UNIT : II
HUMAN DEVELOPMENT AND FAMILY RELATIONS

CHAPTER : 1
PREPARING IMMUNIZATION SCHEDULE

National Immunization Schedule

Name of vaccine	Age
B.C.G.	At the time of birth/ within 1 year
Hepatitis B (Birth Dose)	At the time of birth/ within 24 hours of birth
Polio (O Dose) (OPV) (Oral Polio Vaccine)	At the time of birth/ within 15 days of birth
Polio (OPV) respectively I,II,III	1-1/2 months, 2-1/2 months, 3-1/2 months
D.P.T. (OPV) respectively I,II,III	1-1/2 months, 2-1/2 months, 3-1/2 months
Measles I	Within 9-12 months of birth
Vitamin- A (I Dose)	Within 9-12 months of birth
D.P.T. Booster-I	Within 16-24 months of birth
Polio Dose Booster (OPV)	Within 16-24 months of birth
Measles II	Within 16-24 months of birth
Vitamin A (II to IX Dose)	One dose after each 6 months starting from the first dose till the age 5 years
D.P.T. Booster II	Within 5-6 years
Pregnant ladies (16-34 weeks)	TT-I or Booster injection
After one month of TT-I	TT-2 (If the pregnant lady was administered 2 vaccines in the last 3 years then only booster injection is sufficient)

Note: 1. There should be a gap of at least 1 month between two doses.

2. Vaccination should be done even if suffering with mild fever, cough or cold.

CHAPTER : 2

INTERVIEWS OF WORKING WOMEN VISITS TO CRECHE, BALWADI, AAGANWADI AND NURSERY SCHOOLS AND PRESENTATION OF REPORTS

1. Name : _____
2. Age : _____
3. Caste : _____
4. Educational Qualification : _____
5. Married : Yes/No

   If yes then number of children : _____
6. Type of family –

   • Nuclear family • Joint family
7. Area of living–

   • Rural area • Urban area
8. Occupation–

   • Government • Private

   • Self-employed • Others
9. Area of working–

   • Rural • Urban
10. Distance of workplace from home

    _____
11. Means of travelling to workplace

    _____
12. Duration of work

    _____
13. Experience of working –

    • Less than 2 years • 2 years

    • More than 2 years
14. Monthly Salary

    _____
15. How do you spend your monthly salary?

    • Savings • Education of children

    • others
16. Are you satisfied with your job? Yes/ No
17. How do you utilize your time after work?

    • Household Chores • Other Works
18. Do you participate in any training or other programmes? Yes/No
19. Have you ever recived any award at your workplace? Yes/No
20. Have you ever organized any training work at your level? Yes/No
21. Is your opinion relating to family sought in issues Yes/No

If yes, in which type of decisions your opinions are asked the most?

Objective:

1. Giving directions about proposed services and expanding the horizon of the services.
2. Helping students so that they learn and understand the theoretical aspect of education and service of boys.

3. Developing skills in students so that they may evaluate services of the boys.

Procedure:

Observe the welfare services of institutions for students, boys and fill in the questionnaire for information–

Table: 2.1

S.No.	Question	Answer
1	Name of the institution	
2	Address of the institution	
3	Date of visit	
4	Name of the principal	
5	Qualifications of principal	
6	Experience	
7	Training taken?	
8	Phone number	
9	Advisor	
10	Time of institution	
11	Institution – (a) Government (b) Semi-government (c) Private	
12	Total money	
13	(a) Government (b) Institution (c) organization (d) Employee (e) Others	
14	Type of service	
	(a) Educational (b) Practical	
	(c) Private and social (d) others (e) all of the above	
15	Objectives of institution	
	Age limit of children	
	Number of children on the basis of age	
16	Flow chart	

17. Qualifications of Employee

S. No.	Name	Post	Qualification	Age	Experience	Salary	Permanent/ Temporary

18. Method of selecting employees

(a) Personal interview

(b) Experience

(c) Qualification

(d) Training

(e) Others

19. Are your employees satisfied with the salary? Yes/No

20. Are employees coordinating with each other? Yes/No

21. Are employees satisfied with their work? Yes/ No

22. Furniture

(a) Sufficient

(b) Insufficient

23. Is there an open space? If yes, then area–

24. Are there separate rooms for?

(1) For givingg cousultation Yes/No

(2) Workers Yes/No

(3) Customers Yes/No

(4) Rest room Yes/No

(5) Other purpose Yes/No

25. Lavatory arrangement Yes/No

26. Fresh Water facility Yes/No

27. Are rooms provided with ventilators and are well lit? Yes/No

28. Library facility? Yes/No

29. Place of center–

(i) Easy to reach

(ii) Dilapidated condition

(iii) Others

30. Are there private provisions for the customer?
Yes/No

31. Are there steps of advice process in the center?
Yes/No

32. Procedure of problem solving

33. How do you maintain documents and registers?

34. How do you utilize the budget?

35. Operational methodology to increase different developmental working areas—

1. Physical working area
2. Dynamic working area
3. Social working area
4. Emotional working area
5. Cognitive working area
6. Language working area
7. Aesthetic working area

Write the description of any welfare institution that you have visited in this questionnaire and give your suggestions for improvements.

CHAPTER : 3

OBSERVATION OF CHILDREN (1-5 & 6-10 YEARS) IN THE VICIWITY AND PREPARATION OF REPORTS

Food nutrition and health have a very deep inter relationship. The modern lifestyle is moving that it so fast has ignored the subject of health and the result is that the youth is suffering from blood pressure, diabetes, heart ailments, obesity, arthritis, thyroid, etc. which earlier were diseases of adults and old age. The main reason behind this is the wrong habits of eating and living. According to World Health Organization, for good health absence of diseases is not enough but physical, mental and social health should also be good.

Following some healthy habits like eating a balanced diet, exercise, proper sleep, staying tension free and keeping addictions away can help in achieving a healthy life which in turn will enable us to keep our family healthy. This will create a healthy and strong society and country.

By this practical exercise you will inspect various anthropometry measures. First learn how to measure weight and length under the guidance of your teacher–

1. **Measuring height–**

Normally height is measured in two ways- measuring the height of whole body or of circumferences of head or chest. The height of every person is made of four parts– legs, buttocks, trunk and skull. To know the nutritional anthropometry of a person measuring complete height is essential.

Measuring height of a boy and adult:

1. The height of a boy or adult who can easily stand straight can be measured using a measuring tape of fiber glass or a stationary scale while he stands against the wall.

Figure : 3.1

Measuring height by steady scale

2. While measuring height the boy or the adult should stand barefoot on a plain surface against

a plain wall.

3. Before measuring length remove cap, clip from the head and open the ponytail and bun.
4. While measuring length make sure that the boy is not standing with a bent back or head or is standing on one foot.
5. Ankles, waist, shoulders, buttocks and head should touch the wall.
6. Use one hand to keep head and face still and other hand to measure length. When the measuring tape touches feet, record the length in centimeters.
7. If you are measuring length against a wall, then touch the scale on the head and mark the length on the wall. Now measure the length from the mark on the wall to the floor in centimeters.

Measuring height of a baby:

1. Make the baby lie down on a flat surface so that his head touches the wall and legs are opposite the wall.

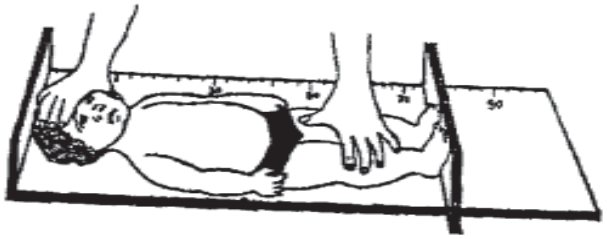


Figure : 3.2 (Measuring height of a baby)

2. Carefully hold the head and face of the baby and make him stable so that his eyes face the ceiling.
3. Gently press the knees to make his legs straight such that his feet point upwards.
4. Hold hardboard against the baby's feet and mark a line at this place on the ground.
5. Lift the baby up and now measure his length from the point on the ground to the wall using a measuring tape made of fiber glass (with breadth not less than 1 cm and it should not be flexible). Note the length in centimeters.

2. Measuring Weight:

Weight is the most used measurement. This helps in knowing nutritional levels. Not only can doctor know if the weight is increased or decreased but can also interpret other things.

Instruments to be used for measuring weight should be exact, easy and strong to use. It should not be very expensive. Weight is made up of muscles, fat and bones in the body.

