

PRACTICAL NUTRITION AND DIETETICS

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MEASURING TECHNIQUES



EX.NO.1

Aim:

To Understand the relationship of weight and volume

Materials needed:

Weighing Machine, Measuring Cups, Measuring Spoons, Knife and Vessels.

Measuring techniques of liquids and solids:

1. Dry ingredients, such as sugar and flour are measured in plastic and metal measuring cups.
2. Scoop the flour into the dry measuring cup, filling to overflowing. Level the flour off by dragging the straight edged utensil across the top of the measuring cup.
3. When small amounts of dry ingredients such as flour, sugar and baking powder, baking soda, salt and spices are to be measured – measuring spoons can be used.
4. Measuring cups for liquid ingredients must be placed on a level surface when measuring. Avoid lifting the cup to read the measure as it will probably tilt causing you to read inaccurate amount.
5. Read the level of the liquid by bending down so that the measuring cup is at eye level. Read the liquid level at the bottoms of meniscus.
6. Small amounts of liquid ingredient can be measured using measuring spoons.

Give the capacity of the following

1. One tea cup ----- gms
2. One teaspoon -----gms
3. One tablespoon -----gms
4. $\frac{1}{4}$ cup -----tsp
5. 2 table spoon -----tsp



Measuring Dry Ingredients

For dry ingredients including flour, sugar, and salt, use dry measuring cups & spoons.

- Heap
- Level
- Empty



dry measuring cups

measuring spoons



Measuring liquids



Weighing Machine



Cooking Methods

EX.NO.2

Aim:

To learn about different cooking methods

Procedure

The process of subjecting food to the action of heat is termed as cooking. Cooking takes place by moist and dry heat methods. Moist heat involves method water and steam. Air or fat are used in dry heat methods.

Moist heat methods are :

- Boiling
- Stewing
- Steaming
- Pressure cooking
- Poaching
- Blanching

Dry heat methods of cooking are

- Roasting
- Grilling
- Toasting
- Baking
- Sauteing
- Frying

Combination method of cooking is

- Braising

Preparation of food using boiling method

Rice Kheer

Ingredients

Full cream milk	-	1 litre
Soaked basmati rice	-	2 tsp
Sugar	-	7 tbsp
Cardamom powder	-	1/2 tsp
Chopped almonds	-	2 tsp
Saffron dissolved in rose water	-	5-6 strands in 1 tbsp of rosewater



Method

1. Pour the milk in a heated deep pan
2. Once it starts boiling add the soaked rice and stir well to prevent burning
3. After one boil, turn the stove to low flame and allow the milk to reduce to quarter. Keep stirring in between so that the rice does not stick to the bottom of the pan.



4. Once the milk is reduced add sugar and let it dissolve for about 2 minutes.
5. Add cardamom powder, chopped almonds and the soaked saffron strands.

Results and discussions

By boiling method the food quantity increases and gets easily digested. The prepared food tastes good and nutritious.

2. PREPARATION OF FOOD USING PRESSURE COOKING

Channa Masala

Ingredients

Kabuli channa	-	1 cup
Onion	-	100 gms
Tomato	-	200 gms
Oil	-	as needed
Ginger garlic paste	-	1 tsp
Coriander leaves	-	few
Channa masala	-	to taste
Salt	-	to taste



Method

- Soak Channa overnight and cook in pressure cooker
- Fry onion, ginger garlic paste and tomatoes in oil and cook till the oil comes out of it.
- Add Channa, salt, Channa Masala and coriander.
- Serve hot with fresh Onions and Coriander.



Result and Discussion

Pressure cooking method helps to cook the food to soft consistency and helps to retain the nutrients. It saves time and energy.

3.DRY HEAT METHOD OF COOKING

Preparation of food using frying method

Greens Masala Vada

Ingredients

Bengal gram dhal	-	100 gms
Greens	-	100 gms
Onion	-	50 gms
Chillies,	-	2
oil and salt	-	as needed



Method

- Soak Bengal gram dhal for 2 hours, grind $\frac{3}{4}$ of the dhal coarsely.
- Wash Greens and drain the water thoroughly
- Cut onions and Chillies finely
- Mix all the ingredients Make Vadas and fry in oil.



Results and Discussions:

Frying method is the best method to prepare crispy foods. Oil enhances the flavour and taste of the food.



