UNIVERSITY OF JAMMU

(NAAC ACCREDITED 'A ++' GRADE' UNIVERSITY)
Baba Sahib Ambedkar Road, Jammu-180006 (J&K)

Academic Section
Email: academicsectionju14@gmail.com

NOTIFICATION
(26/Jan./Adp./135)

It is hereby notified for the information of all concerned that the Vice-Chancellor, in anticipation of the approval of the Academic Council, is pleased to authorize the following

a) The existing syllabi and Courses of Studies of the subject of **B.Sc. Veterinary Technology** of semester Ist for Four Year Under Graduate Programme as per **NEP-2020 as notified vide no. F.Acd./II/24/ 8844-58 dated 16.08.2024** is applicable for the examinations to be held as per the details given below:

Subject	Semester	for the examination to be held in the years
Veterinary Technology	Semester- I	December 2024 and 2025 only

b) Adoption of the revised Syllabi and Courses of Study of subject of **B.Sc. Veterinary Technology** of Semesters **Ist and IInd** for **Four Year Under Graduate Programme** as per **NEP-2020 (as given in the annexure)** for the examinations to be held in the years as per the details given below:

Subject	Semester	Old Course	New Courses	For the examination to be held on
Veterinary Technology	Semester-I	UMJVTT101	UMJVTT-106	Dec. 2026, 2027 and 2028
		UMIVTT102	UMIVTT-107	Dec. 2026, 2027 and 2028
		UMDVTT103	UMDVTT-108	Dec. 2026, 2027 and 2028
		USEVTT104	USEVTT-111	Dec. 2026, 2027 and 2028
	Semester-II	**Courses**		**For the examinations to be held on**
		UMJVTT-201		May 2027, 2028 and 2029
		UMIVTT-202		May 2027, 2028 and 2029
		UMDVTT-203		May 2027, 2028 and 2029
		USEVTT-211		May 2027, 2028 and 2029

The Syllabi of the courses is available on the University website: www.jammuuniversity.ac.in

Sd/-
DEAN ACADEMIC AFFAIRS

No. F. Acd/II/26/14066-080
Dated: 02/02/2026
Copy for information and necessary action to:

1. Dean, Faculty of **Life Science**
2. All members of the Board of Studies
3. Sr. P.A.to the Controller of Examinations
4. C.A. to the Controller of Examinations
5. Director, Computer Centre, University of Jammu.
6. Joint Registrar/Deputy Registrar/Asst. Registrar (Confidential/Exam UG/Exam. Non Prof.)

Bhuca 2/2/26
Joint Registrar (Academic)
2/2/26 2/2 2/2/26

DEAN, FACULTY OF LIFE SCIENCES

UNIVERSITY OF JAMMU

CURRICULUM FRAMEWORK FOR

FOUR-YEAR UNDER GRADUATE PROGRAM (FYUGP) IN

VETERINARY TECHNOLOGY

SEMESTER I & 2

As Per National Education Policy–2020

Approved by:

Board of Studies in Veterinary Technology

DEAN, FACULTY OF LIFE SCIENCES, UNIVERSITY OF JAMMU, JAMMU

Following courses of study are prescribed for

FYUGP (I & II Semesters) in the subject of **VETERINARY TECHNOLOGY**

as per **NEP-2020**

(I Semester Examinations to be held in December 2026, 2027, & 2028)

(II Semester Examinations to be held in May 2027, 2028, & 2029)

SEMESTER	TYPE OF THE COURSE	TITLE OF THE COURSE	COURSE NO.	CREDITS (T-Teaching P- Practical)
FIRST	**MAJOR**	Basics of Veterinary Science & Animal Husbandry	**UMJVTT-106**	4 (3T + 1P)
	MINOR	Sustainable Livestock Farming	**UMIVTT-107**	4 (3T + 1P)
	MULTIDISCIPLINARY	Dairy Products Technology	**UMDVTT-108**	3 (T)
	SKILL ENHANCEMENT	Poultry Sciences	**USEVTT111**	3 (1T + 2P)
SECOND	**MAJOR**	Principles of Animal Nutrition and Feed Technology	UMJVTT201	4 (3T + 1P)
	MINOR	Livestock Nutrition and Feed Management	UMIVTT202	4 (3T + 1P)
	MULTIDISCIPLINARY	Meat Sciences	UMDVTT203	3 (T)
	SKILL ENHANCEMENT	Sheep and Goat Farming	**USEVTT211**	3 (1T + 2P)

Course no USEVTT111* : to be applicable w.e.f. December 2026 onwards

Course no USEVTT211 : to be applicable w.e.f. May 2027 onwards**

COURSE SCHEME OF SYLLABUS

BACHELOR OF VETERINARY TECHNOLOGY (GENERAL/HONOURS/HONOURS WITH RESEARCH)

SEMESTER I

(AS PER THE GUIDELINES OF NATIONAL EDUCATION POLICY-2020)

(The Examinations to be held in the year December 2026, 2027 & 2028)

S. No	Course type	Course No.	Course Title	Credits	Marks			
					Theory		Practical	
					Mid Semester	End Exam	Assess-ment	Exam
1	Major	**UMJVTT-106**	Basics of Veterinary Science & Animal Husbandry	4 (3T+1P)	15	60	10	15
2	Minor	**UMIVTT-107**	Sustainable Livestock Farming	4 (3T+1P)	15	60	10	15
3	MDC	**UMDVTT-108**	Dairy Products Technology	3 (T)	15	60	NA	NA
4	SEC	**USEVTT111***	Poultry Sciences	3 (1T + 2P)	25	50	NA	75

Course no USEVTT111*: to be applicable w.e.f. academic session December 2026 onwards

SYLLABUS AND COURSES OF STUDY IN

BACHELOR OF VETERINARY TECHNOLOGY FOR FYUGP
(AS PER NATIONAL EDUCATION POLICY–2020)
MAJOR COURSE
Course title: BASICS OF VETERINARY SCIENCE & ANIMAL HUSBANDRY
UG SEMESTER I
(The Examinations to be held in the year December 2026, 2027 & 2028)