Measuring weight of a boy or an adult:

1. Digital electronic balance can be used for measuring weight. Bring the machine to zero before weighing. One can check if the machine is working properly or not using standard weights. This is known as standardization of machine.
2. Before weighing it should be ensured that there is minimal clothing on the body. Also no ornaments should be worn during weighing.
3. Weighing should be done barefoot and equal weight should be put on both the legs. One should stand in the middle of the machine, keep head straight and hands parallel to the body.

Figure : 3.3
Digital electronic balance can be used for measuring weight

4. As the machine measures the weight, note down the weight in kilograms. In a spring balance minimum 100 grams and in a digital electronic balance minimum 250 grams can be weighed.

Measuring weight of a baby:

1. Weight of a baby can be measured using a beam scale. Also a Salter scale can be used.

Figure : 3.4
Baby Digital electronic balance for measuring weight

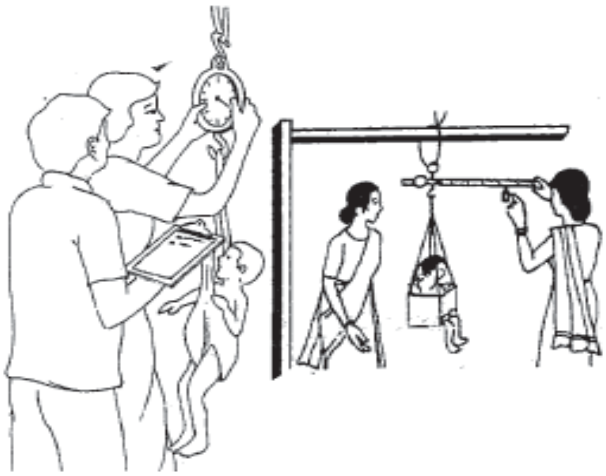


Figure : 3.5 (Weighing a Baby)

2. While weighing a baby it should be ensured that he has minimum clothing on his body.
3. If required, baby can be weighed while he is on mother's lap.
4. For this a platform beam scale is used.
5. In this case, weigh both mother and the baby together and note the result. (Weight 1)
6. Now weigh only the mother. (Weight 2)
7. Subtract the weight of weight 2 from weight 1 and the result will be baby's weight.

National Center for Health Sciences (NCHS) has prepared a table of weight and length of baby, boy and adult according to age and gender. One can compare their results with this table to monitor their health.

Table 3.1: Measurements of length and weight of children and adults by NCHS

Age (years)	Boys		Girls	
	Length (in cm)	Weight (in kg)	Length (in cm)	Weight (in kg)
0	50.5	3.3	49.9	3.2
¼ (3 m)	61.1	6	59.5	5.4
½ (6 m)	67.8	7.8	65.9	7.2
¾ (9 m)	72.3	9.2	70.4	8.6
1	76.1	10.2	74.3	9.5
1.5	82.4	11.5	80.9	10.8
2	85.6	12.3	84.5	11.8
3	94.9	14.6	93.9	14.1
4	102.9	16.7	101.6	16
5	109.9	18.7	108.4	17.7
6	116.1	20.7	114.6	19.5
7	121.7	22.9	120.6	21.8
8	127	25.3	126.4	24.8
9	132.2	28.1	132.2	28.5
10	137.5	31.4	138.3	32.5
11	143.3	35.3	144.8	37
12	149.7	39.8	151.5	41.5
13	156.5	45	157.1	46.1
14	163.1	50.8	160.4	50.3
15	169	56.7	161.8	53.7
16	173.5	62.1	162.4	55.9
17	176.2	66.3	163.1	56.7
18	176.8	68.9	163.7	56.6

Head Circumference:

1. Because of some ailments, the head circumference increases. Such ailments can be diagnosed by measuring the circumference of head. These are known as macrocephalic and microcephaly. These defects are present from birth and are because of infection or genetics.
2. In addition to this head circumference also helps in measurement of nutritional level and age.
3. Thus, head circumference is measured of children 1-8 years of age.
4. Head circumference depends on measure of brain and thickness of skull.
5. In the 2nd year the size of skull starts increasing. But this depends on nutrition level also. Thus the head circumference helps in knowing nutrition level and malnutrition.

Measuring head circumference–

A narrow (less than 1cm and inflexible) tape made of steel or glass fiber is used. While measuring, the head should be stable. Tape should be placed above the eyebrows and in a circle around the head.

Figure : 3.6 (Measuring Head Circumference)

Table 3.2: Measurement of head and chest of baby and boy according to age

Age (in months)	Head (in cm)	Chest (in cm)
Birth	35	35
3	40.4	40
6	43.4	44
12	46	47
18	47.4	48
24	49	50
36	50	52
48	50.5	53
60	50.8	55

Chest Circumference:

1. After 6 months of birth, development of head slows down and that of chest increases.
2. Thus, nutrition level can be known by measuring head/chest ratio.

Measuring chest circumference:

A narrow (less than 1cm and inflexible) tape made of steel or glass fiber is used. Measurement is taken while touching the tape to the breasts.

The ratio of head and chest of child above 6 months is measured to know the nutritional levels. If the ratio is less than 1 then the child is fairly nourished. If the ratio is more than 1 then the child is malnourished.

Body Mass Index (BMI)

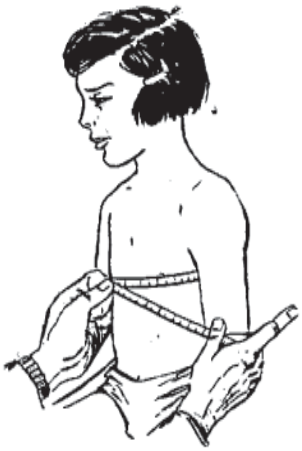


Figure : 3.7 (Measuring chest circumference)

The weight of an adult depends on two factors–

1. Length
2. Weight

Body mass index (BMI) is a measure of body fat based on height and weight that applies to adult men and women. The simple formula to calculate BMI is—

under weight **Normal weight** **Over weight** **Obesity**

Figure : 3.8 Body Mass Index

BMI = Weight (in kg)/ (length)^2 (in cm)

1 kg = 2.5 pounds

1 feet = 30 cm

1 meter = 100 cm

1 inch = 2.5 cm

Measure your BMI and find out in which category it falls–

Less than 18.5	–	Less weight
18.5- 25	–	Normal weight
25- 29.9	–	Over weight
More than 30	–	Obesity

The benefits of a normal BMI—

- Less danger of diabetes
- Helpful in maintaining normal blood pressure
- Less chances of heart related problems

- Relief from joint pain
- Long and healthy life
- Right level of energy

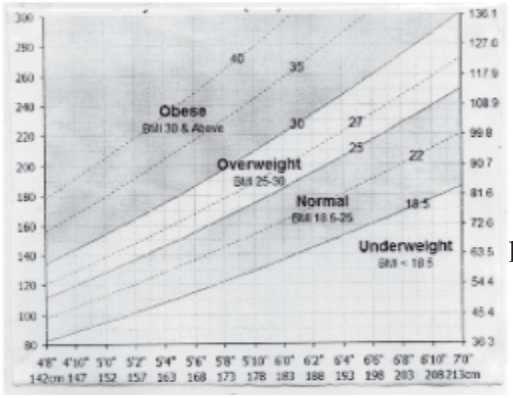


Figure : 3.9 (B.M.I. Chart)

Practical exercise

1. Measure the head and chest circumference of 0-1 years old baby and estimate the nutrition level–

S.No.	Head circumference	Chest circumference	Ratio	Conclusion
1				
2				
3				
4				
5				

2. Measure length and weight of 2-10 years old children and estimate the nutrition level-

S.No.	Length (in cm)	Weight (in kg)	Conclusion
1			
2			
3			
4			
5			

3. Calculate BMI and estimate nutrition level—

S.No.	Weight (in kg)	Length (in meter)	BMI	Conclusion

UNIT : III
FAMILY NUTRITION

CHAPTER : 4
PREPARING LOW COST, NUTRITIOUS RECIEPES AND ORGANIZING COMPETITIONS

The nutrition of food can be increased at home by germination, fermentation of food and by mixing various foods together. Germination of cereals increases levels of vitamin B1, B2, Niacin and vitamin C. Germination reduces the levels of toxic elements and converts some carbohydrates into sugar in the pulses. Fermentation of pulses reduces the amount of phytates and thus, the iron salt present becomes free which can be easily absorbed. Fermentation increases the taste, nutritional value and digestion of cereals. Mixing two or more food items together increases the nutrition and nutritional elements in the food. Examples are pulses-rice, pulses-wheat, khichdi, idli, stuffed bread, *pulao,* etc. three recipes are given below for preparing nutritious food–

1. Germinated *Moth-Bajra* Chat

Ingredients:

Moth beans	:	20 grams
Bajra	:	10 grams
Onion	:	1 (small)
Green chili	:	½
Tomato	:	1 (small)
Lemon juice	:	4-5 drops
Salt	:	To taste

Method:

1. Soak Moth and *bajra* in water overnight.
2. Put the soaked *bajra* in a thin cloth and hang it from a hook for germination.
3. Mix the germinated moth, *bajra*, chopped onions, tomato, chilli, lemon juice and salt together and serve.

