

ASSIGNMENT BOOKLET

DIPLOMA IN DAIRY TECHNOLOGY (DDT)

**Academic Session: 2024
(For both January and July sessions)**



**School of Agriculture
Indira Gandhi National Open University
New Delhi – 110068**

Dear learner,

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 the 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 4 cm 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.	Last Date of Submission (Jan 2024 batch)	Last Date of Submission (July 2024 batch)
Assignment 1 (BPVI-011)	30 th September 2024	31 st March 2025
Assignment 2 (BPVI-012)		
Assignment 3 (BPVI-013)		
Assignment 4 (BPVI-014)		
Assignment 5 (BPVI-015)		
Assignment 6 (BPVI-016)		
Assignment 7 (BPVI-017)		
Assignment 8 (BPVI-018)		

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
(5x10=50)

Note: Attempt all the five questions.

1.	Outline the dairy development in India from 1970 onwards and what has been the role of NDDB in it?	10
2.	Outline the scenario of dairying in our country. State the major achievements of Operation Flood Programme.	10
3.	Give the principles of cooperatives. Explain the three-tier structures of dairy cooperatives.	10
4.	Describe the housing, feeding and milking management practices of lactating cows and buffaloes.	10
5.	Describe the different factors that increase the growth of microorganisms in milk.	10

Assignment – 2
Course Code: BPVI – 012

Maximum Marks – 50
(5x10=50)

Note: Attempt all the five questions.

1.	Write the importance of water conservation in a dairy plant. Enlist the important components of a rainwater harvesting system along with including their materials of construction.	10
2.	Describe the basic principles and components of the refrigeration system.	10
3.	Describe in detail the boiler mountings (safety and control) and accessories.	10
4.	Identify and draw important components of a steam boiler. List out the boiler mountings and accessories.	10
5.	Explain the term power factor. Give the causes of the low power factor. Describe the methods of improving the power factor.	10

Assignment – 3
Course Code: BPVI – 013

Maximum Marks – 50
(5x10=50)

Note: Attempt all the five questions.

1.	What are the main considerations and precautions in using sanitizers? Explain the characteristics of a good quality detergent for a dairy plant.	10
2.	Define UHT milk. What are its advantages and disadvantages? Give the salient features of different types of UHT plants.	10
3.	Explain the components and flow diagram of the HTST pasteurizer.	10
4.	Describe different methods used in India for the distribution of processed milk. How does packaging in single-use containers reduce the workload in a dairy?	10
5.	What are the different types of can washers used in the dairy industry? Describe the various steps of the “Cleaning in place” (CIP) process.	10

Assignment – 4
Course Code: BPVI – 014

Maximum Marks – 50
(5x10=50)

Note: Attempt all the five questions.

1.	Explain the different types of cream separators. Discuss the factors influencing fat percentage in cream and fat losses in skim milk.	10
2.	Describe the steps with flow diagrams and processing parameters involved in making creamery butter from milk.	10
3.	Describe different defects in butter. How these defects can be controlled?	10
4.	Write the formulas for: a) Calculating yield of butter. b) Calculation of over-run in butter. c) Amount of water to be added for moisture adjustment in butter. d) Calculating quantity of salt in butter. e) Calculating quality of neutrilizer.	2x5=10
5.	Enumerate the common body and texture defects observed in butter. Describe how these defects can be controlled.	10

Assignment – 5
Course Code: BPVI – 015

Maximum Marks – 50
(5x10=50)

Note: Attempt all the five questions.

1.	Name different types of Khoa available in the market. Give gross chemical composition of Khoa from buffalo milk and cow milk. Enumerate the factors affecting quality and yield of Khoa.	10
2.	Describe the factors which influence the quality of paneer. How the shelf life of paneer can be extended?	10
3.	Describe the continuous methods of Khoa making with merits and demerits of each.	10
4.	Explain the process and steps involved in the manufacture of Evaporated Milk (EM).	10
5.	Describe the storage defect of dried milk and their preventive measures.	10

Assignment – 6
Course Code: BPVI – 016

Maximum Marks – 50
(5x10=50)

Note: Attempt all the five questions.

1.	Describe the factors affecting the fermentation process of a starter culture and method of preparation of the starter culture.	10
2.	Describe the processing parameters for the manufacture of Shrikhand along with the flow diagram.	10
3.	Explain the process of manufacturing of mozzarella cheese from buffalo milk using culture with the help of a flow diagram.	10

4.	How whey solids are commercially preserved? List the basic steps in the manufacturing of whey powder.	10
5.	Give the composition, nutritive and anti-oxidative properties of <i>Ghee</i> Residue.	10

Assignment – 7
Course Code: BPVI – 017

Maximum Marks – 50
(5x10=50)

Note: Attempt all the five questions.

1.	Describe the role of primary senses in judging dairy products.	10
2.	Define HACCP. Write its five preliminary steps and seven principles.	10
3.	Briefly explain the chemical and microbiological tests conducted on raw milk before its acceptance in the dairy plant.	10
4.	What are the precautions to be taken while taking samples for microbiological analysis of milk and milk products?	10
5.	Describe important plastic materials used for packaging of milk and milk products.	10

Assignment – 8
Course Code: BPVI – 018

Maximum Marks – 50
(5x10=50)

Note: Attempt all the five questions.

1.	Define “Milk Losses”. How monitoring and control of milk losses can be done in a dairy plant?	10
2.	Enumerate the factors affecting human resources requirement of a dairy plant.	10
3.	Enlist the factors determining working capital. Indicate the approaches to managing working capital.	10
4.	Describe the main components of a Business Plan.	10
5.	Describe the challenges of operating a small business.	10