Course No. UMJVTT-106 **Max. Marks: 100 (Theory-75, Practical-25)**

	Credits	Contact Hours	Units	Examination			
				Duration	(hours)	Weightage	(Marks)
Theory	03	45	I to IV	1½	03	15	60
Practical	01	30	V	1½	3½	10	15

Objectives:

1. *To provide basic knowledge of the structure and organization of animal body systems.*
2. *To impart understanding of normal functions of organs and body systems in livestock.*
3. *To develop scientific skills for rearing and caring of livestock.*
4. *To produce safe, hygienic and good quality milk.*
5. *To introduce principles of ration formulation, feed resources, and ration formulation.*

Expected outcomes:

The course is designed to provide students with an easy understanding of the basics of animal structure and function, enabling them to acquire practical skills in livestock management and herd health. It familiarizes learners with various dairy breeds and essential dairy farm operations while also equipping them with the knowledge to formulate balanced rations for dairy animals. By highlighting the strengthened role of the dairy sector in the nation's GDP and rural development, the course emphasizes its socio-economic significance. Furthermore, it encourages the development of both small-scale and large-scale dairy industries, thereby preparing students for diverse opportunities in the field of dairy science and livestock management.

UNIT-1 Veterinary Anatomy and Physiology

1.1 Body surface points, injection sites, body parameters recording sites of cattle, dog, and horse
1.2 Reproductive and Mammary gland anatomy of Ruminants (male and female) and Poultry.
1.3 Estrus cycle in cow and buffalo and its detection at the field level.
1.4 Lactogenesis, galactogenesis, Milk let-down.

UNIT-II Livestock Production and Management

2.1 Common animal husbandry terms viz: livestock, lactation, gestation, culling, weaning, calving, heifer, dam, sire.
2.2 Role of livestock in the Indian economy, Problems and prospects of livestock industry in India. Indian livestock breeding policy.
2.3 Common farm management practices including disinfection, isolation, quarantine, and disposal of carcasses. Care of newborn calves, vaccination, and disbudding, Transportation of livestock, organic livestock farming.
2.4 Awareness of common diseases of dairy animals, viz. Mastitis, Ketosis, Milk fever, Tuberculosis, Brucellosis, FMD, etc.

SYLLABUS AND COURSES OF STUDY IN

BACHELOR OF VETERINARY TECHNOLOGY FOR FYUGP
(AS PER NATIONAL EDUCATION POLICY–2020)
MAJOR COURSE
Course title: BASICS OF VETERINARY SCIENCE & ANIMAL HUSBANDRY
UG SEMESTER I
(The Examinations to be held in the year December 2026, 2027 & 2028)

Course No. UMJVTT-106 **Max. Marks: 100 (Theory-75, Practical-25)**

	Credits	Contact Hours	Units	Examination			
				Duration	(hours)	Weightage	(Marks)
Theory	03	45	I to IV	1½	03	15	60
Practical	01	30	V	1½	3½	10	15

UNIT-III Dairy Farming

3.1 Dairy breeds of cattle and buffalo: HF, Jersey, Sahiwal, Murrah, and Nili-Ravi., Common Animal
3.2 Husbandry Terms viz: Livestock, Breed, Lactation, Herd, Gestation, Calving, Weaning, Culling. Selection of a site for Dairy Farming,
3.3 Dairy farm operations and labour management. Vaccination schedule and first-aid for dairy animals.
3.4 Clean milk production and milking methods viz: Full hand milking, Stripping, and Knuckling.

UNIT-IV Animal Nutrition-I (Dairy Animals)

4.1 Energy measures viz: Digestible energy, Metabolizable energy, Net energy.
4.2 Composition of common feed stuffs viz: Moisture, Dry matter, Digestible crude protein (DCP), Total digestible nutrient (TDN), Digestible Ether Extract (DEE), Digestible Nitrogen free extract (DNFE).
4.3 Common feed and fodder, their classification, Roughages, Concentrates. Livestock feeds in India, viz: Animal protein source, Vegetable protein source, and energy source.
4.4 Balanced ration and its characteristics. Feeding of cattle and Buffalo by the thumb rule, Feeding of dairy animals during pregnancy and lactation.

UNIT V: PRACTICALS

- Demonstration of different parts of the animal body.
- Study of boundaries of the thoracic, abdominal, and pelvic cavity, Behaviour signs of estrus.
- Health parameters of animals- body temperature, pulse, respiration, and heart rate.
- Visit to a Dairy farm.
- Identification of common tools used in farm animals.
- Identification of various breeds of cattle like Sahiwal, Jersey, HF, Murrah, and Nili-Ravi.
- Familiarization with routine farm practices, various feeds, and fodders.
- Formulation of rations for feeding of livestock during scarcity periods.

Reference Books:

- Primary Veterinary Anatomy, by R.K. Ghosh.
- Dukes' Physiology of Domestic Animals.
- The Anatomy of Domestic Animals, by Sisson and Grossman.
- A Textbook of Animal Husbandry, by G.C. Banerjee.
- Livestock Production and Management, by Thomas and Shastry.
- A Handbook of Animal Husbandry-ICAR.
- Handbook of Good Dairy Husbandry Practices- NDDB.

BACHELOR OF VETERINARY TECHNOLOGY FOR FYUGP
(AS PER NATIONAL EDUCATION POLICY–2020)
MAJOR COURSE
Course title: BASICS OF VETERINARY SCIENCE & ANIMAL HUSBANDRY
UG SEMESTER I
(The Examinations to be held in the year December 2026, 2027 & 2028)

Course No. UMJVTT-106 **Max. Marks: 100 (Theory-75, Practical-25)**

NOTE FOR PAPER SETTERS:

Examination Theory/Practical	Syllabus to be covered in Examination	Time Allotted for Exam	Marks
Internal Theory Assessment (Mid semester)	50%	1 Hr and 30 Min	15
External Theory End Semester	100%	3 Hrs	60
Continuous Assessment (practical)	-	-	10 (Based on Daily Performance only)
Final Examination (Practical)	-	-	15

Explanation:

End Semester University Examination (Total Marks: 60; syllabus to be covered: 100%)

The question paper will have 2 sections. Section 'I' will be compulsory having four questions of 3 marks each and spread over the entire theory syllabus (one from each uniti.e., Units I to IV). The questions will be of short answer type having answers not exceeding 50 to 70 words. Section 'II' will have eight long answer type questions, two from each unit I to IV. Each question will be of 12 marks. The candidates will be required to answer one question from each unit.