2. Sweet *Mathri* :

Ingredients:

Bajra flour	:	50 grams
Moth flour	:	25 grams
Crushed roasted groundnuts	:	10 grams
Roasted sesame	:	5 grams
Oil	:	for frying

Method:

1. Mix *bajra* and moth flour together.
2. Add crushed groundnuts, sesame, some oil, jaggery or sugar and knead the dough.
3. Make small but thick *mathri* and fry them in oil at low flame till they turn light brown.

3. *Katori* Chat:

Ingredients:

Moth flour	:	20 grams
Bajra flour	:	15 grams
Wheat flour	:	10 grams
Oil	:	for frying
Onion	:	10 grams
Green chilli	:	½ chopped
Coriander	:	5 gram
Lemon juice	:	½ spoons
Salt	:	To taste

Method:

1. Add salt to the three flours and knead them into dough.
2. Place a thin chapatti of this flour outside a *katori* (bowl).
3. Fry this chapatti with the bowl in hot oil.
4. When the chapatti turns golden brown, separate it from the bowl.
5. Add germinated moth, onions, salt, chilli, coriander, tomatoes, lemon juice in this bowl, mix them well and serve.

4. ***Dhokla:***

Ingredients:

Bajra flour	:	50 grams
Moth flour	:	10 grams
Onion, ginger	:	small quantities
Green chilli, coriander	:	according to taste
Cumin seeds	:	a pinch
Salt	:	to taste
Curd	:	¼ cup
Oil	:	1 big spoon

Method:

1. Add salt to the flour.
2. Knead dough adding onion, green chilli, ginger, coriander, cumin and curd.
3. Make small balls of the dough and cook them for 20 minutes in steam.
4. Check the balls using a knife so that they do not stick. Remove them from flame.
5. Fry the steamed balls in little oil and serve them hot.

5. Idli:

Ingredients:

Rice	:	30 grams
Split black gram (*urad*)	:	10 grams
Salt	:	to taste
Oil	:	little

Method:

1. Separately soak gram and rice in water for 6-8 hours.
2. Grind the soaked rice and gram finely.
3. Mix the rice and grams together making a thick paste. Add salt and keep it under sun or covered overnight for fermentation.
4. Now apply some oil in idli making plate and put a spoon full of paste in the plate.
5. Place this idli plate in idli stand or in cooker filled with hot boiling water. Keep the plate above the level of water.
6. Cover the pot and let it cook for 10-15 minutes.
7. Remove the idli stand from flame and let the idli cool. Insert a knife in the idli, if the paste does not stick on knife idli is cooked.
8. Serve idli with Coconut chutney and Sambhar.

CHAPTER-5

PREPARING RECIPES USING DIFFERENT COOKING METHODS

Various types of dishes are made in our homes. Various methods of cooking are used to make these dishes. Some recipes made using various methods of cooking are given below as a sample:

1. **Boiling -** With this method, we make many vegetables and pulses that are consumed daily. After boiling pulses and vegetables, they are smeared in spices so that they become tasty and attractive.

1. Moong dal

Material :

Moong Dal	:	25 grams
Ghee	:	1/2 teaspoon
Salt	:	according to taste

Other spices: turmeric, chilly, coriander powder and cumin seeds

Method :

1. Clean the pulse and wash it with clean water twice.
2. Allow dal to soak for 15-20 minutes.
3. Boil 1 bowl of water in the frying pan and keep it in the wet pulse for cooking.
4. Put turmeric and salt and keep it covered.
5. When the pulse is cooked, heat the ghee in a small vessel and fry cumin and add other spices and mix it in the pulse.
6. In the dal, green chillies, green coriander and lemon juice can be added as desired.
7. Serve it with hot with rice and chapati etc.

2. Soup

Material :

Breaded millet	:	20 grams
Moth	:	20 grams
Salt	:	1/2 teaspoon
Black Pepper	:	1/2 tablespoon
Cumin	:	pinch full

Method :

1. Boil millet and moth with water.
2. After completely melting, sprinkle it with a small and thick sieve.
3. Add salt, pepper and roasted cumin seeds in it and serve it in a hot cup before meals.
4. Simmering- This method is on low flame.

Rice pudding

Material :

Milk	:	250ml
Rice	:	10 grams
Sugar	:	10 grams
Cardamom	:	1 small (grinded)

Method :

1. Wash rice and soak them for 10-15 minutes.
2. Boil the milk in the frying pan and mix the soaked rice and cook it on a low flame.
3. Keep stirring the milk with a spoon in between.
4. When the rice is cooked well then add sugar in it and cook it well.
5. Take out the kheer in a bowl and decorate it with cardamom powder and serve hot.
6. To make kheer tasty, you can also add dried fruits, saffron etc.

Millet (Bajra) Raab

Material :

Millet flour	:	20 grams
Buttermilk	:	150 g
Sprouts	:	5 grams
Salt, Cumin seeds	:	according to taste
Water	:	200g

Method :

1. Mix millet flour in buttermilk.
2. Add cumin seeds, stir until it thickens and stir in between.
3. Cook the sprouts for 2 minutes and serve hot or cold.

3. Pressure Cooking

Chickpeas (chole)

Material :

Chickpeas	:	30 grams
Tomatoes	:	25 grams
Onions	:	20 grams
Ginger	:	5 grams
Green Chillies	:	1 or 2
Green Coriander	:	Some leaves
Salt	:	according to taste
Oil	:	1-1 / 2 teaspoon

Other spices: turmeric, chillies, coriander and garam masala powder, cumin etc. lemon / Amchoor / tamarind flavour according to taste

Method :

1. Soak beans, wash, and soak in water throughout the night.
2. Cook it in the pressure cooker with the required quantity of water and salt until it reaches 3-4 whistles.
3. Wash onion, ginger, green chili, tomatoes and green coriander and cut it.
4. Heat oil in a pan and fry cumin seeds and fry till ginger and onions turn golden.
5. Add chopped tomatoes and other spices in it, fry for 3-4 minutes and mix boiled chickpeas in the pressure cooker, cook well and add tamarind/amchoor according to the taste.
6. Now take them out in a bowl and decorate onion with rings, tomato slices, chopped green chillies and green coriander and serve hot.

Moth Bajra Ghoogri

Material :

Breaded millet	:	20 grams
Drained moth	:	10 grams
Onion	:	25 grams
Green Chili	:	1
Oil	:	2 teaspoons

Cumin, salt, water: according to requirement

Method :

1. Cook bajra and moth on low flame for 20-25 minutes in water.
2. Wash onion, ginger and green chillies and cut them finely.
3. Heat the oil and add cumin seeds and then fry onion.
4. Cook spices, ginger and green chillies and add a mixture of boiled millet and moth. Add green coriander and serve hot.

4. Steam cooking

Makki ke Dhokale:

Material :

Maize Flour	:	50g
Onions	:	10-15 grams
Ginger	:	2-5 g
Green Coriander	:	5 grams
Salt	:	according to taste
Oil	:	one big spoon (10-15 gms)
Mustard seeds and cumin	:	1/2 teaspoon of tea
Papad Khar	:	1/4 teaspoon

Method :

1. Sieve the maize flour and mix salt and papad khar , sieve it again so that khar and flour mix well.
2. Wash the onions, ginger and green coriander and finely chop them.
3. Mix chopped onion, green chilies, coriander and ginger in the corn flour, knead the dough.
4. Put a little water in the cooker and put cooker grid (lattice) or steel sieve on the bottom.
5. Make balls of kneaded flour and keep them on the lattice.
6. Put the lid on the cooker without whistle and cook in steam for 15-20 minutes.
7. Heat oil and stir fry the cumin and mustard and put it on steamed dhokalas, decorate it with green coriander leaves and serve incandescent.
8. Mix oil or ghee in non-fried dhokalas and serve with lukewarm pulses.