4. PREPARATION OF FOOD USING ROASTING METHOD

Kesari

Ingredients

Bombay Rava	-	1 cup
Sugar	-	1 cup
Ghee	-	½ cup
Water	-	2 cup
Cashew nuts	-	as required
Raisins	-	as required
Beetroot natural color		



Method

- Fry Cashew nuts, Raisins in one tbsp of Ghee, and keep aside
- Fry Rava in Ghee till it becomes golden brown and cook in water
- Add Sugar and continue to cook
- Add Ghee, Cashew nuts and Raisins before removing from fire.



Results and Discussions:

Roasting methods brings out the flavor and makes the food partially cooked. Roasting method is easiest method of cooking without oil. Food items like roasted Bengal gram, Dhal varieties can be prepared by this method to enhance the taste of food and thus removes moisture from food.



NUTRIENTS IN CEREALS AND PULSES

EX.NO. 3



Aim: To identify the nutrients present in cereals and pulses.

Various Cereals, Pulses and their products were displayed. The students were asked to identify them and note the Nutritive value.

S.No	Name of the Product	Nutrients Present in the Food
1.	Corn (Makka Cholam)	
2.	Ragi (Kezhvaragu)	
3.	Jowar (Cholam)	
4.	Kuttirai Vali (Sanwa Millet)	
5.	Thinai (Italian Millet)	
6.	Moong Dhal	
7.	Cow Pea (Karamani)	
8.	Channa	
9.	Green Gram	
10.	Black Gram	



CEREAL COOKERY

EX.NO. 4

Aim:

To prepare a cereal based weaning food

Role of cereal in cookery

- Cereals are used as thickening agent, e.g., corn flour in custards, corn flour in white sauce and macaroni in soups.
- Cereals are used as coating agent, e.g., Maida paste in Cutlets or bread Crumbs in cutlets.
- Cereals are used in sweet preparations, e.g., Rice Payasam and Wheat Halwa.
- Malted cereals are used in the preparation of beverages and weaning mixes.

Weaning is the gradual introduction of solid foods until the child is able to eat the food as the rest of the family. It is a replacement of breast feeding with other foods. Some of the weaning foods are well mashed cooked vegetables such as Potato, Sweet Potato, Carrot, Fruit Puree such as cooked Apple, Pear, Mango, Papaya, Banana etc. Well cooked cereal can be given to fulfill their appetite.

Formulation of recipe

Malted cereals

Washed Rice	-	½ cup
Washed Ragi	-	½ cup
Green Gram	-	½ cup





Method

- Soak the above ingredients overnight in separate containers.
- Drain the water and tie the ingredients in separate clean moist muslin cloth.
- Keep in a warm place and allow to sprout.
- Once the sprouts appear, dry roast each cereal separately in a pan to remove excess moisture.

- Combine all the ingredients. Grind this mixture into a fine powder and store in an air tight container.
- Take 15 gms of powder add enough water make a thin paste. Cook in slow flame till it gets cooked add salt or sugar to taste.



Results and Conclusion

Cereal based weaning food provides required calories and proteins to supplement the needs of an infant.

EX.NO. 5

PULSE COOKERY



Aim: To prepare a recipe using germinated pulses

Role of Pulse in cookery

- Pulses are rich in protein and B vitamins and improve the quality of cereal proteins.
- Pulses give satiety due to high protein and fibre content.
- Pulses improve flavor and consistency of dhal sambhar and rasam.
- They contribute to fermentation in Idli and Dosai batter.
- They are used in snacks like sundal, bajji, etc.

Sprouting of Green Grams

Germination is a process in which the nutritive value of the grams is improved. During sprouting minerals like calcium, zinc, and iron are released from bound form vitamin C is synthesized during germination. Thickening power in starch is reduced due to

conversion of starch to sugars. Germination improves taste and texture. Germinated pulses add variety to the diet.

Formulation of recipe

Germinated green gram salad

Soak the green grams for at least 8 hours in fresh cool water in a wide mouth vessel.

Drain and rinse the green gram. Tie it in muslin cloth sprinkle water whenever the cloth gets dried. In a day or two days germination takes place.

Ingredients

Green grams	-	50 gms
Coconut scrapings	-	10 gms
Carrot scrapings	-	0 gms
Onion chopped	-	10 gms
Green chillies	-	2
Lemon juice	-	to taste
Cumin powder	-	to taste
Salt	-	to taste



Method

Add coconut, carrot and onion to the sprouted green grams. Mix well, to the above ingredients, add chopped chillies, salt, cumin powder and lemon juice. Serve it by garnishing coriander leaves.



Conclusion

Sprouted green grams are rich in amylase, vitamin B and C. It gets digested easily and provides lot of fibre to the diet.