Mid Semester Assessment Test (Total Marks: 15; syllabus to be covered: up to 50%)

Fifteen (15) marks for theory paper in a subject reserved for internal assessment shall have one long answer type question of 7 marks and four short answer type questions of 2 marks each.

SYLLABUS AND COURSES OF STUDY IN

BACHELOR OF VETERINARY TECHNOLOGY FOR FYUGP
(AS PER NATIONAL EDUCATION POLICY–2020)
MINOR COURSE
COURSE TITLE: SUSTAINABLE LIVESTOCK FARMING
UG SEMESTER I
(As Per National Education Policy–2020)
The Examinations to be held in the year December 2026, 2027 & 2028

Course No. UMIVTT-107 **Max. Marks: 100 (Theory-75, Practical-25)**

	Credits	Contact Hours	Units	Examination			
				Duration	(hours)	Weightage	(Marks)
Theory	03	45	I to IV	1½	03	15	60
Practical	01	30	V	1½	3½	10	15

***Objectives*:** To provide basic knowledge of the structure and organization of animal body systems, understanding of normal functions of organs and body systems in livestock, develop scientific skills for rearing and caring of livestock, produce safe, hygienic and good quality milk and to introduce principles of ration formulation, feed resources, and ration formulation.

***Expected outcomes**: The course is designed to provide students with an easy understanding of the basics of animal structure and function, enabling them to acquire practical skills in livestock management and herd health. It familiarizes learners with various dairy breeds and essential dairy farm operations while also equipping them with the knowledge to formulate balanced rations for dairy animals. By highlighting the strengthened role of the dairy sector in the nation's GDP and rural development, the course emphasizes its socio-economic significance. Furthermore, it encourages the development of both small-scale and large-scale dairy industries, thereby preparing students for diverse opportunities in the field of dairy science and livestock management.*

UNIT-1 Veterinary Anatomy and Physiology

1.1 Body surface points, injection sites, body parameters recording sites of cattle, dog, and horse
1.2 Reproductive and Mammary gland anatomy of Ruminants (male and female) and Poultry.
1.3 Estrus cycle in cow and buffalo and its detection at the field level.
1.4 Lactogenesis, galactogenesis, Milk let-down.

UNIT-II Livestock Production and Management

2.1 Common animal husbandry terms, viz: livestock, lactation, gestation, culling, weaning, calving, heifer, dam, sire.
2.2 Role of livestock in the Indian economy, Problems and prospects of livestock industry in India. Indian livestock breeding policy.
2.3 Common farm management practices including disinfection, isolation, quarantine, and disposal of carcasses.
2.4 Transportation of livestock, organic livestock farming.

SYLLABUS AND COURSES OF STUDY IN

BACHELOR OF VETERINARY TECHNOLOGY FOR FYUGP
(AS PER NATIONAL EDUCATION POLICY–2020)
MINOR COURSE
COURSE TITLE: SUSTAINABLE LIVESTOCK FARMING
UG SEMESTER I
(As Per National Education Policy–2020)
The Examinations to be held in the year December 2026, 2027 & 2028

Course No. UMIVTT-107 **Max. Marks: 100 (Theory-75, Practical-25)**

	Credits	Contact Hours	Units	Examination			
				Duration	(hours)	Weightage	(Marks)
Theory	03	45	I to IV	1½	03	15	60
Practical	01	30	V	1½	3½	10	15

UNIT-III Dairy Farming

3.1 Dairy breeds of cattle and buffalo: HF, Jersey, Sahiwal, Murrah, and Nili-Ravi.
3.2 Common Animal Husbandry Terms viz: Livestock, Breed, Lactation, Herd, Gestation, Calving, Weaning, Culling. Selection of a site for Dairy Farming,
3.3 Dairy farm operations and labour management. Vaccination schedule and first-aid for dairy animals.
3.4 Clean milk production and milking methods viz: Full hand milking, Stripping, and Knuckling.

Unit-IV: Animal Nutrition-I (Dairy Animals)

4.1 Energy measures viz: Digestible energy, Metabolizable energy, Net energy.
4.2 Composition of common feed stuffs viz: Moisture, Dry matter, Digestible crude protein (DCP), Total digestible nutrient (TDN), Digestible Ether Extract (DEE), Digestible Nitrogen free extract (DNFE).
4.3 Common feed and fodder, their classification, Roughages, Concentrates. Livestock feeds in India, viz: Animal protein source, Vegetable protein source, and energy source.
4.4 Balanced ration and its characteristics. Feeding of cattle and Buffalo by the thumb rule, Feeding of dairy animals during pregnancy and lactation.

UNIT V: PRACTICALS

1.1 Demonstration of different parts of the animal body, Study of boundaries of the thoracic, abdominal, and pelvic cavity., Behaviour signs of estrus, Health parameters of animals- body temperature, pulse, respiration, and heart rate.
1.2 Visit to a Dairy farm, Identification of various breeds of cattle like Sahiwal, Jersey, HF, Murrah, and Nili-Ravi.
1.3 Familiarization with routine farm practices, Identification of common tools used in farm animals.
1.4 Familiarization with various feeds and fodders, Formulation of rations for feeding of livestock during scarcity periods.

