

ASSIGNMENT BOOKLET

DIPLOMA PROGRAMME IN MEAT TECHNOLOGY (DMT)

Academic Session: 2022

(January 2022 and July 2022 sessions)



**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%, here is an instruction for formatting your assignment. 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-021) and 2 (BPVI-022)	Before 31 st May
Assignment 3 (BPVI-023) and 4 (BPVI-024)	Before 31 st July
Assignment 5 (BPVI-025) and 6 (BPVI-026)	Before 31 st August
Assignment 7 (BPVI-027) and 8 (BPVI-028)	Before 28 th September

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 – 021

Maximum Marks – 50

Note: Attempt all the five questions.

- Q.1. (a) Classify carbohydrates. Write the functions of carbohydrates in human body. 5
(b) Define essential amino acids with examples. Give the functions of protein in our body. 5
- Q.2 (a) Classify vitamins. Write the functions of vitamin B1 and B2. 5
(b) Name at least one condition caused by each of the following: deficiency of Vit A, deficiency of thiamin, deficiency of niacin and deficiency of Vit D. 5
- Q.3. (a) Write the functions of calcium and iron in the human body. 5
(b) Write the clinical disorder caused by deficiency of phosphorus and iodine. 5
- Q.4. (a) Narrate the digestion of carbohydrate in human body. 5
(b) Differentiate between food borne intoxication and food borne infection. 3
(c) Write a note on food allergy. 2
- Q.5. (a) List the factors which affect the growth of microbes and explain any one factor. 5
(b) Give the principles of meat preservation and explain any one preservation method in brief. 5

Assignment – 2
Course Code: BPVI – 022

Maximum Marks – 50

Note: Attempt all the five questions.

- Q.1. (a) Write the present status of livestock population in India and major constraints affecting India's meat export. 5
(b) Write about day to day management of animal for optimum production. 5
- Q.2. (a) List the major components of an abattoir and describe any one component. 5
(b) What points should be considered during site selection for an abattoir? 5
- Q.3. (a) What are the basic considerations for transport of meat animals? 5
(b) Define ante-mortem examination of meat animals. Write the decision/judgement of ante-mortem examination. 5
- Q.4. (a) Classify stunning methods and explain anyone method. 5
(b) Narrate the steps involved in dressing of pig and goat. 5

- Q.5. (a) What are the judgments of post mortem examination? What are the facilities required for post mortem examination of the carcass? 6
- (b) Define zoonoses. List the meat borne zoonotic diseases. 4

Assignment – 3
Course Code: BPVI – 023

Maximum Marks – 50

Note: Attempt all the five questions.

- Q.1. (a) Draw a diagram to describe the organisation of skeletal muscle from gross structure to molecular level. 5
- (b) How collagen can influence the tenderness of the meat? Differentiate between red and white muscle fibre. 5
- Q.2. (a) Define rigor mortis. Give the flow diagram of post mortem changes in muscle. 5
- (b) Narrate the composition of a typical mammalian muscle. 5
- Q.3. (a) What are the basic considerations for meat cutting? List the wholesale cuts of lamb and beef carcass. 5
- (b) Write about the factors to be considered for the quality grading of meat carcass. 5
- Q.4. (a) Write short notes on pH of meat and water holding capacity. 5
- (b) Explain the factors affecting tenderness and colour of the meat. 5
- Q.5. (a) Briefly describe hot processing of carcass and cold shortening. 5
- (b) Write about physico-chemical changes during freezing storage of meat. 5

Assignment – 4
Course Code: BPVI – 024

Maximum Marks – 50

Note: Attempt all the five questions.

- Q.1. (a) What is the purpose of meat processing? Classify meat products according to types of processing. 5
- (b) What is an emulsion? Narrate the factors affecting emulsion stability. 5
- Q.2. (a) Write short notes on the following: 5
- i. Fermented meat products.
- ii. Intermediate moisture products.
- (b) What do you mean by moist heat cooking and microwave cooking? 5

- Q.3. (a) List the binders, emulsifiers, preservatives, acidulants and flavour enhancers used in meat processing. 5
 (b) Illustrate the series of reactions for development of cured colour of meat. 5
- Q.4. (a) Describe the process of canning of meat products. 5
 (b) Name traditional meat products popular in northern, southern and eastern part of India. List exotic meat products. 5
- Q.5. (a) Write the steps for processing of Sausage. 5
 (b) Describe the methods of enrobed meat product preparation. 5

Assignment – 5
Course Code: BPVI – 025

Maximum Marks – 50

Note: Attempt all the five questions.

