



Course Syllabus  
Gyanmanjari Science College  
Semester- 3(M.Sc.)

**Subject:** Technology of Meat, Fish and Poultry Products -MSCFT13515

**Type of course:** Major

**Prerequisite:** Student must have comprehensive understanding of Food Processing and Preservation Technology

**Rationale:** This course empowers students with essential knowledge and practical skills for effective processing and preservation of fruits and vegetables, addressing industry needs and emerging technologies.

**Teaching and Examination Scheme:**

Teaching Scheme			Credits	Examination Marks					Total Marks
CI	T	P	C	Theory Marks		Practical Marks		CA	
				ESE	MSE	V	P	ALA	
4	0	0	4	60	30	10	00	50	150

*Legends: CI-Class Room Instructions; T – Tutorial; P - Practical; C – Credit; ESE - End Semester Examination; MSE- Mid Semester Examination; V – Viva; CA - Continuous Assessment; ALA- Active Learning Activities.*

**Course Content:**

Unit No	Course content	Hrs.	% Weightage
1	<b>Overview of Meat and Poultry Industry in India:</b> Sources and developments of meat and poultry industries in India, Importance of the meat and poultry sector in the national economy, Muscle structure and chemical composition of meat, Physico-chemical properties of meat muscle.	10	15%





2	<b>Abattoir Design and Meat Processing Techniques:</b> Abattoir design and layout, Pre-slaughter transport and care, Antemortem inspection and its significance, slaughtering of animals and poultry, Post-mortem inspection and grading of meat.	20	35%
3	<b>Post-mortem Changes and Meat Preservation:</b> Factors affecting post-mortem changes in meat, Properties and shelf life of meat. Processing and preservation of eggs: Composition, quality characteristics, and preservation methods. Meat preservation techniques: Mechanical deboning, Aging or chilling, Freezing, Pickling, Curing, Cooking and smoking of meat.	20	35%
4	<b>Meat Product Technology and Sanitation:</b> Meat tenderization. – principles and methods, Meat emulsions, Technology of manufacture of meat and poultry products Meat plant sanitation and safety By-products utilization of abattoir.	15	15%

**Continuous Assessment:**

Sr. No	Active Learning Activities	Marks
1	<b>Newsletter – Innovations in Meat Packaging:</b> Students will prepare a short newsletter highlighting recent advances in vacuum packaging, Modified Atmosphere Packaging (MAP), and other emerging technologies in meat packaging. The report must be submit on the GMIU web portal.	10
2	<b>Video Blog – Role of the Meat Sector in the Indian Economy:</b> Students will create a short video blog explaining the role and significance of the meat sector in the Indian economy. The video and its report must be submit on the GMIU web portal.	10
3	<b>Video Blog – Role of the Meat Sector in the Indian Economy:</b> Students will create a short video blog explaining the role and significance of the meat sector in the Indian economy. The video and its report must be submit on the GMIU web portal.	10
4	<b>By-product Utilization – Idea Pitch:</b> Students will propose innovative products derived from meat industry by-products such as blood, bone, and fat. They must prepare a detailed process description and submit the report on the GMIU web portal.	10
5	<b>Mind Mapping – Role in the National Economy:</b> Students will develop a mind map showcasing the economic impact of the meat sector and identifying key industry stakeholders. The mind map must be submitted on the GMIU web portal.	10
<b>Total</b>		<b>50</b>





**Suggested Specification table with Marks (Theory):60**

Distribution of Theory Marks (Revised Bloom's Taxonomy)						
Level	Remembrance (R)	Understanding (U)	Application (A)	Analyze (N)	Evaluate (E)	Create (C)
Weightage	20%	30%	30%	10%	-	10%

Note: This specification table shall be treated as a general guideline for students and teachers. The actual distribution of marks in the question paper may vary slightly from above table.

**Course Outcome:**

After learning the course the students should be able to:	
CO1	Understand the Overview of the Meat and Poultry Industry
CO2	Comprehend the Structure, Composition, and Management of Meat Production
CO3	Analyze the Slaughtering Process, Post-Mortem Inspection, and Meat Preservation Techniques
CO4	Master Meat Processing, Preservation, and By-Products Utilization

**Instructional Method:** The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.

From the content 10% topics are suggested for flipped mode instruction.

Students will use supplementary resources such as online videos, NPTEL/SWAYAM videos, e-courses, Virtual Laboratory

The internal evaluation will be done on the basis of Active Learning Assignment

Practical/Viva examination will be conducted at the end of semester for evaluation of performance of students in laboratory.

**Reference Books:**

- [1]. Outline of Dairy Technology Sukumar De Oxford University Press, 2008. Handbook of Heat and Meat Processing Hue Y.H. CRC Press, New York.
- [2]. Meat Science Lawrie R. A. Pergamon Press, New York.
- [3]. Meat Products Handbook – Practical Science and Technology Gerhard Feiner CRC Press, Boca Raton
- [4]. Outlines of Meat Science and Technology Sharma B.D. Jaypee Brother Medical Publishers.
- [5]. Fish Processing Technology Hall G.M. Springer Publication.
- [6]. Handbook of Meat, Poultry and Seafood Quality Kerth Wiley Backwell, 2012.