SYLLABUS AND COURSES OF STUDY IN

BACHELOR OF VETERINARY TECHNOLOGY FOR FYUGP
(AS PER NATIONAL EDUCATION POLICY–2020)
MINOR COURSE
COURSE TITLE: SUSTAINABLE LIVESTOCK FARMING
UG SEMESTER I
(As Per National Education Policy–2020)
The Examinations to be held in the year December 2026, 2027 & 2028

Course No. UMIVTT-107 **Max. Marks: 100 (Theory-75, Practical-25)**

Reference Books:

1. Primary Veterinary Anatomy, by R.K. Ghosh.
2. Dukes' Physiology of Domestic Animals.
3. The Anatomy of Domestic Animals, by Sisson and Grossman.
4. A Textbook of Animal Husbandry, by G.C. Banerjee.
5. Livestock Production and Management, by Thomas and Shastry.
6. A Handbook of Animal Husbandry-ICAR.
7. Handbook of Good Dairy Husbandry Practices- NDDB

NOTE FOR PAPER SETTERS:

Examination Theory/Practical	Syllabus to be covered in Examination	Time Allotted for Exam	Marks
Internal Theory Assessment ((Mid Semester)	50%	1 Hr and 30 Min	15
External Theory (End Semester)	100%	3 Hrs	60
Continuous Assessment (practical)	-	-	10 (Based on Daily Performance only)
Final Examination (Practical)	-	-	15

Explanation:

End Semester University Examination (Total Marks: 60; syllabus to be covered: 100%)

The question paper will have 2 sections. Section 'I' will be compulsory having four questions of 3 marks each and spread over the entire theory syllabus (one from each uniti.e., Units I to IV). The questions will be of short answer type having answers not exceeding 50 to 70 words. Section 'II' will have eight long answer type questions, two from each unit I to IV. Each question will be of 12 marks. The candidates will be required to answer one question from each unit.

Mid Semester Assessment Test (Total Marks: 15; syllabus to be covered: up to 50%)

Fifteen (15) marks for theory paper in a subject reserved for internal assessment shall have one long answer type question of 7 marks and four short answer type questions of 2 marks each.

SYLLABUS AND COURSES OF STUDY IN

BACHELOR OF VETERINARY TECHNOLOGY FOR FYUGP
(AS PER NATIONAL EDUCATION POLICY–2020)
MULTIDISCIPLINARY COURSE
COURSE TITLE: DAIRY PRODUCTS TECHNOLOGY
UG SEMESTER I
(The Examinations to be held in the year December 2026, 2027 & 2028)

Course No. UMDVTT-108 **Max. Marks: Theory-75**

	Credits	Contact Hours	Units	Examination			
				Duration (Hours)		Weightage	
				Mid Sem	End Sem	Mid Sem	End Sem
Theory	03	45	I to IV	1½	03	15	60

Objectives:

1. *To provide basic knowledge of the structure and organization of animal body systems.*
2. *To impart understanding of normal functions of organs and body systems in livestock.*
3. *To develop scientific skills for rearing and caring of livestock.*
4. *To produce safe, hygienic and good quality milk.*
5. *To introduce principles of ration formulation, feed resources, and ration formulation.*

Expected outcomes:

The course is designed to provide students with an easy understanding of the basics of animal structure and function, enabling them to acquire practical skills in livestock management and herd health. It familiarizes learners with various dairy breeds and essential dairy farm operations while also equipping them with the knowledge to formulate balanced rations for dairy animals. By highlighting the strengthened role of the dairy sector in the nation's GDP and rural development, the course emphasizes its socio-economic significance. Furthermore, it encourages the development of both small-scale and large-scale dairy industries, thereby preparing students for diverse opportunities in the field of dairy science and livestock management.

UNIT I -Milk Production and Market Milk

1.1 Composition of milk
1.2 Clean milk production and milking methods viz: Full hand milking, Stripping, and Knuckling, milk production in J&K, other states, and India
1.3 Introduction and definition of Market milk
1.4 Market Milk Industry in India and World, Indian standards of Market milk

UNIT II – Cream

2.1 Introduction and Definition, classification, and composition of cream
2.2 Food and nutritive value, physicochemical properties
2.3 Manufacture of different types of cream, packaging, storage, and distribution
2.4 Judging and grading of cream. Defects in cream, their causes, and precautions

SYLLABUS AND COURSES OF STUDY IN

BACHELOR OF VETERINARY TECHNOLOGY FOR FYUGP
(AS PER NATIONAL EDUCATION POLICY–2020)
MULTIDISCIPLINARY COURSE
COURSE TITLE: DAIRY PRODUCTS TECHNOLOGY
UG SEMESTER I
(The Examinations to be held in the year December 2026, 2027 & 2028)

Course No. UMDVTT-108 **Max. Marks: Theory-75**

UNIT III – Butter

3.1 Introduction, definition, history, classification, and composition of butter

3.2 Methods of manufacturing, packaging, and storage of butter

3.3 Judging and Grading of table butter

3.4 Defects in butter, their causes, and precautions

UNIT IV – Indian Dairy Products

4.1 Introduction, statistics of production and consumption, comparison with Western dairy products

4.2 Flow Diagram of manufacturing from whole milk. Kheer, Khoa/Mawa (Introduction, definition, types of khoa, food, and nutritive value)

4.3 Indian dairy products like Khurchan, Rabri, Kulfi, along with their composition and food & nutritional value.

4.4 Ghee definition, methods of production, problems of adulteration. Defects in ghee, their causes & prevention.

References books:

- Outline of Dairy Technology, by Sukumar Dey
- Handbook of Dairy Products, by Ajay Singh
- Dairy Technology-Vol. I & II, by Shiva Shraya Singh.
- Indian Dairying: Challenges and Opportunities, by Vijay Kumar.

NOTE FOR PAPER SETTERS

Examination Theory/Practical	Syllabus to be covered in Examination	Time Allotted for Exam	Marks
Internal Theory Assessment	50%	1 Hr and 30 Min	15
External Theory End Semester	100%	3 Hrs	60

End Semester University Examination (Total Marks: 60; syllabus to be covered: 100%)

The question paper will have 2 sections. Section 'I' will be compulsory having four questions of 3 marks each and spread over the entire theory syllabus (one from each uniti.e., Units I to IV). The questions will be short answer type having answers not exceeding 50 to 70 words. Section 'II' will have eight long answer type questions, two from each unit. Each question will be of 12 marks. The candidates will be required to answer one question from each unit.

Mid Semester assessment Test (Total Marks: 15; syllabus to be covered: up to 50%)

Fifteen (15) marks for theory paper in a subject reserved for internal assessment shall have one long answer type question of 7 marks and four short answer type questions of 2marks each.

