Avinashilingam Institute for HomeScience and Higher Education For Women

(Deemed to be University)Coimbatore-43

Semester Examination –November-2018

Semester-I

Class :I BSc **Max Marks :100**
Major :Food Service Management **Time-3 Hours**

18BFDC01 Food Science

Part-A **(10X1=10)**
Circle the correct answer

1 Basic four food groups are suggested by ____

(a) NIN (b)ICMR (c) CFTRI (d) WHO

2. Pulses are deficient in _____ amino acids

(a) methionine (b) arginine (c) lysine (d) leucine

3. During ripening, hydrolysis of _____ occurs resulting in softening of fruits

(a) anthocyanidin (b) hemi cellulose (c) chlorophyll (d) anthocyanin

4. _____ added to cooking water disintegrate cellulose and hemicelluloses of vegetables and produce soft texture

(a) Sodium bicarbonate (b) Magnesium bicarbonate

(c) Potassium permanganate (d) Sodium Benzoate

5. Casein can also be separated from milk by the addition of _____

(a) Rennin (b) glutamic acid (c) oxidase (d) xanthine

6. The development of green colour on the surface of egg yolk on prolonged heating is due to _____ formation

(a) Ferrous sulphide (b) Ferrous anhydride (c) Sulphuroxide (d) Hydrogen sulphide

7. In ageing, the meat is held cold after rigor mortis, the meat become soft and pliable which is called _____

(a) ageing (b) rigor (c) resolution of rigor (d) ripening

8. The fishy odour is due to the production of _____

(a) Trimethylamine (b) Hexamine (c) Acrolein (d) Ketone bodies

9. _____ stage of sugar cookery is preferred for the Jelabi syrup

(a) soft ball (b) firm ball (c) thread (d) crack

10. The polymer present in cinnamon that act as an antioxidant is

(a) Phenyl (b) Benzyl

(c) Ethyl hydroxyl chalcone (d) Methyl hydroxyl chalcone

Part B **5 X 6=30**

Answer the following

Answer should not exceed 400 words or two pages

11. a) List the basic food groups and explain the recently followed food group in India.

Or

11. b) Differentiate the germination and malting process with examples

12. a) Tell the nutritive value of vegetables and how it is beneficial for human consumption.

Or

12. b) Classify fruits with examples.

13. a) List the testing procedure used to evaluate the quality of egg in house Hold level.

Or

13. b) Compare on different types of milk

14. a) Assess the changes that occur during the cooking of meat.

Or

14. b) Propose the recent preservation techniques adopted in keeping quality of fish

15. a) Illustrate the different test used to detect adulteration in common foods.

Or

15. b) Evaluate the role of any four spices used in Indian cookery.

Part C **5 x 12=60**

Answer the following

Answer should not exceed 800 words or four pages

16. a) Compare the role of fortification and enrichment technology in food industrial sector.

Or

16. b) Illustrate various methods of cooking by using water as a medium.

17. a) Discuss the techniques to be followed in selection and storage of fruits.

Or

17. b) Explain the various types of pigments present in vegetables.

18. a) Formulate a flow chart for the preparation of cheese and explain its procedure

Or

18. b) Estimate the composition and nutritive value of milk.

19. a) Assess the changes that observed in meat after slaughtering the animal.

Or

19. b) Evaluate the ageing process and explain the factors affecting the tenderness of meat.

20. a) Assess the stages of sugar cookery.

Or

20 b) Explain the role of fat in cookery

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(Deemed to be University)Coimbatore-43
Semester Examinatiobn –December-2018
Semester-I
SCHEME OF EVALUATION

Class :I BSc **Max Marks :100**
Major :Food Service Management **Time-3 Hours**

18BFDC01 Food Science

Part-A(10X1=10)
Circle the correct answer

1 b)ICMR 2. (a) methionine 3. (b) hemi cellulose 4 (a) Sodium bicarbonate
5. (a)Rennin 6. (a) Ferrous sulphide 7. (c) resolution of rigor
8. (a) Trimethylamine 9.c) thread $_{10}$ (d) Methyl hydroxyl chalcone

Part-B (5X6=30marks)
Answer all the questions

11. a) Four, Five & Seven. The milk group: Milk, cheese, ice cream, and other milk-based foods.The meat group: Meat, fish, poultry, and eggs, with dried legumes and nuts as alternatives.The fruits and vegetables group.The breads and cereals group.

