

ASSIGNMENTS

for

July 2015 Session

DIPLOMA IN MEAT TECHNOLOGY (DMT)

(Developed with the Financial Support of Ministry of Food Processing Industries, Govt. of India)



School of Agriculture

Indira Gandhi National Open University

New Delhi – 110 068

2015

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.

Instruction for formatting your assignment

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:.....

(Name and Code)

Date:.....

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 October 2015
Assignment 3 (BPVI-023) and 4 (BPVI-024)	Before 31 st December 2015
Assignment 5 (BPVI-025) and 6 (BPVI-026)	Before 31 st January 2016
Assignment 7 (BPVI-027) and 8 (BPVI-028)	Before 28 th February 2016

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.

Programme Coordinator (DMT)

Assignment- 1
Course Code: BPVI-021
Course Title: FUNDAMENTALS OF FOOD AND MEAT SCIENCE

Maximum Marks: 50

Attempt all questions. All questions carry equal marks. 5X10=50

- Q.1 a) What do you mean by protective foods? 2
b) What are simple lipids? Give examples. 2
c) Define essential amino acids. Give examples. Name different myofibrillar proteins. 4
d) What are the functions of carbohydrates in our body? 2
- Q.2 a) Classify vitamins. Write the functions of Vitamin C. 4
b) Name at least one condition caused by each of the following: deficiency of Vitamin A, deficiency of thiamin, deficiency of niacin and deficiency of Vitamin D. 4
c) What is the role of hormones in carbohydrate metabolism? 2
- Q.3 a) Write the functions of the calcium and iron in the human body. 4
b) Write the clinical disorder caused by deficiency of phosphorus and iodine. 4
c) Write the functions of bile salt. 2
- Q.4 a) Narrate the digestion 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 intrinsic and extrinsic parameters of food which affect the growth of microbes. 3
b) Write the principles of meat preservation. 3
c) Write short note on meat preservation by fermentation and irradiation of meat. 4

Assignment- 2
Course Code: BPVI-022
Course Title: MEAT ANIMALS AND ABATTOIR PRACTICES

Maximum Marks: 50

Attempt all questions. All questions carry equal marks. 5X10=50

- Q.1 a) Write the present status of livestock population in India. 2
b) In your opinion what are the major constraints affecting India's meat export? 3
c) Write about day to day management of animal for optimum production. 5
- Q.2 a) Describe the major components of an abattoir. 8
b) List the utility services in a modern meat plant. 2
- Q.3 a) What are the basic considerations for transport of meat animals? 4
b) Write the decision/judgement of ante-mortem examination. 4
c) What do you mean by stunning? 2
- Q.4 a) What is meant by Can pak System? 2
b) Why CO₂ anaesthesia is advantageous? 2
c) Write the steps involved in dressing of pig and goat. 4
d) List the edible offals obtained in a slaughter house. 2
- Q.5 a) What are the conditions for which the carcasses are totally condemned? 2
b) What are the facilities required for post mortem examination of the carcass? 3
c) Define zoonoses. List the meat borne bacterial zoonotic diseases. 3
d) Write a note on notifiable disease. 2

Assignment- 3
Course Code: BPVI-023
Course Title: FRESH MEAT TECHNOLOGY

Maximum Marks: 50

Attempt all questions. All questions carry equal marks.

5X10=50

- | | | | |
|-----|----|---------------------------------------------------------------------------------------------------------|----|
| 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? | 2½ |
| | c) | Differentiate between red and white muscle fibre. | 2½ |
| Q.2 | a) | Define rigor mortis. Give the flow diagram of post mortem changes in muscle. | 5 |
| | b) | Explain the composition of a typical mammalian muscle. | 5 |
| Q.3 | a) | What are the basic considerations for meat cutting? | 3 |
| | b) | List the wholesale cuts of lamb and beef carcass. | 2 |
| | c) | Write about the factors to be considered for the quality grading. | 5 |
| Q.4 | a) | Write short notes on pH of meat and water holding capacity. | 4 |
| | b) | Differentiate between PSE and DFD meat. | 3 |
| | c) | Explain the factors affecting tenderness of the meat. | 3 |
| Q.5 | a) | What do you mean by hot processing of carcass? | 3 |
| | b) | Write a short note on cold shortening. | 2 |
| | c) | Write about physico-chemical changes during freezing storage of meat. | 3 |
| | d) | What are the factors that influence the storage life of refrigerated meat? | 2 |

Assignment-4
Course Code: BPVI-024
Course Title: PROCESSED MEAT TECHNOLOGY

Maximum Marks: 50

Attempt all questions. All questions carry equal marks.