SYLLABUS AND COURSES OF STUDY IN

BACHELOR OF VETERINARY TECHNOLOGY FOR FYUGP
(AS PER NATIONAL EDUCATION POLICY–2020)

SKILL ENHANCEMENT COURSE
Course Title: POULTRY SCIENCES
UG SEMESTER I
(The Examinations to be held in the year December 2026, 2027 & 2028)

Course No. USEVTT111 **Max. Marks: 75 (Theory-25, Practical-50)**

	Credits	Contact Hours	Units	Examination		
				Duration (hours)		Weightage (Marks)
				Mid Term Examination	Final Examination	
Theory	01	15	I	1½	-	25
Practical	02	60	II to III	-	3	50

Objectives: The course provides an introduction to poultry sciences and basic concepts for rearing poultry for entrepreneurship purposes.

Expected outcomes: After successfully completing this course, the students will be able to understand about the importance and scope of poultry industry, its scope, different breeds of poultry reared in India, their nutritional status, for setting up of poultry farm the various requirements viz; site of selection for housing, basic layout, types of housing, its management. The course also provides the knowledge regarding incubation of eggs, hatching and proper guidelines for poultry health management with vaccination and biosecurity point of view.

UNIT-I: Introduction to Poultry Sciences

1.1 Introduction to Poultry Industry: Importance, status, scope, and constraints in India.
1.2 Common Terminology: Poultry, Layer, Broiler, Breed, Variety, Fowl, Hen, Chicken, Chick, Pullet, Capon, Flock, Brooding, Incubation, Hatching.
1.3 Classification of Poultry Breeds. Indian breeds of poultry, viz, Aseel, Kadaknath.
1.4 Nutrient requirements by life stage: Starter, grower, layer.

UNIT-II: PRACTICAL (Poultry Housing)

2.1 Selection of a site for poultry housing., Systems of housing of poultry birds, viz, Free range, semi-intensive, and intensive systems.
2.2 Scavenging system of management-Low input technology.
2.3 Deep litter system and cage system of poultry housing and their management.
2.4 Define Brooding and its types. Ideal conditions for poultry brooding.

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SYLLABUS AND COURSES OF STUDY IN

BACHELOR OF VETERINARY TECHNOLOGY FOR FYUGP
(AS PER NATIONAL EDUCATION POLICY–2020)

SKILL ENHANCEMENT COURSE
Course Title: POULTRY SCIENCES
UG SEMESTER I
(The Examinations to be held in the year December 2026, 2027 & 2028)

Course No. USEVTT111 **Max. Marks: 75 (Theory-25, Practical-50)**

UNIT-III: PRACTICAL (Incubation, Hatching, and Health Management)

3.1 Incubation and its types: Natural incubation and artificial incubation.
3.2 Factors affecting incubation. Define Hatchability and factors affecting fertility and hatchability. Candling of hatching eggs.
3.3 Signs of healthy and sick birds. General principles of poultry medication.
3.4 Vaccination schedule for broilers and layers, Biosecurity measures in a poultry farm.

Reference books:

- Poultry Science and Practice: A textbook, by Nilotpal Ghosh
- Handbook of Poultry Husbandry, by D.K. Singh and Ibne Ali.
- Textbook on Commercial Poultry Production and Hatchery Management, by M. Murugan.

NOTE FOR PAPER SETTERS

Mid Term Examination

The question paper will be of **25 marks**. There shall be **2 Sections** in the question paper with pattern as follows:
Section-A shall comprise of **4** short answer type questions covering the entire first Unit. The students have to attempt all the **4** questions from this section. Each question carries 2½ marks.
Section-B shall comprise of a total of **6** questions from Unit I. Each question shall be of **5 marks**. The students have to attempt any **3** questions.

EVALUATION OF SKILLS: *Final Examination*

The Evaluation of Skills will be internal. The Examination of Skills shall be of **50** marks. The evaluation of skills will be done internally through the Board of three Members (including the trainer of the Course).

COURSE SCHEME OF SYLLABUS

BACHELOR OF VETERINARY TECHNOLOGY
(GENERAL/HONOURS/HONOURS WITH RESEARCH)
FYUGP SEMESTER II
(As Per National Education Policy–2020)
(The Examinations to be held in the year May 2027, 2028 & 2029)

S.No	Course type	Course No.	Course Title	Credits	Marks				Total Marks
					Theory		Practical		
					Mid Semester	End Exam	Assessment	Exam	
1	Major	UMJVTT 201	Principles of Animal Nutrition and Feed Technology	4 (3T+1P)	15	60	10	15	100
2	Minor	UMIVTT 202	Livestock Nutrition and Feed Management	4 (3T+1P)	15	60	10	15	100
3	MDC	UMDVTT 203	Meat Sciences	3	15	60	NA	NA	75
4	SEC	**USEVTT 211**	Sheep and Goat Farming	**3 (1T+2P)**	**25**	**50**	**NA**		**75**

SYLLABUS AND COURSES OF STUDY IN

BACHELOR OF VETERINARY TECHNOLOGY FOR FYUGP
(AS PER NATIONAL EDUCATION POLICY–2020)
MAJOR COURSE
COURSE TITLE: PRINCIPLES OF ANIMAL NUTRITION AND FEED TECHNOLOGY
SEMESTER II
(The Examinations to be held in the year May 2027, 2028 & 2029)

Course No. UMJVTT201 **Max. Marks: 100 (Theory-75, Practical-25)**

	Credits	Contact Hours	Units	Examination			
				Duration	(hours)	Weightage	(Marks)
Theory	03	45	I to IV	1½	03	15	60
Practical	01	30	V	1½	3½	10	15

Objectives:

1. *Understand the fundamental principles of animal nutrition and feed technology*
2. *Acquire knowledge of feed formulation and rationing principles*
3. *Understand the importance of fodder conservation and feed additives*
4. *Apply principles of animal nutrition in practical situations*

Expected outcomes: Upon completing this course, students will be able to:

1 *Identify and describe different types of nutrients and their roles*
2 *Formulate and ration feeds for different animal species*
3 *Describe the importance of fodder conservation and feed additives*
4 *Apply principles of animal nutrition and feed management in practical situations*

UNIT–I: Introduction to Animal Nutrition

1.1. Meaning and scope of animal nutrition, role in animal health and production.
1.2. Classification of nutrients: Water, Carbohydrates, Proteins, Fats, Vitamins, Minerals - sources and functions, Water in animal nutrition: Functions, factors affecting requirement, quality parameters, nutrient and toxic elements in water.
1.3. Fat-soluble vitamins (A, D, E, K) and water-soluble vitamins (B-complex, C) - functions and deficiency symptoms.
1.4. Common minerals required by livestock - macro & micro minerals, functions, and deficiency effects. Importance of balanced feeding in livestock and poultry.