Or

b) Soak Sprout Seeds Overnight. In the evening pour about 3 tablespoons of sprouting seeds into the bottom of your quart jar. Drain and Rinse Seeds. The next morning dump the water out .Continue Rinsing and Draining.Store Sprouts. Malt extract is frequently used in the brewing of beer. Its production begins by germinating barley grain in a process known as malting

12. a) Green beans are a good source of vitamin C, folic acid, iron, and potassium. Dried beans provide protein, B vitamins, folic acid, iron, magnesium, andpotassium. Cabbage is high in vitamin C, folic acid, calcium, potassium, and fiber. Carrots are rich in beta-carotene, vitamins A and K, andpotassium Potassium may help to maintain healthy blood pressure. Dietary fiber from vegetables helps reduce blood cholesterol levels and may lower risk of heart disease. Folate (folic acid) helps the body form healthy red blood cells The health benefits obtained from a eating a vegetable-rich diet are numerous. Research points to lower risks for heart disease, stroke, obesity, kidney stones, certain cancers, type 2 diabetes and bone loss disorders. Common nutrients found in vegetables include fiber, folate, potassium, vitamin A, vitamin C and iron..

Or

b) Drupe – has fleshy fruit and a single seed with a hard endocarp eg peaches, coconut and olives.Berry – has many seeds eg tomatoes, peppers and cucumber but not strawberries!

Aggregate fruit – develop from one flower with many pistils eg strawberries.legumes – split along two sides eg beans, peas

13. a) just fill a bowl with cold water and place your eggs in the bowl. If they sink to the bottom and lay flat on their sides, they're very fresh. If they're a few weeks old but still good to eat, they'll stand on one end at the bottom of the bowl. If they float to the surface, they're no longer fresh enough to eat. The yolk is small and rounded and stands high in a thick, gel-like egg white which tends to stay compact rather than spread out over a wide area. The thick egg white becomes thin and runny. Candling is a method used in embryology to study the growth and development of an embryo inside an egg. The method uses a bright light source behind the egg to show details through the shell, and is so called because the original sources of light used were candles.

Or

b) whole milk- 3.25% milkfat by weight – not as much as many people think. There are 150 calories in an 8-ounce glass of whole milk, with 8 grams of fat (12 percent of daily value).reduced fat hich means the milkfat is 2 percent of the total weight of the milk — not that an 8-ounce glass of milk contains 2 percent fat. Here's a nutrition fact to consider: An 8-ounce glass of 2 percent milk contains 5 grams of fat and has the same nine essential nutrients as every other type of milk. Skim milk-removal of fat. Lactose-free milk is real cow's milk — just like the other types of milk — but with one difference. The natural sugar in milk, called lactose, has been broken down. This makes it great option for people who are lactose intolerant.

14. a) Cooking has major effects on the connective tissue of meat. Firstly, cooking causes collagen fibres to contract (this decrease in length has NO connection to muscle fibre contraction!). The diagram below explains why fluid is released from meat as it is cooke

Or

b)The four most popular methods of fish preservation are freezing, canning,smoking and pickling. Top quality fresh fish are essential for fish preservation. Of all flesh foods, fish is the most susceptible to tissue decomposition, development of rancidity and microbial spoilage.

15. a) milk- starch , chilli powder- brick powder, turmeric - metanil yellow

Or

b) There are two kinds of cardamom used in Indian cooking: green and black. Green is the more common variety, used for everything from spice mixes to lassis to Indian desserts. The _hlorin is light and sweet, with a mild eucalyptus note. Green cardamom can be blended whole when making spice mixes, like garam masala, however when using them in sweets or desserts, you would pop the pod open and lightly crush the fragrant black seeds before using.Black cardamom, on the other hand, is very powerful and smoky, and needs to be used with a lot of caution. Clove is a common spice in Indian cooking and its anise notes are easily recognizable in many Indian preparations. The strong, almost medicinal _hlorin of clove comes from the concentration of essential oils. Cloves are technically flowers, and a lot of their oils are pressed out before they are dried and used in cooking. Cloves can be used whole or blended into spice mixes. They do need to be used with caution, however, as they can tend to overpower more delicate spices.Fenugreek is the spice which gives Madras curry powder its very characteristic, earthy, musky "curry" _hlorin and fragrance. The seeds are yellowish and look like tiny wheat kernels. Fenugreek leaves are also dried and used as a spice (they are commonly called kasuri methi) and are what make butter chickenunique.
Fenugreek seeds are strongly fragranced and should be used with caution, just like cloves. They are also used in traditional medicine, and strangely enough, to make fake maple syrup

Part-C (5X12=60 marks)
Answer all the questions

16. a) An enriched food is a product to which nutrients have been added. Typically, the added nutrients were present in the food in its original form, but were removed at some point during processing. White bread is an example of an enriched foodbecause certain vitamins are added after the bleaching process depletes Fortification is adding vitamins and minerals to foods to prevent nutritional deficiencies. The nutrients regularly used in grain fortification prevent diseases, strengthen immune systems, and improve productivity and cognitive development.

