ASSIGNMENT BOOKLET

DIPLOMA PROGRAMME
IN
DAIRY TECHNOLOGY (DDT)

Academic Session : 2011

School of Agriculture
Indira Gandhi National Open University
New Delhi - 110068

Dear student,

As you are aware that for theory, the weightage to the term-end examination will be 80% and the weightage to the continuous assessment will be 20%. The continuous assessment is in form of assignments. There is one assignment for each course i.e. total eight assignments for the programme. Each assignment will be of 50 marks which ultimately will be converted to have weightage of 20 % of theory. Instructions to format your assignments are as follows:

Instructions to format your assignments

Before attempting the assignments, please read the following instructions carefully.

1. On top of the first page of your answer sheet, please write the details exactly in the following format.

Enrollment no:…….…….
Name:…….……..
Address:……
…….
…….

Course Code:……..

Course Title:……

Study Centre:…….. Date:…….

(Name and Code)

Please follow the above format strictly to facilitate evaluation and to avoid delay.

2. Use foolscap size paper for writing your answer.
3. Leave 4cm margin on the top, bottom and left of your answer sheet.
4. Clearly indicate question no. and part of the question being solved while writing answers.

Assignment No.	**Date of Submission**
Assignment 1 (BPVI-011) and 2 (BPVI-012)	Before 30th September
Assignment 3 (BPVI-013) and 4 (BPVI-014)	Before 30th November
Assignment 5 (BPVI-015) and 6 (BPVI-016)	Before 31st January
Assignment 7 (BPVI-017) and 8 (BPVI-018)	Before 20th March

5. Assignments have to be sent to the coordinator of your study centre.
6. **We strongly suggest that you should retain a copy of your assignment responses.**

Wishing you good luck.

Assignment – 1
Course Code : BPVI – 011

Maximum Marks – 50

Note: Attempt all the five questions.

Q.. (a) Discuss three phases of Operation Flood. Explain its goal and achievements. 5

(b) What role is played by NCDFI and National milk grid in the dairy development in India. 5

Q.2. (a) Explain the difference between selective breeding and cross breeding. How cross breeding has helped in improving the performance of non descriptive cattle with respect to milk production? 5

(b) Explain the significance of clean milk production and strategies to improve the quality of milk. 5

Q.3. What is two-Axis milk pricing and how do you consider this system of pricing better than other systems? 5

Q.4. What do you understand by physico-chemical properties of milk? How knowledge of physico-chemical properties of milk helps in effective quality control and processing of milk to different dairy products? 5

Q.5. Discuss in detail the factors which influence the growth of micro-organisms. 5

Assignment – 2
Course Code: BPVI – 012

Maximum Marks – 50

Note: Attempt all the five questions.

Q.1. Describe the material used for the manufacturing of milk processing equipments. How the proper knowledge of equipments is essential to select appropriate size, capacity and the performance and maintenance of these equipments? 10

Q.2. Discuss the basic principle and components of a cold storage. What are the considerations in deciding inside conditions of a cold storage? 10

Q.3. Discuss in detail the boiler mountings (safety and control) and accessories. 10

Q.4. (a) What safety precautions are required to prevent electric shock and how first aid is given to a victim of electric shock? 5

(b) Describe the working principles of single and 3 phase induction motors and explain whey the single phase motors are not self-start? 5

Q.5. (a) What different materials are used for different components of rainwater harvesting system? 5

(b) Explain the working of a rainwater harvesting system. 5

Assignment – 3
Course Code : BPVI – 013

Maximum Marks – 50

Note: Attempt all the five questions.

Q.1. (a) What considerations are important while planning layout of a milk reception dock and what equipments and devices are required for the reception dock? 5

(b) How chilling of milk effect the microbial growth, keeping quality and physico-chemical properties of milk? 5

Q.2. Discuss different theories of homogenization and advantages and disadvantages of homogenized milk? 5

Q.3. (a) Discuss the different types of packaging material used for fluid milk and how processed milk is stored. 5

(b) Write the advantages and disadvantages of distribution of milk in multiple and single use packages. 5

Q.4. What considerations are to be kept in mind while choosing an appropriate detergent for cleaning in a food processing factory? What qualities of a good detergent should have? 10

Q.5. List different types of can washers and explain the working of different types of can washers? 10

Assignment – 4
Course Code : BPVI – 014

Maximum Marks – 50

Note: Attempt all the five questions.