UNIT–II: Feed and Fodder Technology

2.1 Classification of feedstuffs: Roughages and concentrates; types and characteristics.
2.2 Roughages: Green fodders, dry roughages, crop residues -nutritive value, Concentrates: Energy feeds, protein feeds - plant and animal sources.
2.3 Special feed resources: Molasses, bypass protein, bypass fat, Urea feeding in ruminants – guidelines and precautions.
2.4 Factors influencing the nutritive value of feed, Unconventional feeds for livestock and poultry.

SYLLABUS AND COURSES OF STUDY IN

BACHELOR OF VETERINARY TECHNOLOGY FOR FYUGP
(AS PER NATIONAL EDUCATION POLICY–2020)
MAJOR COURSE
COURSE TITLE: PRINCIPLES OF ANIMAL NUTRITION AND FEED TECHNOLOGY
SEMESTER II
(The Examinations to be held in the year May 2027, 2028 & 2029)

Course No. UMJVTT201 **Max. Marks: 100 (Theory-75, Practical-25)**

UNIT-III: Feed Additives and Feed Formulation

3.1 Feed additives – definition, types, and uses (e.g., antibiotics, probiotics, prebiotics, enzymes, antioxidants, flavoring agents).
3.2 Advantages of using feed additives in animal production.
3.3 Basic principles of feed formulation - nutrient requirements, available resources, cost-effectiveness.
3.4 Rationing principles for different livestock categories (maintenance, growth, reproduction, lactation).

UNIT–IV: Applied Small Ruminant Nutrition

4.1 Nutrient requirements of sheep and goats at different physiological stages.
4.2 Feeding strategies for small ruminants under stall-fed and grazing systems.
4.3 Fodder conservation – meaning, importance, and methods; Silage making: Suitable crops, harvesting stage, principles, nutritive value, types of silage (very good, good, fair).
4.4 Hay making: Suitable crops, types (legume, non-legume, mixed), nutrient losses during hay making, and how to minimize them, Feeding during drought or scarcity conditions: use of complete feed blocks and silage.

UNIT V: PRACTICALS

5.1 Identification and classification of feeds and fodders
5.2 Demonstration of silage and hay-making techniques.
5.3 Identification of feed additives and their uses, Exercises in feed formulation and rationing for cattle, sheep, goats, and poultry.
5.4 Visit to local feed mill/fodder bank, Preparation of low-cost complete feed using local ingredients.

Reference Books:

1. Principles of Animal Nutrition and Feed Technology – D.V. Reddy
2. Animal Nutrition – McDonald, Edwards, and Greenhalgh
3. Feed and Nutrition – Church and Pond
4. Animal Feeding and Nutrition – Cullison
5. Livestock Feeds and Feeding – Church
6. Handbook of Animal Husbandry – ICAR
7. Practical Animal Nutrition – ICAR Publications

SYLLABUS AND COURSES OF STUDY IN

BACHELOR OF VETERINARY TECHNOLOGY FOR FYUGP
(AS PER NATIONAL EDUCATION POLICY–2020)
MAJOR COURSE
COURSE TITLE: PRINCIPLES OF ANIMAL NUTRITION AND FEED TECHNOLOGY
SEMESTER II
(The Examinations to be held in the year May 2027, 2028 & 2029)

Course No. UMJVTT201 **Max. Marks: 100 (Theory-75, Practical-25)**

NOTE FOR PAPER SETTERS:

Examination Theory/Practical	Syllabus to be covered in Examination	Time Allotted for Exam	Marks
Internal Theory Assessment (Mid semester)	50%	1 Hr and 30 Min	15
External Theory End Semester	100%	3 Hrs	60
Continuous Assessment (practical)	-	-	10 (Based on Daily Performance only)
Final Examination (Practical)	-	-	15

Explanation:
End Semester University Examination (Total Marks: 60; syllabus to be covered: 100%)
The question paper will have 2 sections. Section 'I' will be compulsory having four questions of 3 marks each and spread over the entire theory syllabus (one from each uniti.e., Units I to IV). The questions will be of short answer type having answers not exceeding 50 to 70 words. Section 'II' will have eight long answer type questions, two from each unit I to IV. Each question will be of 12 marks. The candidates will be required to answer one question from each unit.

Mid Semester Assessment Test (Total Marks: 15; syllabus to be covered: up to 50%)

Fifteen (15) marks for theory paper in a subject reserved for internal assessment shall have one long answer type question of 7 marks and four short answer type questions of 2 marks each.

SYLLABUS AND COURSES OF STUDY IN
BACHELOR OF VETERINARY TECHNOLOGY FOR FYUGP
(AS PER NATIONAL EDUCATION POLICY–2020)
MINOR COURSE
COURSE TITLE: LIVESTOCK NUTRITION AND FEED MANAGEMENT
SEMESTER II
(The Examinations to be held in the year May 2027, 2028 & 2029)

Course No. UMIVTT202 **Max. Marks: 100 (Theory-75, Practical-25)**

	Credits	Contact Hours	Units	Examination			
				Duration	(hours)	Weightage	(Marks)
Theory	03	45	I to IV	1½	03	15	60
Practical	01	30	V	1½	3½	10	15

Objectives:

1. *Understand the fundamental principles of animal nutrition and feed technology*
2. *Acquire knowledge of feed formulation and rationing principles*
3. *Understand the importance of fodder conservation and feed additives*
4. *Apply principles of animal nutrition in practical situations*

Expected outcomes: Upon completing this course, students will be able to:

1. *Identify and describe different types of nutrients and their roles*
2. *Formulate and ration feeds for different animal species*
3. *Describe the importance of fodder conservation and feed additives*
4. *Apply principles of animal nutrition and feed management in practical situations*

Unit–I: Introduction to Animal Nutrition

1.1 Meaning and scope of animal nutrition, role in animal health and production.

1.2 Classification of nutrients: Water, Carbohydrates, Proteins, Fats, Vitamins, Minerals - sources and functions, Water in animal nutrition: Functions, factors affecting requirement, quality parameters, nutrient and toxic elements in water.