Or

b) Boiling – At sea level, water boils at 212° F. Boiling water has large, vigorous bubbles, which can disrupt or damage delicate foods. Boiling is used to cook stronger, hearty foods such as beans, pasta. Braising – Braising involves simmering large cuts of meat in a small amount of liquid in a covered dish._Poaching – Partially or fully submerging food into water or another liquid that has reached 160-180° F is called poaching. Water at this temperature is hotter than scalding but is not vigorously bubbling like boiling water._Scalding – Water that has reached 150° F is considered scalding. At this temperature, water will have bubbles attached to the side or bottom of its container that does not release or move as they do with simmering or boiling water. Steaming – Steaming involves the transfer of heat through vaporized water or other liquids. This is by far the most gentle moist-heat cooking method. Stewing – Stewing is similar to simmering in that the liquid is heated until it forms gentle, yet quickly moving bubbles.

17. a) Fruits can be stored or preserved in airtight container sealed (or) with light moisture and also in paper bags. All vegetables cannot be stored in the fridge. … Pack all vegetables loosely. Few veggies can be stored in open container and few in airtight containers..

Or

b) Explain the various types of pigments present in vegetables hlorophyll is the primary pigment in plants; it is a _hlorine that absorbs yellowand blue wavelengths of light while reflecting green. …Carotenoids are red, orange, or yellow tetraterpenoids. Pigments in vegetables: chlorophylls and carotenoids/Jeana Gross. Vegetables contain several classes of pigments: the green chlorophylls; the yellow, orange, and red carotenoids; the red, blue, or violet anthocyanins; and the red-violet betalain

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18.a) 1: Start With Fresh, Warm Milk. The nicer and the fresher the milk you use, the more delicious your cheese will beStep 2: Acidify the MilkStep 3: Add a Coagulant. …

Step 4: Test for Gel Firmness. Step 5: Cut the Curd. Step 6: Stir, Cook & Wash the Curd. …

Step 7: Drain the Curds.Step 8: Salt and Age the Cheese.

Or

b) Milk is almost an ideal food. It has high nutritive value. It supplies body-building proteins, bone-forming minerals and health-giving vitamins and furnishes energy-giving lactose and milk fat. Besides supplying certain essential fatty acids, it contains the above nutrients in an easily digestible and assimilable form. N general, the gross composition of cow's milk in the U.S. is 87.7% water, 4.9% lactose (carbohydrate), 3.4% fat, 3.3% protein, and 0.7% minerals

19. a) Slaughtering equipment, particularly for smaller-scale operations, need not be elaborate and expensive. The amount of equipment will depend on the slaughtering procedures employed. If possible, all equipment should be made of stainless steel or plastic, be rust resistant and easily cleaned and sanitized. Equipment which does not get in contact with the meat (e.g. overhead rails, working platforms, knocking pen) is usually made of galvanized steel..

Or

b) Muscle continues to contract and relax after deathWithout oxygen, lactic acid builds upEnergy production stopsMuscle filaments permanently lock togetherMuscle becomes stif. If filaments lock in a relaxed state, muscle is tender. Papain extracted from papayaBromelain extracted from pineappleFicin extracted from figs give tenderness to meat

b) a) thread: Cooked to 230° to 234°. Soft Ball: Cooked to 234° to 240°. Firm Ball: Cooked to 244° to 248°. Hard Ball: Cooked to 250° to 265°.Soft Crack: Cooked to 270° to 290°. Hard Crack: Cooked to 300° to 310°.Caramel: Cooked to 320° to 338°.

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Or

b) Liquid fats are known as oils. … During the baking process, fat performs a multitude of chemicalfunctions, such as tenderizing, leavening, aiding in moisture retention, and creating a flaky or crumbly texture. In cooking, fat transfers heat to foods and prevents them from sticking Provide Energy. Although the main source of energy for our bodies is carbohydrates, fat is used as a source of backup energy in cases when carbohydrates are not available. .Absorb Vitamins. Store Fat for Subsequent UseMaintain Proper Body Temperature.Protect Your Body .Other Functions of Fat in the Body. Avocado. Eggs.

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