5. Method of deep frying

Mathari

Material :

Millet flour	:	20 grams
Moth flour	:	20 grams
Maida	:	20 grams
Caraway/ ajwain	:	5 grams
Salt	:	according to taste
Oil	:	for frying

Method :

1. Sieve millet flour, maida and moth flour together.

2. Add a little oil, salt and ajwain and knead the dough.
3. Make small and thick mathari.
4. Take a knife and pierce it.
5. Heat the oil they and fry the mathries in it become light brown on slow flame.

6. Method of Shallow Frying:

Cutlet

Material :

Millet flour	:	50 grams
Sprouts	:	5 grams
Potatoes	:	100 gms
Peas	:	30 grams
Onion	:	50 grams
Green Chillies	:	half
Green Coriander	:	5 grams
Semolina	:	5 grams
Salt	:	according to taste

Method :

1. Wash the potatoes and peel.
2. Chop the Green Chillies, and onion and fry in hot oil.
3. Now add potatoes, peas and sprouts and mix green coriander. Mix millet flour and salt together as well.
4. Prepare the cutlets from this mixture and wrap them in semolina.
5. Shallow fry the cutlets with a little oil on the pan and serve with green coriander sauce.

7. Baking/Roasting:

Roti / Chapati

Material :

Wheat flour	:	50 grams
Salt	:	according to taste
Water	:	for kneading dough

Method :

1. Sieve the flour with salt in it.
2. Add little water and make the dough with a light hand and keep it covered for 5-10 minutes.
3. Make balls from the kneaded flour and roll them with the help of palothan (dry flour) on the chakla frying pan.
4. Keep frying pan on the flame and roast bread.
5. Roast the bread on the pan from both sides.
6. Pour ghee on the roti and serve it with pulses and vegetables.

Bati

Material :

Wheat flour	:	75gm
Salt	:	according to taste
Ghee	:	One big spoon (10-15 gms)
Water	:	to knead the dough

Method :

1. Sieve the flour with salt and mix it.
2. Mix well after adding 1 / 2-1 teaspoon of ghee to the flour.
3. Put a little water and make hard dough.
4. Make two balls of dough and sift it in the hot ash of the fire or in the gas-tandoor.
5. The mouths of the bati open after baking.
6. Pour ghee on bati and serve hot with dal.

CHAPTER : 6

PREPARATION OF FOOD PRODUCTS USING FOOD PRESERVATION METHODS

Food preservation is the process of treating and handling food to stop or slow down food spoilage, loss of quality, edibility, or nutritional value and thus allow for longer food storage.

Storing food items for longer time is important so that they may be used in future as and when required.

Preservation using domestic methods helps in preserving food products at a smaller scale for a family. Home science students can learn preservation techniques in a laboratory and thus prepare various preserved food products.

You have already learnt about various techniques of food preservation.

Using chemical methods of food preservation we can prepare various preserved food items at the domestic level such as marmalade, jam, jelly, syrup, tomato sauce, pickle, etc.

Chemical substances used in fruit protection work:

To preserve food products under fruit protection work the following chemical substances are used:

1. **Citric acid**– It is white, granular and sour in taste. It is known as lemon extract. It is used for giving sour taste to the food and helps in preventing crystals in foods preserved with sugar such as syrup, jam, marmalade, jelly, etc. It should be noted that it is not a protecting factor.
2. **Acetic acid**– It looks like water but has a strong odour which is also known as vinegar extract. It is used in spicy food items such as pickle, chutney, sauce, etc to add sourness and increase taste. 4-5% of acetic acid in water (5 ml Acetic acid + 95 ml water) is known as vinegar. Green chillies, ginger, onion, garlic, blanched vegetables are mixed in vinegar to prepare pickle. White vinegar is a protecting factor.
3. **Sodium Benzoate**– It is a protecting chemical substance which looks like white powder. On touching it feels like chalk powder. It is mainly used in dark colored fruit juices or in foods such as chutney, sauce, pickle prepared with juices of pomegranate, blackberry, squash, tomato, etc. It gets converted into benzoic acid when it is mixed in food items.
4. **Potassium metabisulphite**– It is a protecting chemical substance which white and granular. It converts into sulphur dioxide on mixing with sour fruits or food products containing sourness

of fruits. It is mainly used in light colored fruit juices or squash prepared from them such as lemon, orange, mango, pineapple, litchi, wood apple, etc. Sulphur dioxide removes dark colors of juices therefore this cannot be used for green light colored fruit juices.

In addition to the above preservatives–

Preservation using sugar– 68-70% sugar in food items act as protecting factor. Jam, jelly, marmalade, syrup etc. are preserved using sugar.

Preservation using salt– 18-20% salt in food items act as protecting factor. Lemon pickle, oil-less mango pickle is preserved using salt.

Marmalade preservation– Different fruits according to their shapes and nature either used complete or peeled and cut into pieces, preserved in sugar makes marmalade. All the marmalades are preserved in 68% sugar. Following marmalades are popular– apple, gooseberry, carrot, raw mango, wood apple, etc.

Marmalade made from different fruits is famous by different names–

- Marmalade prepared from ginger is a dry marmalade and is known as candy.
- Marmalade prepared from raw papaya and of green, red and yellow colors is known as tooti-fruity.
- Cranberry marmalade of red color is known as cherry.

Depending on the taste and nature of fruits following solutions are used while making marmalade–

(1) **2% salt solution**– The fruits like apple, pear which change their color after they are peeled are preserved in 2% salt solution. Fruits do not get spoiled in salt solution. (1l litre water + 20 gm salt = 2% salt solution).

(2) **1.5% alum solution**– The fruits which taste bitter stringent such as gooseberry (*awla*) are pricked and then kept in alum solution for 24 hours reduces their bitterness. 15 gm alum and 1 liter water gives 1.5% alum solution.

(3) **2% lime solution**– The fruits which are soft like *bael* are pricked and kept in lime solution for 10-12 hours.

Apple marmalade–

Ingredients–

Apple	:	1.0 kg
Sugar	:	1.5 kg
Water	:	400 ml
Citric acid	:	7 gm

Method– For preparing marmalade at commercial scale, Ambari apple varities are used. If this is not available then small sized fruits are used. Peel the fruits and keep them in 2% salt solution.

1. **Blanching**– Remove the salt solution and blanch the apple pieces in boiled water for 8-10 minutes. If the pieces start getting pricked easily using a fork blanching is complete.
2. **Pricking**– Using stainless steel fork prick all the apple pieces.
3. **Sugar syrup**– Boil sugar, water and citric acid together till syrup gets ready. Pour this syrup on the pricked apple pieces. The next day heat the apple pieces dipped in syrup. When the syrup starts boiling remove the apple pieces from the syrup and let the syrup boil alone for 5 minutes. After 5 minutes, add the syrup again to apple pieces.

Repeat this process for next two days. Syrup gets thick in this process and reaches the inside of apple pieces. If the syrup is boiled for 20 minutes on one single day then the pores that we created in apple pieces by pricking will get clogged with thick syrup, water will not be able to come out of fruit pieces and the pieces will shrink.

4. **Identification of preparation–**

1. The syrup gets thick as honey.
2. The marmalade prepared is 1.5 times the sugar used.
3. The concontration of sugar in the eyrup 68%. Which is measured using a refractometer.

Store the marmalade in a dry and clean jar.

Precautions:

1. Keep the marmalade dipped in sugar syrup.
2. Check syrup after 8-10 days of preparation. Sometimes when the water from fruits is not completely removed it comes out later which makes the syrup watery. Check if the syrup has turned thin; boil it again to make syrup thick.
3. Sometimes syrup gets crystallized. In this case add little citric acid and heat the marmalade to remove crystals.

Gooseberry (Amla) marmalade–

Ingredients–

Gooseberry	:	1.0 kg
Sugar	:	1.5 kg
Water	:	400 ml
Citric acid	:	10 gm

Method–

Big sized gooseberry is used for making marmalade. Firstly fruits are kept soaked in water for 4-5 days. Change the water everyday. This reduces the green colour of the fruit. If you want to prepare it early, this step can be skipped.

1. **Pricking**– Prick the gooseberry using steel fork. Pricking or pressing fruits should cause its juice to come out.
2. **Keeping in alum solution**– Pricked or pressed gooseberries are kept in 1.5% alum solution for 24 hours. Wash them thoroughly in water after 24 hours.
3. **Blanching**– Blanched the fruits in boiling water for 8-10 minutes.
4. **Sugar syrup**– Sugar, water and citric acid are boiled together to make a syrup and add the blanched fruits in it.