1.3 Fat-soluble vitamins (A, D, E, K) and water-soluble vitamins (B-complex, C) - functions and deficiency symptoms.

1.4 Common minerals required by livestock - macro & micro minerals, functions, and deficiency effects. Importance of balanced feeding in livestock and poultry.

UNIT–II: Feed and Fodder Technology

2.1 Classification of feedstuffs: Roughages and concentrates; types and characteristics.

2.2 Roughages: Green fodders, dry roughages, crop residues -nutritive value, Concentrates: Energy feeds, protein feeds - plant and animal sources.

2.3 Special feed resources: Molasses, bypass protein, bypass fat, Urea feeding in ruminants – guidelines and precautions.

2.4 Factors influencing the nutritive value of feed, Unconventional feeds for livestock and poultry.

SYLLABUS AND COURSES OF STUDY IN
BACHELOR OF VETERINARY TECHNOLOGY FOR FYUGP
(AS PER NATIONAL EDUCATION POLICY–2020)
MINOR COURSE
COURSE TITLE: LIVESTOCK NUTRITION AND FEED MANAGEMENT
SEMESTER II
(The Examinations to be held in the year May 2027, 2028 & 2029)

Course No. UMIVTT202 **Max. Marks: 100 (Theory-75, Practical-25)**

UNIT-III: Feed Additives and Feed Formulation

3.1 Feed additives – definition, types, and uses (e.g., antibiotics, probiotics, prebiotics, enzymes, antioxidants, flavoring agents).
3.2 Advantages of using feed additives in animal production.
3.3 Basic principles of feed formulation - nutrient requirements, available resources, cost-effectiveness.
3.4 Rationing principles for different livestock categories (maintenance, growth, reproduction, lactation).

UNIT–IV: Applied Small Ruminant Nutrition

4.1 Nutrient requirements of sheep and goats at different physiological stages.
4.2 Feeding strategies for small ruminants under stall-fed and grazing systems.
4.3 Fodder conservation – meaning, importance, and methods; Silage making: Suitable crops, harvesting stage, principles, nutritive value, types of silage (very good, good, fair).
4.4 Hay making: Suitable crops, types (legume, non-legume, mixed), nutrient losses during hay making, and how to minimize them, Feeding during drought or scarcity conditions: use of complete feed blocks and silage.

UNIT V: PRACTICALS

5.! Identification and classification of feeds and fodders, Identification of feed additives and their uses.
5.2 Demonstration of silage and hay-making techniques.
5.3 Exercises in feed formulation and rationing for cattle, sheep, goats, and poultry, Preparation of low-cost complete feed using local ingredients.
5.4 Visit to local feed mill/fodder bank.

Reference Books:

1. Principles of Animal Nutrition and Feed Technology – D.V. Reddy
2. Animal Nutrition – McDonald, Edwards, and Greenhalgh
3. Feed and Nutrition – Church and Pond
4. Animal Feeding and Nutrition – Cullison
5. Livestock Feeds and Feeding – Church
6. Handbook of Animal Husbandry – ICAR
7. Practical Animal Nutrition – ICAR Publications

SYLLABUS AND COURSES OF STUDY IN
BACHELOR OF VETERINARY TECHNOLOGY FOR FYUGP
(AS PER NATIONAL EDUCATION POLICY–2020)
MINOR COURSE
COURSE TITLE: LIVESTOCK NUTRITION AND FEED MANAGEMENT
SEMESTER II
(The Examinations to be held in the year May 2027, 2028 & 2029)

Course No. UMIVTT202 **Max. Marks: 100 (Theory-75, Practical-25)**

NOTE FOR PAPER SETTERS

Examination Theory/Practical	Syllabus to be covered in Examination	Time Allotted for Exam	Marks
Internal Theory Assessment	50%	1 Hr and 30 Min	15
External Theory End Semester	100%	3 Hrs	60
Continuous Assessment	-	-	10 (Based on Daily Performance only)
Final Examination	-	-	15

External End Semester Theory Examination will have two sections (A & B) {Total marks 60}
Section A: Four short answer questions representing all units/syllabi i.e., one question from each unit. Each question shall be of 3 marks.
Section B: Eight long answer questions (Four to be attempted) representing whole of the syllabi i.e., two questions from each unit. Each question shall be of 12 marks.
Internal Assessment {Total marks 15}
Fifteen (15) marks for theory paper in a subject reserved for internal assessment shall have one long answer type question of 7 marks and four short answer type questions of 2 marks each.

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SYLLABUS AND COURSES OF STUDY IN
BACHELOR OF VETERINARY TECHNOLOGY FOR FYUGP
(AS PER NATIONAL EDUCATION POLICY–2020)
MULTIDISCIPLINARY COURSE
COURSE TITLE: MEAT SCIENCES
UG SEMESTER II
(The Examinations to be held in the year May 2027, 2028 & 2029)

Course No. UMDVTT203 **Max. Marks: Theory-75**

	Credits	Contact Hours	Units	Examination			
				Duration (Hours)		Weightage	
				Mid Sem	End Sem	Mid Sem	End Sem
Theory	03	45	I to IV	1½	03	15	60

Objectives: *The course provides an introduction to meat sciences pertaining to different sources, meat quality, meat preservation, hygiene and processing.*

Expected outcomes: *After successfully completing this course, the students will be able to understand the importance and scope of meat sciences, its scope, different sources of meat, structure and composition, slaughter house setup, humane slaughter practices. The course provides knowledge pertaining to meat quality by providing the various tests for its quality evaluation. Various meat preservation methods will also be taught which will help students to understand the concepts behind meat hygiene and preservation. This course will also provide knowledge for meat processing, quality assurance and waste management.*

