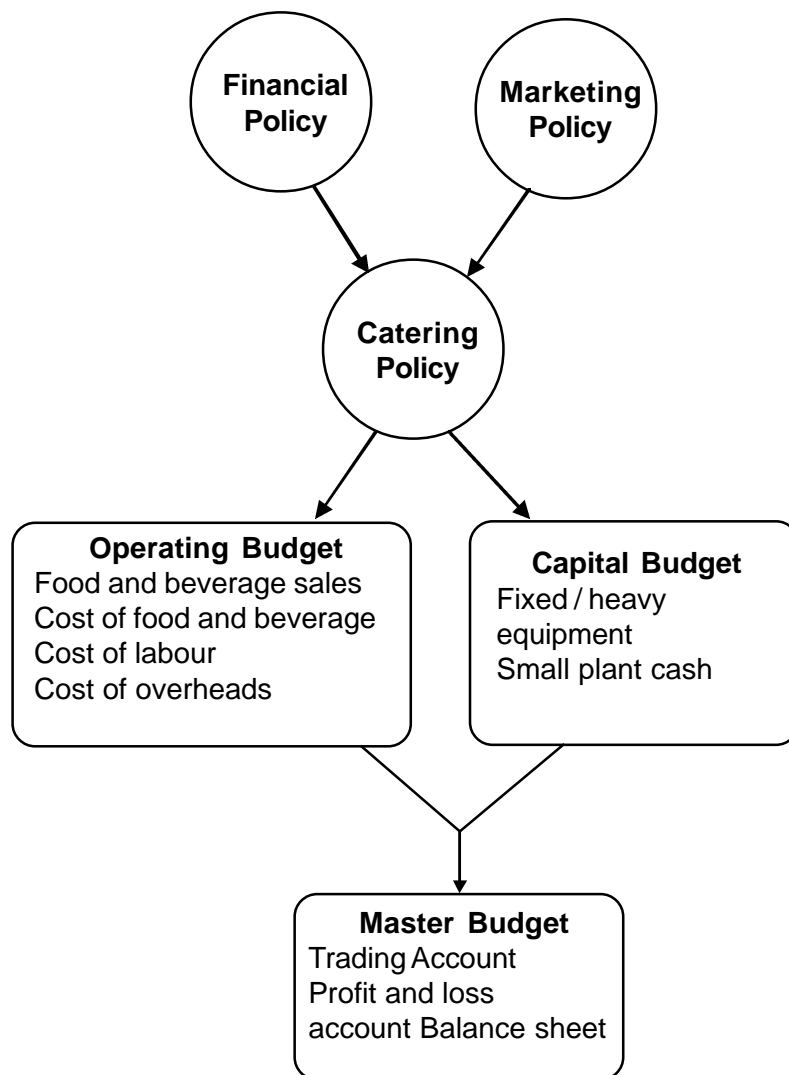
- a. Receipt section
- b. Disbursement section
- c. Cash excess or deficiency section
- d. Financing section

6. Capital budget: As the name implies these are those which are concerned with assets and liabilities of an establishment for example equipment, plant and cash.

7. Operating budget: They are concerned with the day to day income and expenditure of an establishment and include sales, cost of sales, labour, maintenance, head office expenses etc.



Operating Statement of a Restaurant:



Basic Policies

Determining company and unit profit category or subsidy levels and departmental profit or subsidy margins and the operational procedures by which day to day activities are to be carried out.

Budgetary Control

Provides for the establishment of budgets relating to the policy requirements of a business

Budgetary controls to plan and define standards and basic policies against which the performance of actual results may be measured.

Phases of budgeting

1. Planning phase
2. Controlling phase
3. Evaluation phase

Advantages of budgeting

- It focuses on future direction and development
- It establishes new goals
- It reduces past expenditure and serves as a base for future allotment of funds
- It is a control device and establishes priority.

Disadvantages of budgeting:

- It is rigid and time consuming
- It needs efficiency and more thinking
- It causes conflicts and problems among the organisation
- It cannot be implemented without the support of workers

Assignment: Plan a budget for a small restaurant (Funds can be decided at your convenience).