For 3-4 days boil the syrup separately for 5-5 minutes just as you did in case of apple marmalade.

Pickle

There is probably no house in India where pickle is not prepared but it is seen sometimes that the pickle gets spoiled. Most of the pickles get spoiled due to absence of salt in pickle. Therefore, the quantity of salt used while making fruit/vegetable pickles is divided into 3 parts–

20% Salt– This much amount of salt acts as a protecting factor in food items. Therefore, pickles which depend only on salt for preservation are prepared by using 200 gm salt in 1 kg fruit or vegetable and other required spices. For example lemon pickle and oil-less mango pickle is preserved using 20% salt.

15% salt– Pickle using fruits/vegetables which are sour or styptic, bitter or sharp in taste is made using 150 gm salt, 250 gm mustard oil, 5 gm actic

acid, 1 gm sodium benzoate and required spices. Such pickles are those of bitter gourd, gooseberry, chili, onion and cranberry.

10% salt– Pickle made using fruits and vegetables which have light taste requires 1 kg of fruits/ vegetables, 1oo gram salt, 10 gm acetic acid, 1 gm sodium benzoate, 250 grams of oil and other essential spices. Such pickles are carrot, cauliflower, radish, turnip, jack-fruit, etc.

Pickle made using different vegetables–

Ingredients–

Cauliflower	:	1kg
Green peas	:	500 gm
Carrot	:	500 gm
Green chilies	:	500 gm
Lemon	:	250 gm
Radish	:	500 gm
(Total weight of vegetables: 3.250 kg)		
(Weight of pickle: 2.00 kg)		
Salt	:	200gm
Turmeric	:	50 gm
Red chili powder	:	30 gm
Garam masala powder	:	20 gm
Fennel seeds	:	50 gm
Mustard seeds	:	50 gm
Asafetida	:	to taste
Mustard oil	:	500 gm
Ginger	:	200 gm
Acetic acid	:	10 mg
Sodium benzoate	:	2 gm

Method –

Peel the vegetables and cut them into pieces. Blanch carrots and cauliflower for 6-7 minutes and green peas for 4-5 minutes. Spread the blanched vegetables on a cloth to remove extra water. Put the vegetables in a big bowl and add chopped green chilies, chopped ginger, lemon, salt, powdered spices, ground mustard seeds, fennel seeds and asafetida. Add boiled oil after cooling it in the mixed vegetables and add acetic acid and sodium benzoate to it. Mix everything together and fill the mixture in a jar. Keep the mixture for 2-3 days and then it can be used.

Mango pickle

Ingredients:

Raw mango	:	5kg
Salt	:	750 gm
Turmeric powder	:	125 gm
Red chili powder	:	75gm
Garam masala	:	50 gm
Fennel seeds	:	125 gm
Fenugreek	:	100 gm
Nigella seeds (*kalaunji*)	:	75 gm
Asafetida	:	5 gm
Mustard oil	:	1.5 L
Acetic acid	:	20 mg
Sodium benzoate	:	5 gm

Method– Indian variety of raw mango is suitable for making pickle. Wash the mangoes and cut each of them into 4-8 pieces. Add salt, spices to the mangoes and keep them under sun for 1-2 days. Keep the mangoes covered with cloth. After 2 days, add hot oil, acetic acid and sodium benzoate. Mix them well and fill the mixture in a jar. 15-20 days later, pickle is ready.

Lemon pickle

Ingredients:

Lemon	:	1 kg

Black salt	:	50 gm
Salt	:	150 gm
Celery seeds	:	20 gm
Ginger	:	50 gm
Garam masala	:	25 gm
Black pepper powder	:	25 gm

Method–

Wash the lemons and slice each of them into 4 pieces such that they remain joined from one side. Mix salt, celery seeds, spices and finely chopped ginger together. Press and squeeze out lemon juice, now add the mixed spices and store the mixture in a jar. Add lemon juice to the jar and keep the jar for 1 month. Mix the jar contents once in a while.

Note–sweet-sour pickle can be prepared by adding 500 gm of sugar or sugar syrup.

Adding 50 gm *harad* and 25 gm cloves can increase the nutritional quality of pickle.

Tomato sauce or ketchup

Ingredients:

Tomato	:	2 kg
Ginger	:	25 gm
Onion	:	50 gm
Garlic	:	5 gm
Acetic acid	:	10 mg
Sugar	:	160 gm
Salt	:	25 gm
Red chili powder	:	10 gm
Garam masala	:	10 gm
Sodium benzoate	:	1 gm

Method :

Fully cooked tomatoes are suitable for making ketchup. Chop the washed tomatoes and put them in a pressure cooker. Add chopped ginger, onion, garlic into this. 3-4 whistles will cook the vegetables. Sieve the vegetables using a stainless strainer. Now cook the seedless tomato juice.

1. **Sugar and salt–** As the juice thickens add sugar and salt to it.
2. **Spices–** Add spices to it using any of the 3 methods–

(i) **Adding extract of spices–** Boil *garam masala* and powdered black pepper in water for 7-8 minutes. Strain the water and add this extract to the tomato juice and boil it.

(ii) **Bag method–** In this method, powdered red chili and *garam masala* is tied in a cloth and put these tied spices in tomato juice. When the sauce gets ready remove the cloth. Make sure that the tied cloth does not get open and stays dipped in juice.

(iii) **Adding spices directly–** Add powdered spices directly into the sauce and cook the sauce.

Identification of preparation– Put few drops of sauce in a plate and check if water gets separated from sauce. If water is not seen separately sauce is ready.

3. **Sodium benzoate and acetic acid–** When sauce gets ready remove it from flame and add sodium benzoate and citric acid to it. Store the ketchup in a bottle or jar and keep it covered.

Jam

The pulp of the fruit is cooked with sugar and sour substances for a limited time which gets settled into a thick paste when ready. Jam containing 68% sugar remains preserved. Different fruits like apple,

mango, pear, pineapple, etc or a mixture of them can be used for making jam.

Apple jam

Ingredients:

Apple	:	1 kg
Water	:	20 ml
Citric acid	:	7-8 gm
Sugar	:	750 gm
Orange-red colour	:	according to requirement
Amaranth colour	:	according to requirement
Apple/ mixed fruit essence	:	20 drops

Method–

For making jam, sour apples are suitable. Cut apples into medium pieces and cook in a pressure cooker with 200 gm water. After 4-5 whistles, strain the cooked apples with steel/aluminium strainer. To the pulp obtained add sugar and a little amount of both types of colours. While cooking continuously stir the pulp. When it becomes thick add citric acid.

Identification of preparation–

1. **Plate test**– In this test, put a little amount of jam in a plate after it has cooled down. Now slightly tilt the plate and observe the flow of jam. If the jam moves in one direction jam is ready.
2. **By thermometer**– When the temperature of cooking jam rises to 222^0F, jam is ready.
3. **By refractometer**– When sugar in the cooking jam becomes 68-70%, jam is ready.
4. **By weight**– Normally the jam prepared is 1.5 times the sugar used in the making of jam.

By testing the jam using any one method, turn off the flame and add essence in required amounts and fill it in a jar.

Jelly

A fruit-flavoured dessert rich in pectin made by warming and then cooling a liquid containing gelatin, sugar in a mould or dish so that it sets into a semi-solid, somewhat elastic mass. Pectin is present in sufficient quantities in guava, sour apple, cranberry, plum, etc. While making jelly from fruits not containing pectin, pectin powder is added. In the jelly prepared sugar is kept up to 70%. Therefore, it is a sugar preserved product.

Guava jelly

Ingredients:

Guava	:	750 gm
Water	:	1 L
Citric acid	:	6-7 gm
Sugar	:	500 gm

Method–

For making jelly, fully ripened and less cooked fruits are used. Fruits are cut into small pieces and are cooked at medium flame for 35 minutes and then strained using a cloth. The strained liquid is known as pectin liquid. This liquid is used for making jelly. The leftover of the fruit is not used in jelly. Sugar equal to the amount of liquid is used. Mix the sugar well and cook the liquid at high flame. Stirring the liquid while it is cooking is not necessary. Add citric acid before cooking gets completed. Colour can also be added to the jelly if required.

Identification of preparation–

1. Take the cooked liquid in a plate and slightly tilt the plate and see if the jelly flows into a sheet, Jelly is ready.
2. **By thermometer–** When the temperature of cooked liquid becomes 222^0f, it is ready.