FRUITS AND VEGETABLES COOKERY

EX.NO. 6



Introduction

Fruits and vegetables are very important commodities in our daily diet. They are life-enhancing medicines packed with vitamins, minerals, antioxidants and many phytonutrients (Plant-derived micronutrients).



List the fruits and vegetables that are rich in the following nutrients.

S.No	Iron	Vitamin A	Vitamin B	Calcium	Fibre
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					

PREPARATION OF FRUIT SALAD

EX.NO. 7



Aim:

To prepare a recipe based on fruits.

Role of fruits in cookery

- Raw, whole or cut fruits can be served as an appetiser, or as a salad or for dessert.
- Fruits can be served in the form of juices or milk shakes.
- Apples are served as stewed apples.
- Fresh fruits can be preserved as jams, marmalades, preserves and dried fruits



Preparation of fruit salad

Ingredients

Apple	- 20gms
Pineapple	- 20gms
Orange	- 20gms
Banana	- 20gms
Papaya	- 20gms
Milk	- 100 ml
Sugar	- 20gms
Custard powder	- 10 gms



Method

- Cut fruits into cubes
- Mix custard powder in little milk
- Stir continuously till it thickens, cool and add to the fruits
- Garnish with cherries and serve cool



Conclusion

Fruit salad is rich in glucose, vitamin A & C, and minerals. It gives good quality protein. It is a colourful dessert..

PREPARATION OF VEGETABLE SALAD

EX.NO. 8



Aim:

To prepare a vegetable based recipe

Role of vegetables in cookery

Vegetables are used universally in all recipes

- used in curries, salads and in sambar
- used as garnishing agents e.g., shredded carrot and coriander leaves
- used in chutneys (onion) and pickles (tomato, onion)
- used as part of recipes like pulao, avial and non-vegetarian dishes

Ingredients

Onion	- 1
Carrot	- 1
Baby corn	- 1
Cucumber	- 1
Cabbage	- few
Lemon	- 1 small
Pepper	- little
Coriander leaves	- to garnish



Method

- Cut or chop all vegetables finely
- Mix all the vegetables in a bowl
- Add little lemon juice and pepper



Conclusion

Vegetables Salad is rich in Vitamin C, A, Minerals and Fibre. It is a good diet for obese patients.

MILK COOKERY

EX.NO.9

Aim

To prepare a milk based recipe.

Role of milk and milk products in cookery

- It contributes to the nutritive value of the diet, e.g., milkshakes, plain milk, flavoured milk, cheese toast.
- Milk adds taste and flavour to the product e.g., payasam, tea, coffee.
- It acts as a thickening agent along with starch e.g., whitesauce or cream soups.
- Milk is also used in desserts, e.g. Ice-cream, Puddings

Preparation of Basandi

Ingredients

Buffalo milk	- 500 ml
Sugar	- 1 tsp
Ghee	- 1 tsp
Almonds, Cashew nuts, Pista	- 2 tsp

Method

- Heat milk on low fire in heavy based kadai, stirring, constantly till it becomes thick.
- Add sugar, ghee and mixed nuts.
- Serve chili



Conclusion

The above milk cookery is rich in proteins, calcium, phosphorus and fat soluble vitamins. It provides fats and glucose. It is a very tasty dessert.

EGG COOKERY

EX.NO.10

Aim

To prepare an egg based recipe.

Role of Egg in cookery

- Eggs can be used as boiled, scrambled, fried (omelettes) or poached for table use.
- Eggs can be used as thickening agents for making stirred and baked custards, soups and puddings.
- They can be used for making cutlets, French toast or Bombay toast and banana fritters.



Egg curry

Ingredients

Hard boiled eggs	-	03
Ginger	-	1 piece
Oil	-	1 tbsp
Onion	-	1
Garlic	-	4 pods
Lime juice	-	1 tsp
Tomato	-	1
Salt	-	to taste
Coriander leaves		
Green chillies		



Method

- Remove shell of egg and cut into halves.
- Grind onion, ginger, garlic and green chillies
- Heat oil and fry the masala and add tomatoes and cook. When the gravy becomes thick, add lime juice and boiled eggs.



Conclusion


Egg curry is a good side dish for briyani and fried rice. It contains complete protein. Vitamin A, Fats and trace of iron.

JAGGERY COOKERY

EX.NO. 11

Introduction

Jaggery is a concentrated product of a cane juice and can vary from golden brown to dark brown in colour. It contains upto 50% sucrose, 20% invert sugars and 20% moisture. It is used to make several indian deserts. It is a substitute for sugar.