Allocate funds for

1. Food
2. Labour
3. Equipment
4. Operating service
5. Maintenance cost

QUESTION BANK FOR XII STANDARD
Practical II

Marks : 150

1. A) Tabulate the common ailments among children and write the preventive measures (25)
B) Prepare a lunch item for a school canteen (35)
C) Write the general procedure for preparing fruit squash (15)

2. A) Write the criteria for selection of food items. On what basis will you select the following items?
(i) Red gram dhal (ii) Beans (iii) Fruits (iv) Egg (25)
B) Write about pickles. Prepare and evaluate mango pickle (35)
C) Write the different types of budgets. (15)

3. A) What is Oral Rehydration Solution? Write its composition. (25)
B) Write the criteria for evaluation of cake. Evaluate the quality of the given cake. (35)
C) What is science experience and write some simple experiments (15)

4. A) What is sensory evaluation? Write the procedure for any two types of sensory evaluation. (25)
B) Discuss the dietary guidelines and points to be considered in planning a packed lunch. Suggest some packed lunch and prepare any one of the item. (35)
C) Write on operating budget of a restaurant. (15)

5. A) Frame a job specification chart of a personnel in food service institution. (25)
B) Evaluate the given play equipment based on the criteria. (35)
C) Write some of the sales promotion techniques (15)

6. A) How do you maintain hygiene in food selection, storage, handling of equipment and kitchen. (25)
B) Frame a weekly programme for a pre school (Stick pictures accordingly) (35)
C) Write the procedure for preparing Milan heart cookies (15)

7. A) State the objectives of noon meal programme. (25)
B) What are supplementary foods, write the types and prepare any one of the supplementary foods? (35)
C) Write on water and sand play. (15)

8. A) Write the general procedure for jelly preparation. (25)
B) Plan a day's menu for an obese person and prepare any one item. Write down the following
(i) Causes (ii) Dietary guidelines (iii) Permitted and restricted foods (35)
C) Give the procedure for preparing coconut cookies. (15)

9. A) What is fruit candy? Write the procedure for preparing papaya Candy. (25)
(35)
B) Write the criteria for the selection of books. Evaluate the given book. (15)
C) List the tips for making cookies.
10. A) Explain the procedure for an eggless cake. (25)
B) Plan a day's menu for a lactating woman, write the dietary principles and prepare any one item. (35)
C) Write the procedure for preparing grape squash. (15)
11. A) How will you prepare lime juice cordial? (25)
B) Plan a day's diet for an ulcer patient and prepare any one of the items. Write down the following.
i. Symptoms ii. Dietary principles and guidelines
iii. Permitted and restricted foods (35)
C) What is science experience and write some simple experiments? (15)
12. A) Outline the criteria for selection of food items. On what basis will you select the following items?
i. Red gram dhal ii. Beans iii. Fruits iv. Egg (25)
B) Discuss the importance of story telling, criteria for story selection and frame a story for a preschool child according to norms and stick pictures. (35)
C) Write on operating budget of a restaurant. (15)
13. A) What is Oral Rehydration Therapy? Write its composition? (25)
B) Discuss the dietary guidelines and points to be considered in planning a packed lunch. Suggest some packed lunch and prepare any one item. (35)
C) Write on water and sand play. (15)
14. A) Frame a job specification for a personnel in a hotel. (25)
B) Explain on what criteria will you evaluate the given book. (35)
C) Write the procedure for preparing coconut cookies. (15)
15. A) Tabulate the common ailments among children and write the preventive measures. (25)
B) Write the criteria for evaluation of a cake. Evaluate the quality of the given cake. (35)
C) Give examples for sales promotion techniques (15)

Project Topics

- I. Identification of nutritional programmes
- II. Preparation of charts and counselling obese / diabetic patients
- III. Problems in teenage
- IV. Observation of a balwadi or a pre school programme and reporting
- V. Visit to a bakery unit or shop
- VI. Survey on small scale industries run by women (Self Help Group)

PROJECT TOPICS

I. Identification of Nutritional Programmes

- Introduction about ICDS
- Visit the nearby primary health centres and collect the information
- Report it accordingly

Model format

1. Objectives of ICDS
2. Number and type of beneficiaries
3. Type of supplements given
4. Type of prophylaxis programmes
5. Duration of the intervention
6. Sources of materials supplied
7. Problems faced by the beneficiaries
8. Details about the functionaries involved

II. Preparing Charts and Counselling Obese / Diabetic Patients

- **Diabetes Mellitus or Obesity:** Definition, causes, problems and dietary modification.
- **Do a case study and make a report :** Model case studies on obese and diabetics are given. Select the subject and do it accordingly.

Case Study: Examples for obese persons.

- I. Sex : Female
 Age : 42 years
 Height : 5'3"
 Weight : 84 kg
 Activity : Sedentary homemaker
 Symptoms : Slightly hypertensive, diabetic
 Other Information : Likes to eat all kinds of sweets and non-vegetarian items

1. What will be your advise to her with reference to

- a. Diet b. Life style modification

- II. Sex : Male
 Age : 21 years
 Height : 5'8"
 Weight : 85 kg
 Activity : Works in a Software Industry with less physical activities
 Present diet : Fat rich diet
 Other Informations : Likes to eat fast foods like pizza, burger, potato chips etc.