3. **By refractometer**– When sugar becomes 70% in the cooked liquid, it is ready.

Remove the liquid from flame once it is cooked. Remove the froth from the cooked jelly and store it in a jar. Cover the jar only when jelly cools down.

Syrup

All types of syrup are preserved using sugar. Therefore, 68-70% sugar should be present in the syrup. Following are the popular syrups–

1. Fruit syrup– lemon, pomegranate, orange, pineapple, etc.
2. Flower and herb syrup–rose,*kewda, khas*, etc
3. Artificial syrup– rose, *khas*, orange, pineapple etc.

The above syrup/squash can be prepared using fruits, flowers or herbs according to taste and colour.

Ingredients

Sugar	:	800 gm
Water	:	250 gm
Citric acid	:	4-12 gm
Fruits/flowers/herbs or extract	:	100 gm
Food colour	:	½ gm
Essence	:	2-3 gm

One empty bottle

Method

Cook sugar, water and citric acid together and when sugar gets dissolved cool the mixture. In the sugar syrup add fruits/flowers/ herb, colours and essence. Mix them well. Syrup is ready.

Lemon syrup

It is an old and simple method. Take 800 gm sugar in a bottle. Add about 225-250 gm lemon juice into the bottle. Put this bottle under sun till the sugar gets dissolved. You can add 25 gm ginger juice or ½ spoon of mint juice into the bottle. This syrup remains preserved using sugar.

Squash

Normally squash contains 25% fruit juices, 45-50% sugar, 1.2-1.5% sourness and remaining water. It can be preserved using any one of the following chemicals–

1. **Potassium metabisulphite**– Light colored fruit juices/squash are preserved using this chemical. Examples are lemon, orange, wood apple, litchi, pineapple, etc.
2. **Sodium benzoate**– It helps in preserving dark colored squashes. Examples are pomegranate, plums, etc.

Orange squash

Ingredients

Oranges	:	500 gm
Sugar	:	500 gm
Citric acid	:	10 gm
Water	:	300 ml
K.M.S.	:	1gm
Orange colour	:	½ gm
Orange essence	:	2 gm
Empty bottle		

Method

Mix sugar, water and citric acid and prepare syrup. Strain and cool it. Add orange juice into this syrup and strain it again. Now add orange color, essence and KMS to water and mix them well. Now add this mixture in the syrup. Put this in a bottle.

Prepare the above mentioned marmalade, pickle, sauce, jam, jelly, syrup, squash in your laboratory. Write the method of preparation in your practical notebook and rate them on the basis of taste, colour, aroma, trend and presentation in a table. Rate the preparations as very good (5), good (4), okay (3), bad (2), very bad (1).

S.No.	Preserved food	Taste	Color	Aroma	Trend	Presentation	Other remarks
1	Apple marmalade						
2	Gooseberry marmalade						
3	Mixed vegetable pickle						
4	Mango pickle						
5	Lemon pickle						
6	Tomato sauce						
7	Apple jam						
8	Guava jelly						
9	Lemon syrup						
10	Orange squash						

UNIT : IV
CLOTHING AND TEXTILE

CHAPTER : 7
IDENTIFICATION OF DIFFERENT TYPES OF CLOTH

The revolution in textile industry has led to the evolution of textile manufacturing using imitable fibers. Silk like cotton and cotton like silk are prepared. This has made identifying of real fibers difficult. To identify fibers, testing is essential. There are 3 methods of testing–

Physical test–

1. **External appearance test**– By touching the fabric external appearance is tested. Length, shine, softness, tensility and flexibility are checked by pulling a single thread from the fabric.
2. Length and diameter are measured.
3. **Strand break test**– In this test, thread is pulled and broken and then its form is tested.
4. **Crease test**– The fabric is folded, pressed or held tightly in hands and then is released. The crease in the fabric and the time for which it stays is tested.
5. **Combustion test**– The fabric made of single fiber is easily tested by combustion. The ash of the burnt fabric is tested minutely and deeply.
6. **Fabric tearing test**– Fabric is stiffened and then torn and tested. Ink test, oil test, moisture test, calendar test, etc are also performed to test fabric.

Microscopic test–

The shape, type, texture, flexibility and roughness of the fiber are tested. For the test, first of all–

1. The finishing of textile is removed.
2. Then a fiber is removed from the fabric and is soaked in water for 5 minutes.
3. The fiber is placed straight on a clean slide. Put a drop of water on it.
4. Add a drop of 10% glycerin. Put a cover slip on the fiber and examine it under a microscope.

Table - Test of Cloth Fibre

Physical	External appearance	Length and diameter	Crease test	Oil test	Fabric tearing test	Microscopic test	Picture
Cotton (cotton cloth)	1. Hard, rough, fluffy	½ " to 3-½" long	Rapidly and remains for longer time	Stain is opaque, appears dark and cloudy	Tears when excess force is applied	Sap remains filled in a tube containing immature stage, Mature fiber is flat, rough like a ribbon	
	2. Shining and lack of elasticity	16-20 m diameter					
	3. Cool						
Woolen cloth	1. Soft	1" -3" long	No crease			Rough, zigzag surface, both ends are pointed	
	2. Elasticity and flexibility						
	3. warm						
Silk	1. smooth, soft and shining	1200-4000 ft long a-11 u diameter	Crease stays for a little time		Tears with a sharp sound of tearing, cloth stretches	Transparent strand which is round, smooth, shining, lines on the surface	
Silk cloth	Shining, attractive, soft, heavier than silk, hard, less flexible	Length and diameter according to need	No crease		Being imitable, qualities according to weaving	Semi-transparent smooth, soft, thin, fine, round shaped	
Nylon cloth	Sometimes soft or hard on touch, warmth rich softness, fine	According to need	Crease appears fast and easily but goes away when hung	Catches fire easily, flame is shining, yellow-orange, ash is brown-black	Like silk tears with a sharp tearing sound, wavy	Transparent, round, smooth, shining, nitro-cellulose, longitudinal lines on the fibers.	

Chemical test– using required chemicals and instruments, skilled, trained and experienced inspectors check the reaction of acid- base on fibers.

Collect different fabrics and identify those using different tests–

Fibers	Physical test	Microscopic test
Cotton		
Woolen		
Silk		

Observation points- Physical test–

1. External appearance
2. Length
3. Crease
4. Combustion activity
5. Fabric tearing

Microscopic test–

Inspection of dark colours– Effect of water, soap, light, sweat, temperature, etc on colour of cloth

For inspection– Iron a piece of wet cloth between white cloths. If the colour of cloth is not fast then it will move on the white cloth.

CHAPTER : 8

CONSTRUCTION AND IDENTIFICATION OF DIFFERENT TYPES OF WEAVES

Knitting is formed by pulling a loop of the working yarn forward through an existing stitch and then slipping that stitch off the needle. Knitting is done both with hands or using machine. While knitting using a machine**,** different types of threads are used depending on variety, samples of fabric for making woolen clothes, sweater, cap, socks, undergarments and other hosiery.

Requirements for knitting–

1. **Wool or knitting yarn–** Wool or yarn of different colour and thickness is used for knitting.
2. **Knitting needles**– Different types of needles made of metal or plastic are used.

(i) **Simple Straight needles**– They are available in pairs from 0-16 numbers. One end of it is pointed and the other end has a knob. With the increasing number of needle, thickness of needle decreases.

(ii) Both sides pointed– Both side pointed needle is used for knitting sweater, socks, etc.

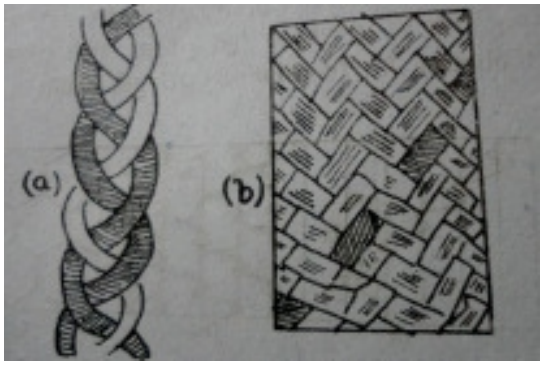
(iii) Round needles– The pointed ends face each other and stitching of fabric is not required.