Q.1. (a) Explain different types of cream separators, factors influencing fat percentage in cream and fat losses in skim milk. 5

(b) Discuss different processes treatments given to different types of cream. 5

Q.2. (a) Discuss different defects of cream and their control measures. 5

(b) In manufacturing of creamery butter what treatments are given to cream. Discuss these treatments in details. 5

Q.3. Define churning of butter and explain different theories of churning. 10

Q.4. (a) Define fat constants of ghee. Explain the factors which influence the fat constants of ghee. 5

(b) Give the procedure for Agmark grading of ghee and give the Agmark standard of general and special grade of ghee. 5

Q.5. Define low fat spread. Give the classification, salient features and ingredient of low fat spread. 10

Assignment – 5
Course Code : BPVI – 015

Maximum Marks – 50

Note: Attempt all the five questions.

Q.1. (a) Give method of preparation for rabri & basaundi and explain the physico-chemical changes taking place in milk during the manufacturing of heat desiccated dairy products. 5

(b) Describe the factors which affect the shelf life of heat desiccated products. 5

Q.2. (a) Discuss the factors which influence the quality of paneer. 5

(b) How the shelf life of paneer can be extended? 5

Q.3. (a) Describe in detail the method of manufacturing of sweetned condensed milk. 5

(b) Discuss non-microbial defect of evaporated milk and how these defect can be prevented. 5

Q.4. (a) Write the PFA and BIS standard of malted milk food. 5

(b) Describe in detail the method of manufacture of spray dried milk powder. 5

Q.5. (a) Describe the quality attributes of dried milk. 5

(b) Discuss the storage defect of dried milk and their preventive measures. 5

Assignment – 6
Course Code : BPVI – 016

Maximum Marks – 50

Note: Attempt all the five questions.

Q.1. (a) Describe the factors affecting fermentation process of a starter culture and method of preparation of the starter culture. 5

(b) Discuss in detail the method of manufacturing of yoghurt and method of enhancing its shelf life. 5

Q.2. (a) Describe the method of manufacture and chemistry of stretch of Mozzarella cheese. 5

(b) How processed cheese is prepared and what are its defects. 5

Q.3. (a) Describe the role of ingredients and processes treatments in the quality of ice cream. 5

(b) What are ice cream novelties? Give the method of preparation of different ice cream novelties. 5

Q.4. (a) Describe the method of preparation of acid and rennet casein and give the uses of casein and caseinates. 5

(b) How whey solids are commercially preserved? List the basic steps in the manufacturing of whey powder. 5

Q.5. (a) Give the composition, nutritive and anti-oxidative properties of ghee residue. 5

(b) Describe the advantages of using membrane processes in place of conventional concentration processes. Give the main applications of membrane process in dairy industry. 5

Assignment – 7
Course Code: BPVI – 017

Maximum Marks – 50

Note: Attempt all the five questions.

Q.1. (a) What do your understand by food quality. Explain the components of food quality. 5

(b) Explain the scope of the tasks of quality control in dairy industry as outlined in the FAO document. 5

Q.2. (a) What do you understand by HACCP. Write its 5 preliminary steps and 7 principles. 5

(b) Describe different microbiological tests conducted on milk and milk products. 5

Q.3. Define sensory evaluation and write its importance, uses and requirements. 10

Q.4. (a) What are the desirable and undesirable attributes of butter and ghee? How sensory evaluative of butter and ghee is done. 5

(b) How packaging material for food is classified. Explain the important properties of aseptic cartons. 5

Q.5. (a) How food ingredients are classified. Give the BIS standards for food grade β carotene and saffron. 5

(b) How purity of sodium alginate is evaluated? 5

Assignment – 8
Course Code : BPVI – 018

Maximum Marks – 50

Note: Attempt all the five questions.

Q.1. (a) Explain the conception and misconception about the productivity. Describe the factors which enhance the productivity and how the resources can be optimized for achieving good productivity? 5

(b) Explain the criteria which is adopted in human resource planning. 5

Q.2. (a) Describe different types of costing and give the classification of costing. 5

(b) What are the sources of financing the working capital and what are the approaches of managing working capital? 5

Q.3. (a) What do you understand by marketing information system? Describe the components of MIS and reporting plan. 5

(b) What is logistics planning. Describe the importance of logistics in dairying and some decisions that need to be taken for sale efficient logistics. 5

Q.4. (a) Describe the need and benefits of performance measurement in an organization. What are the tools and techniques of performance controlling? 5

(b) Describe the key factors in managing a business. 5

Q.5. (a) Describe the challenges of operating a small business. 5

(b) Discuss must have skills for an entrepreneur. 5