- Q.1. (a) Classify the packaging materials with examples. 5
 (b) Define aseptic packaging, retail packaging and bulk packaging. 5
- Q.2. (a) Briefly narrate vacuum packaging modified atmosphere packaging. 5
 (b) How would you like to package fresh meat and frozen meat? 5
- Q.3. (a) Define sensory evaluation. Who can become a sensory panelist for meat products? 5
 (b) List the sensory parameters. How hedonic scale can be used for sensory evaluation of meat? 5
- Q.4. (a) Explain the HACCP principles. 5
 (b) Write short notes on following: 5
 i. Quality assurances
 ii. Food hygiene
- Q.5. (a) Write the steps in cleaning and sanitation of meat premises. 5
 (b) List the detergents and sanitizers used in meat plant. Write the properties of a good sanitizer. 5

Assignment – 6
Course Code: BPVI – 026

Maximum Marks – 50

Note: Attempt all the five questions.

- Q.1. (a) List the physicochemical properties of egg and explain any one property. 5
(b) Illustrate the structure of an egg with the help of a diagram. 5
- Q.2. (a) Describe the preservation of egg by thermostabilization and oil coating. 5
(b) Explain the BIS method of grading of eggs. 5
- Q.3. Write short notes on the following:
i. Egg powder 5
ii. Packaging of eggs 5
- Q.4. (a) Narrate the steps of fresh poultry processing. 5
(b) Write about the nutritive value of poultry meat. 5
- Q.5. (a) Write short notes on “automatic poultry dressing line” and “freezing of poultry meat”. 5
(b) Write the steps of chicken tandoori preparation. 5

Assignment – 7
Course Code: BPVI – 027

Maximum Marks – 50

Note: Attempt all the five questions.

- Q.1. (a) What do you mean by by-products of meat industry? Write short note on poultry by-products. 5
(b) What are the benefits derived from animal by-product utilization? 5
- Q.2. (a) Describe the methods of preservation of skin. 5
(b) Narrate the steps of casing preparation. 5
- Q.3. (a) Write short notes on “animal blood as by-product” and “glandular by-products”. 5
(b) Write uses of any five equipments in a by-product processing plant. 5
- Q.4. (a) Give the flow diagram for preparation of bone meal. 3
(b) Give the flow chart for preparation of feather meal. 4
(b) What are the differences between dry rendering and wet rendering? 4

- Q.5. (a) Write about the production of biogas from meat plant wastes. 5
(b) Describe briefly the primary treatment of slaughterhouse effluents. 5

Assignment – 8
Course Code: BPVI – 028

Maximum Marks – 50

Note: Attempt all the five questions.

- Q.1. (a) Write a short note on livestock fair. What are the problems in marketing of meat in India? 5
(b) What are the prevailing methods of sale of livestock in India? 5
- Q.2. (a) Write about marketing channels associated with marketing of meat. 5
(b) Define the following: direct cost, indirect cost, cost analysis, break even point and business plan? 5
- Q.3. (a) What is economic formulation of meat products? How cooking yield of a meat product can be increased? 5
(b) Visit www.fssai.gov.in and read the schedule 4 of the Food safety and standard (licensing and registration of Food business) Regulation, 2011. Write five major points to be considered for maintaining the hygienic conditions in a meat shop. 5
- Q.4. Calculate the production cost of 1kg chicken sausage assuming that 60 kg emulsion is prepared in a day in the processing unit and 6% flour is used for extension of the product. 10
- Q.5. (a) List the equipments required in a meat processing plant. List the sources for long term finance for your business. 5
(b) Briefly describe are the essential skills of an entrepreneur. 5