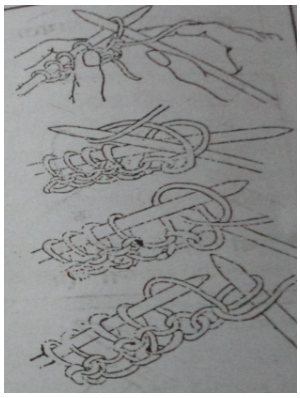
(iv) Needle for stitching– Thick needle with less thick end is used for–

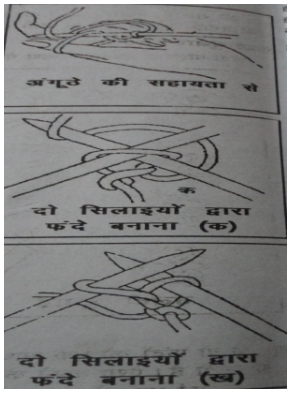
1. Making a loop of the working yarn forward through an existing stitch and then slipping that stitch off the needle.
2. Making useful samples

Identification and manufacturing of knitting–

Knitting is done by a set of connected loops from a series of yarn in warp or weft direction. The different number and sequence of weft and weft threads give strength and new form to the knitted fabric.







Knitting art

Questions :–

1. Make 2 samples using knitting and paste them in your practical book.
2. Collect different samples of knitted fabric, identify those and paste only 3 of them in your practical book. (only three)
3. Paste samples of simple knitting, twill knitting, satin knitting, etc any two on paper or wool and paste them in your practical book.

CHAPTER : 9

PREPARING SAMPLES OF TIE AND DYE, BLOCK AND FINE PRINTING

Bandhej

Rajasthan and Gujarat are famous for this art. It is a symbol of good luck and prosperity. Red, green, yellow colours are especially used in this. But in today's fashion all colours are used in *bandhej*.

Materials:

Fabric, colours, thread, simple salt, wooden spoon, pot and gas, water, needle for design, sharp pencil and other dyeing substances.

Fabrics– georgette, malmal (muslim), cambric, silk, etc.

Methods of binding–

1. By nip– Tying knot in the cloth on the nip of nail, pencil, sharp wood.
2. Tying different things– Tying gram, peas, seeds, pearls, etc in the cloth at regular intervals.
3. Tying knots– Tying knots in the cloth at regular intervals.
4. By folding cloths– Tying threads or clip, rubber bands according to design.
5. *Leheriya*– Tying thread to the cloth from one end to another making a design.
6. Marbling– In this technique, fabric is crushed into a round and then tied with a thread.

Method of dyeing–

Fabric is tied using a thread according to the design. Mix the color well in a little water. Then boil the water for the cloths. Add salt, colour solution and tied cloth the boiling water. Stir the boiling water with a wooden spoon. Keep the cloth in this water for at least 15 minutes. Thereafter, remove the cloth from the water and place it under running water till stops learning colour out. To fasten the colour, add colour fastener or dip the cloth in salted cold water for 3-4 hours. Remove it from this water and squeeze out the water and keep it for drying in shade.

For colouring cloth with more than one colour, colour first with light colour and then with dark colour keeping the tied cloth intact. After drying the cloth, cut the threads and iron the cloth.

Prepare 3 samples of *bandhej* and paste them in your practical book.

Block printing–

Blocks of wood or linoleum of different shapes and designs are used for making designs of different colors on clothes.

Material required– Cloth, printing colors, urea, acrifix binder, different blocks, sponge, and printing table.

Method–

Prepare a paste of colours, urea, and binder in a wide-mouthed pot. If different designs are to be made then different blocks are used.

Place a soft bed or blanket on the printing table and cover it with plastic sheet. Now place the cloth to be printed. Pour the colour paste on the sponge. Press the block on the sponge and then the coloured block on the cloth. When one color dries then the second color is used. This activity performed is done on the entire cloth. Block is pressed with equal pressure at all times to keep the colour of all designs same. The cloth is dried after printing which is followed by ironing..

Prepare three samples of block printing and paste them in your practical book.

UNIT : V
HOME MANAGEMENT

CHAPTER : 10
HOME DECORATION - FLOWER DECORATION, FLOOR DECORATION AND ORGANIZING COMPETITIONS

Meaning of home decoration – The art of decorating one's home is known as home decoration or interior decoration.

"Interior decoration is a creative art which can transform an ordinary house. It is the art of adjusting the space and equipment to suit the fundamental cultural needs of the dwellers and thus creating a pleasant atmosphere. – Stella Sundararaj.

Objectives of home decoration–

1. **Beauty**– The first objective of home decoration is to make home beautiful and attractive. Beautiful things whether they are living or non-living are liked by everybody. 'Beautification is the combination of those qualities which give pleasure and happiness to eyes, ears and mind.'

   Combination gives form to home decoration. Therefore, home decoration and art are complementary to each other. Beauty of anything can be judged by studying the elements and principles of art.

   The main principles of art are–

   (i) Proportion (ii) Balance

   (iii) Rhythm (iv) Emphasis

2. **Expression–** A well decorated home is one which is consistent, all things in which are in appropriate proportion, structure and rhythm. Their shapes and forms are in proportion.

   The main qualities of a well decorated house are –

   (1) Formality (2) Informality

   (3) Naturally (4) Modernity

3. **Usefulness**– Home decoration should be done in such way that it takes less time, money and energy. Materials should be organized in an ordered manner and decoration should be comfortable and convenient.

4. **Variation**– Depending on the variation of use, room decoration should also be varied. Variation in home decoration can fill the family members with excitement, happiness, joy and enthusiasm. Excitement peps up people to work happily.

5. **Originality**– Creativity is the second name of art. Decoration arrangements of rooms and their management tell about the likes, nature, attitude, lifestyle and culture of the homemaker and other family members.

6. **Austerity–** A normal person can spend less on resources and yet can do an attractive and likeable home decoration. Less furniture, appliances can also create an attractive look. Austerity should not be only in money but also time and energy.

Floral decoration

Floral arrangement– Flower arrangement is an art. The main objective of this is making the environment living, attractive, beautiful and fragrant. Flower arrangement is the art of using plant materials and flowers to create a pleasing and balanced composition to increase the beauty and attraction of occasion, place, things and home which make the environment happy and joyful.

Material used for flower decoration :

Flower pot or container– Pots of different shapes, sizes, colors, structure made of different metals, porcelain, marble, wood, rock, plastic may be used.

Points to remember while choosing a flower pot:

Flower pot should be chosen keeping in mind the style, place, amount, colour and shape of flowers to be used in home decoration.

- Dark coloured pots look beautiful with light colored flowers.
- Shallow flower vase should be used on dining table
- Glass vases should be used for doing a formal floral decoration.
- To provide grip to the flower decoration, stem holder should be used for keeping the flower stems together.

Necessary planting material for floral decoration:

- Flowers should be picked before sunrise and sunset.
- Keep the flowers in water
- Remove the green leaves of flowers
- In case the stems of flowers secrete a white substance, wrap the flowers in wet cloth and immerse their stems in boiling water for 1-2 minutes.
- Always cut the stems of flowers diagonally. Rub the cut portion of flower with a pinch of salt. This keeps the flower alive for more time.

Types of floral decoration–

1. **Linear design:**

(1) Create the linear floral design in your mind first.

Figure : 10.1 Group arrangement

Figure : 10.2 Ikebana

(2) The type of line such as C, F, E or S to be used for design should be clear in the mind of decorator.

(3) Vase should be chosen and then the thickness and length of flowers is chosen which is 1.5 times that of the vase.

(4) The stems of flowers should be used to create the base according to the chosen linar a design. Care should be taken to maintain continuity in the external line because this line gives speed to the decoration and decides the length, breadth and depth of the decoration.

(5) Empty space should also be given importance in floral decoration. Accessories like shells, oyster, starfish, rocks, pebbles, etc can be used to make decoration attractive.

Figure : 10.3 Linear

2. **Group style of flower decoration**

- Group floral decoration should be done in big sized vase and vase should be covered with a net.
- Water in the vase should be enough to dip even the last part of stems.
- The thickness and length of flowers chosen is 1.5 times that of the vase. The width of decoration should be double than that of vase.
- Spread the stems of flowers in different directions using the net. They can be randomly arranged.
- To make decoration attractive, put the brightest beautiful flowers in the centre of the decoration.

3. Small flower decoration

The length of this should be 4.5" to 5.5". Small bowl, glass, plate, wide-mouthed jar should be used for this decoration.

4. **Mixed flower decoration**

This type of floral decoration is also known as American style of floral decoration. The characteristics

of linear as well as group style decoration are incorporated into this to create a new style of decoration.

5. **Japanese flower decoration**

In this style, flowers, leaves, stems are used in specialized ways and the height is 10-15 feet.