 **Aim:** To prepare a sugar based recipe.

Sweet Paniyaram

Ingredients:

Raw rice	-	1 cup
Urad dal	-	1 tbsp
Jaggery	-	1 + ¼ cup (grated or powdered)
Banana	-	1 (small one)
Green Cardamom	-	2 (powdered)
Finely chopped Coconut	-	1 tbsp
Ghee	-	for frying





Method

1. Clean and soak rice with urad dal for 2 hours. Now grind it to a smooth batter.
2. Leave it outside for 3-4 hours for fermentation. Just before making appams, add jaggery, banana, grated coconut to the batter.
3. Now heat the paniyaram pan add 2 tsp ghee to each partition.
4. Pour the batter in each partition and cook it on low flame.
5. Cook for few minutes and then turn it with a stick to cook the other side till it turns to golden brown. and serve hot



Conclusion

Sweet paniyaram is a delicious evening snack. It provides high energy and iron.

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MARKS ALLOTMENT

Internal	-	5
External	-	15
Total	-	20

External

Importance of food	-	2 marks
Formulation of recipe	-	4 marks
Preparation and serving	-	4 marks
Calculating nutritive value	-	2 marks
Adultration (Any Three)	-	3 marks

TEST FOR ADULTERANTS



Aim

To test for common adulterants present in food at home level

S0.No.	Food item	Adulterant	Test
1.	Sugar	Chalk powder	Dissolve in a glass of water. Chalk will settle down at bottom indicates adulterant present.
2.	Chilli powder	Saw dust and colour	Sprinkle on the surface of water, saw dust floats. Added colour will make the water coloured.
3.	Rawa	Iron filling to add weight	Pass magnet through the rawa. Iron fillings get attracted to magnet.
4.	Milk	water	Pour few drops of milk on a polished surface. Pure milk leaves a white trail while flowing and the adulterated milk will flow without leaving a mark
5.	Honey	Sugar plus water	A cotton wick dipped in honey is burnt. If adulterated with water cotton wick will not burn or burns with a cracking sound.
6.	Tea dust	Used tea leaves dried, powdered and artificially coloured	Sprinkle the dust on the wet white filter paper. Spots of yellow, pink and red appearing on the paper indicates that the tea is artificially coloured.
7.	Black pepper	Papaya seeds	Papaya seeds are shrunken and greenish brown in colour. It has repulsive flavor while black pepper has pungent and hot flavor.
8.	Coconut oil	Any other oil	Keep the bottle of coconut oil in refrigerator. It solidifies while the adulterant does not.
9.	Common salt	Chalk powder	Dissolve in water. The water turns white and indicates presence of chalk powder.
10.	Coriander powder	Powdered Horse dung	Soak in water. Horse dung will float which can be easily detected.

QUESTION BANK FOR XI STANDARD PRACTICALS

Nutrition and dietetics

20 Marks

PART - A

1. Write the importance of cereals in cookery and formulate a recipe using boiling method Prepare and serve it. Calculate the energy and protein content of the preparation.
2. Write the importance of pulses in cookery. Formulate a recipe using pressure cooking. Prepare and serve it. Calculate the energy and protein content of the recipe.
3. Write the importance of vegetables in cookery. Formulate a recipe. Using frying method of cooking. Prepare and Display it. Calculate energy and carotene content of the recipe.
4. Write the importance of cereal in cookery. Formulate a recipe. Using roasting method. Prepare and serve it. Calculate the Energy and Protein content of the preparation.
5. Write on weaning. Formulate a weaning food. Prepare and serve it. Calculate the energy and protein content.
6. Write the importance of germination in cookery. Formulate a recipe. Prepare and serve it. Calculate the protein and vitamin B,C content.
7. Explain the benefits of fruits. Formulate a recipe. Prepare and serve it. Calculate the Energy and Vitamin C content of the recipe.
8. Explain the benefits of vegetables. Formulate a recipe. Prepare and serve it. Calculate the fiber and calcium content of the recipe.
9. Explain the importance and benefits of milk products. Formulate a recipe. Prepare and serve it. Calculate energy and protein content of the recipe.
10. Explain the importance of egg in cookery. Formulate a recipe. Prepare and serve it. Calculate the energy and protein content of the recipe.
11. Write the importance of jaggery in cookery. Formulate a recipe. Prepare and display it. Calculate the energy and iron content of the recipe.

PART - B

- II. Find the adultrants present in the given sample.