5X10=50

- | | | | |
|-----|----|---------------------------------------------------------------------------------------------|---|
| Q.1 | a) | What is the purpose of meat processing? | 4 |
| | b) | Define fermentation and hurdle technology. | 2 |
| | c) | Narrate the factors affecting emulsion stability. | 4 |
| Q.2 | a) | Write short notes on following: | 4 |
| | | i. Meat formulation. | |
| | | ii. Intermediate moisture product. | |
| | b) | What do you mean by moist heat cooking and microwave cooking? | 4 |
| | c) | Classify meat products according to types of processing. | 2 |
| Q.3 | a) | List the binders, emulsifiers, preservatives and flavour enhancers used in meat processing. | 4 |
| | b) | Illustrate the series of reactions for development of cured colour of meat. | 3 |
| | c) | What do you mean by pickle curing and dry curing of meat? | 3 |
| Q.4 | a) | How will you reduce the production cost of meat products? | 3 |
| | b) | Describe the process of canning of meat products. | 4 |
| | c) | Name traditional meat products popular in northern, southern and eastern part of India. | 3 |
| Q.5 | a) | Write the steps for processing of Sausage and Ham. | 6 |
| | b) | Describe the methods of enrobed meat product preparation. | 4 |

Assignment- 5
Course Code: BPVI-025
Course Title: MEAT PACKAGING AND QUALITY ASSURANCE

Maximum Marks: 50

Attempt all questions. All questions carry equal marks. 5X10=50

- | | | |
|-----|-------------------------------------------------------------------------------------------|----|
| Q.1 | a) Classify the packaging materials with examples. | 4 |
| | b) Define aseptic packaging. | 2 |
| | c) What is meant by retail and bulk packaging? | 4 |
| Q.2 | a) Differentiate between vacuum packaging and modified atmosphere packaging. | 2 |
| | | 8 |
| | b) How would you like to package fresh meat, dehydrated meat, frozen meat and cured meat? | |
| Q.3 | a) Define sensory evaluation. Who can become a sensory panelist for meat products? | 4 |
| | b) Write a short note on sensory parameters. | 3 |
| | c) How hedonic scale can be used for sensory evaluation of meat ball? | 3 |
| Q.4 | a) Explain the HACCP principles. | 5 |
| | b) Write short notes on the following: | |
| | i. Quality assurances | 2½ |
| | ii. Food hygiene | 2½ |
| Q.5 | a) Write the steps in cleaning and sanitation of meat plant. | 4 |
| | b) List the detergents and sanitizers used in meat plant. | 3 |
| | c) Identify the Critical Control Points (CCP) in a beef slaughter line. | 3 |

Assignment- 6
Course Code: BPVI-026
Course Title: POULTRY PRODUCTS TECHNOLOGY

Maximum Marks: 50

Attempt all questions. All questions carry equal marks. 5X10=50

- | | | |
|-----|-----------------------------------------------------------------------------|---|
| Q.1 | a) Write about the present status of Indian poultry industry. | 4 |
| | b) Illustrate the structure of an egg with the help of a diagram. | 6 |
| Q.2 | a) Describe the preservation of egg by thermostabilization and oil coating. | 6 |
| | b) Explain the BIS method of grading eggs. | 4 |
| Q.3 | Write short notes on the following: | 5 |
| | i. Egg powder | 5 |
| | ii. Packaging of eggs | |
| Q.4 | a) Write the steps of fresh poultry processing. | 6 |
| | b) Write about nutritive value of poultry meat. | 4 |
| Q.5 | a) What do you mean by automatic poultry dressing line? | 3 |
| | b) Write the steps of chicken tandoori preparation. | 4 |
| | c) List the factors affecting the tenderness of chicken. | 3 |

Assignment- 7
Course Code: BPVI-027
Course Title: UTILIZATION OF ANIMAL BY-PRODUCTS

Maximum Marks: 50

Attempt all questions. All questions carry equal marks. 5X10=50

- | | | |
|-----|-----------------------------------------------------------------------------------------------|---|
| 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 by-product utilization? | 5 |
| Q.2 | a) Describe the methods of preservation of animal skin. | 5 |
| | b) Narrate the steps of casing preparation. | 5 |
| Q.3 | a) What do you know about glandular by-products? | 3 |
| | b) Write name of few equipments along with their uses in a by-product processing plant. | 3 |
| | c) List the various sections in a by-products processing plant. | 2 |
| | d) Write the uses of animal blood in various industries. | 2 |
| Q.4 | a) Give the flow diagram for preparation of bone meal. | 3 |
| | b) Give the flow chart for preparation of feather meal. | 3 |
| | c) What are the differences between dry rendering and wet rendering? | 4 |
| Q.5 | a) Write about the production of biogas from meat plant wastes. | 4 |
| | b) Describe briefly the primary treatment of slaughterhouse effluents. | 6 |

Assignment- 8
Course Code: BPVI-028
Course Title: MARKETING AND ENTREPRENEURSHIP

Maximum Marks: 50

Attempt all questions. All questions carry equal marks. 5X10=50

- | | | |
|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| Q.1 | a) Write a short note on livestock fair. | 3 |
| | b) What are the prevailing methods of sale of livestock in India? | 4 |
| | c) What are the problems in marketing of meat and meat products in India? | 3 |
| Q.2 | a) Write about marketing channels associated with marketing of meat animals and meat. | 7 |
| | b) What do you mean by direct cost, indirect cost and cost analysis? | 3 |
| Q.3 | a) How cooking yield of a meat product can be increased? | 3 |
| | b) Write about Meat Food Products Order, 1973. | 5 |
| | c) What are the main elements of a business plan? | 2 |
| Q.4 | Calculate the production cost of 1 kg 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 equipment required in a meat processing plant. | 2 |
| | b) List the sources for long term finance for your business. | 3 |
| | c) What are the essential skills of an entrepreneur? | 5 |