- Ikebana– It is decorated in wide mouthed vases or pots.
- Moribana and najire– For moribana, wide and shallow pots are used and for najire long vases are used.

Floor decoration

1. **Mandana**

It is folk art of Rajasthan. It is painted by women on floor or walls on special occasions. Mandana has been derived from 'mandan' which means to decorate. The traditional designs used in this are geometrical and floral designs. Mandana is mainly painted on cast floor and wet colors like reddle are used.

Figure : 10.4 (Mandana)

2. **Rangoli**

Rangoli is an ancient cultural tradition and a folk art. It is drawn on special occasions like festivals, fasts, *puja*, weddings, and celebrations using dry and natural colours. Simple geometrical designs or images of god-goddesses are drawn as designs.

Figure : 10.5 (Rangoli)

The colours used are dry or wet rice, vermilion, turmeric, dry wheat flour and other natural colours. Sometimes wooden sawdust is also used. Alpana is another name for rangoli.

Rangoli is an ornamentation art which is known by different names in different parts of the country. Rangoli is known as chalk poorna in Uttar Pradesh, mandana in Rajasthan, aripan in Bihar, alpana in Bengal and Kollam in Kerala.

The main elements of rangoli are–

1. Paste of ground rice
2. Powder of dry leaves
3. Charcoal
4. Burnt wood
5. Wood sawdust

Clean floor or cast floor is used for rangoli and

sometimes wall too. Rangoli is drawn in the centre, at corners or as vines on four corners.

Rangoli is made in two ways. Dry and wet rangoli both can be drawn free hand or by joining dots.

1. Dots are made in any design using white colour.
2. These dots are joined using different colours and design is completed.
3. Fill in the colors in the design.
4. Traditional mandana uses colors like reddle.
5. Stencil can also be used for making rangoli. The stencil has small holes and colors drop from these holes on the floor and design is created.

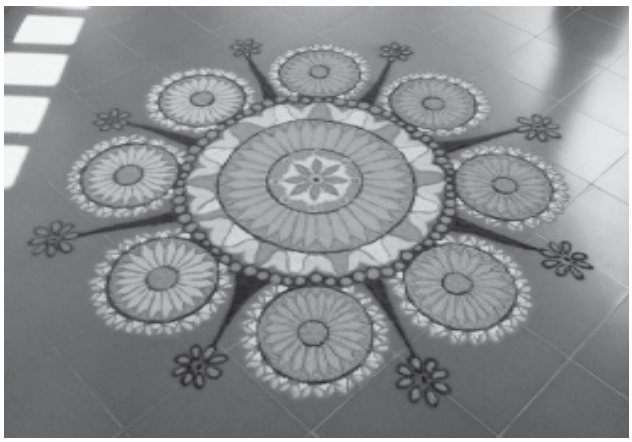


Figure : 10.6 Alpana

6. Wet rangoli is prepared using ground rice mixed in water. This rice solution is known as 'epan'. Turmeric powder is used for making this rangoli colorful.

CHAPTER : 11

PREPARING FIRST AID KIT AND PROVIDING FIRST AID DURING ACCIDENTS

What is a first aid kit?

First aid is given when someone has met with an accident and is injured but the availability of doctor or reaching the hospital takes time. The person giving first aid or the primary physician should have essential things with him. The essential things required for treating the injured are collected in a first-aid kit.

First-aid is given in cases of bone fracture/ dislocation an insect bites, burning of skin, poisoning, bites or cuts. Any of the above situations, accidents, diseases or emergency situations need first-aid for immediate relief.

Figure : 11.1 (First Aid Box)

Making a first-aid kit–

Every school, house, factory, work place should have a first-aid kit. First-aid kit should be well organized and complete. It should be light weight, durable and easy to open which can be carried from one place to another.

The items to be kept in first aid depend on the knowledge and experience of the person who will be using the first-aid kit. A first-aid kit normally has following items–

Figure : 11.2 First Aid Kit (with items)

1. First-aid kit manual– How is first-aid given and how are the items used are written in the first-aid manual. Therefore, this manual should be kept in the kit.

2. Triangular bandage– This is used as sling for giving support to an injured or broken body part of the injured person.
3. Bandages– These are used for covering wounds or sprains.
4. Round bandages– These are used for wounds.
5. Sterile Gauze– A clean gauze should be available with the first aider. It is used for covering the wounds.
6. Adhesive tapes– These tapes are used for sticking bandages on small wounds.
7. Safety pin– This is used for keeping the bandage intact on the wound.
8. Scissors– It is used for cutting bandages.
9. Tweezers/Forceps– It is used for removing prick or glass hand sanitizer.
10. Hand sanitizer (Soap)– It is used for washing hands before and after treatment.
11. Thermometer– It is used for measuring temperature of the patient.
12. Antiseptic lotion– Dettol, savlon etc antiseptic lotions are used for cleaning the wounds and disinfect them.
13. Whistle– It can be used for calling some other person for help.
14. Match box– Tweezers, scissors are heated in flame to make them germ free.
15. Dropper– It is used for giving drops of medicines or water to the injured.
16. Vaseline– Vaseline is used as a lubricant.
17. Vicks– It is used for making breathing normal of the injured person normal.
18. Balm– It is used for reducing pain.
19. Knife/Blade– It is used for cleaning wounds.
20. Glass– It is used for giving medicines to the injured.
21. Eye wash cup– It is used for washing eyes of the injured person.
22. Glucose– It is used for a instant energy to the injured.
23. Splinter– This is used for giving support to broken bones.
24. Tapes for splinters– Tapes are needed to bind the splinters to the bones.
25. Kidney shaped tray– It is used for keeping first aid items.
26. Torch- In case of working at night torch is needed.
27. Burnol– In case of burns, burnol cream is used.
28. Plastic sheet– This is used for laying the patient on ground before starting treatment.
29. Oral rehydration sheet– This is given to the patients to make up for the water loss in the body.
30. Medicines– Some medicines should be present in the first-aid kit.

    Pain killers– Paracetamol, Diclofenac, etc.

    Antibiotic medicines– Neosporin, Povidone Iodine

    Anti-diarrheal– Rinifol, Loperamide, ORS solution, etc.

Anti-asthmatic– Salbutamol, Asthalin inhaler

Anti- vomiting– Sequil, Stemetil

Antihistamine– Avil, Benadryl, Phenergan

31. Record book and pencil– To write the information related to the injured or making an observation chart keeping a record book and a pencil is important.

32. Disposable gloves– The first aider should wear disposable gloves before treating the injured person to prevent himself from infections.

33. Cotton– Cotton is essential in the first-aid kit. It is used for cleaning wounds.

34. Antibiotic ointment– Betadine or Soframycin is applied on open wounds.

35. Hot water bag– It is used for providing relief to a painful part of the body.

36. Cold cap– In case of high fever, cold cap is placed on head.

All these things should be kept in a clean, strong and water proof box. Make a red cross on the first aid kit using red tape or color so that it can be easily identified. Write the name of your family doctor, ambulance's name and contact numbers. Check the things every 6 months for their expiry dates. Change as necessary.

3. How to use first-aid kit–

Do not lose your senses in case of an emergency medical condition. Use it when situation arises. Use the first-aid kit keeping some important points in mind–

1. If you meet with an emergency situation, shout for help. If you are fine, help others who are injured. If possible call a hospital and police.
2. You should have some numbers written which you can call in case of emergency. Write the emergency numbers such as police, ambulance, hospital, fire-brigade on first-aid kit as well.
3. Do not leave the injured person alone. Your company will keep them strong and empathizing with them will strengthen them even with grave injuries.
4. If injury is not serious you may give the first aid.
5. In case of fracture, do not move the fractured part.
6. Try stopping the bleeding and carefully bandage the wounded area.
7. In case of burns, do not try removing skin or cloth from that area, wash it with clean water but do not apply any cream or ointment.
8. Wash your hands in case you decide to give the first aid but take care of yourself too.
9. Do not give any food or drink to the injured immediately after accident, it may cause vomiting and worsen his condition.
10. Lay down the injured person on ground, taking care of his injuries and make sure his breathing is proper.
11. Keep the crowd away from the injured. Lay the injured in an airy place.

Prepare a first-aid kit for your laboratory and prepare a small kit for keeping with you while travelling.

1. First aid kit for keeping in laboratory

S.No.	Name of material	Use
1		
2		
3		
4		
5		

2. Small first-aid kit to keep with you while travelling

S.No.	Name of material	Use
1		
2		
3		
4		
5		

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