1. What will be your dietary counselling to him?
2. Explain the reasons for the recommendations that you make?

Case Study

Examples for Diabetic Persons

I.	Sex	:	Female
	Age	:	49 years
	Height	:	5'3"
	Weight	:	65 kg
	Activity	:	Sedentary life style
	Symptoms	:	Feeling of thirst and poly urea
	Treatment	:	Oral drugs suggested by Physician
	Clinical picture	:	Fasting blood glucose - 130 mg/dl Post prandial glucose - 200 mg/dl Blood cholesterol level - 255 mg/dl

Prescribe a diet plan explaining the dietary principles.

II.	Sex	:	Male
	Age	:	60 years
	Height	:	5'8"
	Weight	:	55 kg
	Activity	:	Sedentary
	Symptoms	:	Polydypsia, poly urea, fatigue

1. What will be the dietary guidelines for him?
2. Which nutrients needs special emphasis?

III. Problems in Teenage

There are many social problems that teenagers face through problems of adolescence are due to failure in understanding anatomical, morphological and psychological changes that occur during adolescence.

They are easily carried away by perceptions generated by

- Misleading and misguiding parents, teachers, friends and brothers / sisters.
- Ignorance of elders
- Half or ill informed facts
- Wrongful messages through T.V.serials, advertisement and films

The problems of adolescence are classified as

- Morphological
- Psychological
- Social
- Educational

Identify the problems faced by teenage girls in your school.

Model Questionnaire:

1. Name of the student :
2. Age :
3. Siblings :
4. Height (cm) :
5. Weight (kg) :
6. Problems of Adolescence :

S.No.	Problems of Adolescence	Tick the suitable one
A.	Developmental Problems * Over growth of hair * Over weight / underweight * Facial deformities, pimples etc. * Menstural problem	
B.	Psychological problems * Misconception about sex * Guilty feeling * Inferiority / Superiority complex	
C.	Social problems * Unwanted hatredness towards brother / sister * Vulnerable reactions with relatives * Volatile relationship with friends * Fear / imagination about married life	
D.	Educational problems * Tension of attending the classes, examinations * Low IQ feeling * Fear about low scores * Fear and concern about a future career	
E.	Nutritional Problems * Ignorance of nutritional information * Deficiency disease <ol style="list-style-type: none"> 1. Anaemia 2. Vitamin A deficiency 3. B-complex deficiency 4. Vitamin C deficiency 	

7. Suggest remedies:

IV. Observation of a Balwadi or a Preschool Programme and Reporting:

- Visit a balwadi or a preschool
- Collect the information using the given schedule
- Prepare a report

Schedule to collect information

1. Name of the school :
2. Location :
3. No. of children :
4. No. of teachers :
5. No. of Assistants :
6. No. of rooms :
7. Infrastructure : Terraced / Tiled / Asbestos
Available / Not available

Water sanitation :
Dining facilities :
Toilet facilities :
Sleeping place :
Garden :
Play facilities :
Transport facilities :
8. Play equipment :
Indoor Outdoor (List)
1. 1.
2. 2.
3. 3.
4. 4.
5. 5.
9. Teaching aids : Visual / Audio / Video (List)
10. Schedule (Daily) :

Note: Interpret the observation, give your suggestions and make a report.

V. Visit to a Bakery Unit or shop

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

Format:

1. Name of the bakery unit or shop :
2. Location :
3. Number of workers :
4. Equipment available (List)
 - Production :
 - Storage :
 - Packing :
5. Working area : Available / Not available
 - Cake making :
 - Bread making :
 - Biscuits making :
 - Cookies making :
 - Pastries making :

6. Items prepared for sale

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

7. Utilisation of waste :

8. Method of disposing waste :

Interpret the observations and report.

VI Survey on Small Scale Industries run by women (eg: Self Help Groups)

1. Name of the small scale business :
2. Location of the business :
3. Name of the person incharge :
4. Number of persons involved :
5. Year of starting :
6. Type of items produced :
7. Method of sales :
8. Equipment / other accessories :
 - Production :
 - Storage :
 - Distribution :
9. Source of finance :
10. Maximum loan availed :
11. Mode of repayment :
12. Interest rate for loan :
13. Method of purchasing food or other materials
 - By cash :
 - By cheque :
 - By Instalment :
14. Percent of profit :
15. Problems faced in operation :
16. Future plans for expansion :

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