Topic: **FOOD, NUTRITION AND HEALTH**

BA PART II,3rd PAPER, By: Dr. AMARJEET KUMAR, Home Science Department, Rohtas Mahila College, Sasaram.
E-mail ID: amarjeetkumar011@gmail.com.

Milk and milk products

Milk is one food for which there seems to be no adequate substitute. The milk products include curd, butter, skimmed milk, condensed milk, khoa, paneer and cheese.

Composition

Milk is a complex mixture of lipids, carbohydrates, proteins and many other organic compounds and inorganic salts dissolved or dispersed in water. The chief carbohydrate present in milk is lactose, a disaccharide although trace amounts of glucose, galactose and other sugars are also present. The protein present in milk is casein.

Nutritive value

Milk provides 67 calories and 3.2 grams of protein per 100ml. Milk has good quality protein. Dairy foods are a major source of calcium and riboflavin.

The ratio of calcium: phosphorus in milk is regarded as most favourable for bone development. In addition, dairy products contain other nutrients such as vitamin D and lactose which favour calcium absorption. Milk is not a good source of niacin, but it is an excellent source of tryptophan. Milk is a very poor source of vitamin C and iron.

Principles of cooking

Prevention of scorching or burning - Too thin vessels and too high a temperature can scorch the milk at the bottom of the vessel. Use double boilers or stir constantly.

Prevention of scum formation- This can be achieved by covering the pan, stirring or using milk cooker.

Pasteurization: The microorganisms present in milk are killed using a method called pasteurization, where milk is heated to 65°C for 30 minutes or 72°C for 15 seconds and cooled rapidly.

Role of milk and milk products in cookery

Milk contributes to the nutritive value of the diet.
It adds taste and flavour to the product.
Milk is used in dessert.
Curd or buttermilk is used as leavening agent and to improve the texture.
Curd or buttermilk is given to patients with diarrhoea.

Eggs

Although eggs of all birds may be eaten, the egg of chicken is used more often than any other birds.

Composition

The chief protein of egg white is ovalbumin, conalbumin, ovamucin and avidin. The major proteins in egg yolk are lipoprotein which includes lipoviteliins and lipovitellinin. The fat in the egg yolk contains triglycerides and phospholipids (ie) lecithin.

Table 1
Nutritive value of egg / 100 g

NUTRIENT	AMOUNT
Energy (Kcal)	173
Protein (g)	13.3
Fat (g)	13.3
Calcium (mg)	60.0
Phosphorus (mg)	220.0
Iron (mg)	2.1
Retinol (mcg)	420
Thiamine (mg)	0.1
Riboflavin (mg)	0.4
Niacin (mg)	0.1
Folic acid (mcg)	78.3
Vitamin B_{12} (mcg)	0.2

One egg weigh between 40-50g. Egg contains good quality protein. Egg yolk is a good source of iron, vitamin A, riboflavin, folic acid and vitamin B12.

Role of egg in cookery:

Eggs are used as:

boiled, scrambled or poached for table use.

thickening agent (e.g.) custards.

Emulsifying agent (e.g.) Mayonnaise.

Leavening agent (e.g.) cakes.

Binding and coating agent, (e.g.) cutlets.

Interfering substances (e.g.) ice creams.

Garnishing agents (e.g.) soups.

Flavouring agents (e.g.) custards.

Enriching agent (e.g.) egg nogs.

Improve colour (e.g.) custards.

Flesh foods: The term flesh foods include meat, poultry and fish,

Meat

The term meat refers to the muscles of warm-blooded, four legged animals, the chief ones being cattle, sheep and pigs. Meat provides 86 calories and 19.4 grams of protein per l00gm. Meat is an excellent source of some of the B complex vitamins. Liver is an excellent source of iron and vitamin A. Tender cuts of beef, lamb and pork may be cooked by roasting, broiling, pan-broiling, frying, braising, stewing and pressure-cooking.

Poultry

The term poultry is applied to all birds used as food and includes chicken, duck, geese, turkey and pigeons. Of these chicken and turkey are most commonly used for their meat. Poultry meat has high protein content and contains all the essential amino acids required for building body tissues. Poultry flesh is a good source of B vitamins and minerals. Moist heat methods are applied to older and tougher birds and dry heat methods are applied to young tender birds.

Fish

Edible fish are categorised as either fin fish or shell fish. Fish is an excellent source of protein. They contain around 20 % protein. Fresh water fish contains n-3 fatty acids, the consumption of which reduces the incidence of heart diseases. Fish is rich in calcium. Fish liver oils are excellent source of vitamins A and D. Fish are good source of niacin and vitamin D. Fish is usually cooked by dry heat methods of cooking like broiling, baking and frying. Moist heat method is also effectively used to protect the delicate flavour of the fish.