UNIT-I Introduction to Meat and Slaughterhouse Practices

1.1 Definition, scope, and importance of meat science
1.2 Types and sources of meat: red meat, poultry, and game meat, Structure and composition of muscle
1.3 Slaughterhouse design and operations, Ante-mortem and post-mortem inspection
1.4 Animal welfare and humane slaughter practices

UNIT-II Post-Mortem Changes and Meat Quality

2.1 Biochemical changes post-slaughter: rigor mortis, aging, and pH decline
2.2 Factors affecting meat quality: breed, age, stress, nutrition
2.3 Meat color, water holding capacity, tenderness, flavor
2.4 Methods of meat quality evaluation, Meat grading systems

UNIT-III Meat Preservation and Hygiene

3.1 Principles of meat hygiene and sanitation
3.2 Spoilage of meat and shelf-life factors
3.3 Preservation methods: chilling, freezing, curing, smoking, dehydration, irradiation, Use of preservatives and packaging techniques
3.4 HACCP and food safety regulations in meat handling

SYLLABUS AND COURSES OF STUDY IN
BACHELOR OF VETERINARY TECHNOLOGY FOR FYUGP
(AS PER NATIONAL EDUCATION POLICY–2020)
MULTIDISCIPLINARY COURSE
COURSE TITLE: MEAT SCIENCES
UG SEMESTER II
(The Examinations to be held in the year May 2027, 2028 & 2029)

Course No. UMDVTT203 **Max. Marks: Theory-75**

UNIT-IV Meat Processing

4.1 Value-added meat products: sausages, nuggets, kebabs, canned meat
4.2 Functional ingredients in processed meat
4.3 Quality assurance, standards, and labeling
4.4 Waste management and by-product utilization in the meat industry

Reference Books:

1. Forest, J.C., and Aberle, E.D. – Meat Science (Adapted by Indian authors in Indian editions)
2. Savell, J.W. & Smith, G.C. (Indian Reprint) – The Science of Meat and Meat Products
3. Tantia, M.S. – Meat and Abattoir Practices
4. Amlan K. Patra – Meat Science and Technology
5. R.K. Sharma – Principles and Practices of Meat Technology
6. R.G. Valarmathi & K. Santhi – Meat Science and Technology
7. S.K. Mendiratta & A.S.R. Anjaneyulu – Meat Science (IVRI publication contributions)
8. Kondaiah, N. – Modern Abattoir Practices and Animal Byproducts Technology (IVRI)
9. Banerjee, G.C. – A Textbook of Animal Husbandry
10. V.K. Pal – Livestock Products Technology (Meat Technology)

NOTE FOR PAPER SETTERs

Examination Theory/Practical	Syllabus to be covered in Examination	Time Allotted for Exam	Marks
Internal Theory Assessment	50%	1 Hr and 30 Min	15
External Theory End Semester	100%	3 Hrs	60

External End Semester Theory Examination will have two sections (A & B) {Total marks 60}
Section A: Four short answer questions representing all units/syllabi i.e., one question from each unit. Each question shall be of 3 marks.
Section B: Eight long answer questions (Four to be attempted) representing whole of the syllabi i.e., two questions from each unit. Each question shall be of 12 marks.
Internal Assessment {Total marks 15}
Fifteen (15) marks for theory paper in a subject reserved for internal assessment shall have one long answer type question of 7 marks and four short answer type questions of 2 marks each.

SYLLABUS AND COURSES OF STUDY IN

BACHELOR OF VETERINARY TECHNOLOGY FOR FYUGP
(AS PER NATIONAL EDUCATION POLICY–2020)
SKILL ENHANCEMENT COURSE
COURSE TITLE: SHEEP AND GOAT FARMING
UG SEMESTER II
The Examinations to be held in the year May 2027, 2028 & 2029

Course No. USEVTT211 **Max. Marks: 75 (Theory-25, Practical-50)**

	Credits	Contact Hours	Units	Examination		
				Duration (hours)		Weightage (Marks)
				Mid Term Examination	Final Examination	
Theory	01	15	I	1½	-	25
Practical	02	60	II to III	-	3	50

Objectives: To impart basic scientific knowledge of Sheep and Goat Farming and to get acquainted with small ruminant farm operations.

Expected outcomes: After successful completion of the course, the students will get technical know-how about sheep and goat farming. Improvement in practical skill of sheep and goat management on scientific lines. Employment and income generation.

UNIT-I Introduction to Sheep Farming

1.1 Sheep Farming: Definition, status, and scope with focus on J & K.
1.2 Local Breeds of Sheep: Kashmir Merino, Gurez, Poonchi.
1.3 Commonly used terminology viz Ram, Ewe, lamb, wether, flock, crutching, tupping & docking, and economic traits of Sheep.
1.4 Advantages and Constraints of Sheep Farming.

UNIT-II PRACTICAL (Introduction to Goat Farming)

2.1 Goat Farming: Definition, status, and scope with focus on J & K.
2.2 Breeds of Goat: Changthangi, Bakerwali.
2.3 Advantages and Constraints of Goat Farming.
2.4 Commonly Used terminology viz: Buck, doe, kid, kidding, doeling, & buckling. Comparative advantages of sheep vs goat farming.

UNIT-III PRACTICAL (Farming Practices in Sheep and Goat Farm)

3.1 Common farming practices: De-worming, tagging, dipping, and shearing.
3.2 Identification and care of pregnant ewe and doe.
3.3 Care of newborn lamb and kid, Care of lactating ewe and doe.
3.4 Basis of Culling and Castration, Feeding of sheep and goat: A scientific approach.

SYLLABUS AND COURSES OF STUDY IN

BACHELOR OF VETERINARY TECHNOLOGY FOR FYUGP
(AS PER NATIONAL EDUCATION POLICY–2020)
SKILL ENHANCEMENT COURSE
COURSE TITLE: SHEEP AND GOAT FARMING
UG SEMESTER II
The Examinations to be held in the year May 2027, 2028 & 2029

Course No. USEVTT211 **Max. Marks: 75 (Theory-25, Practical-50)**

Reference Books:

1. Banerjee, G.C. – A Textbook of Animal Husbandry.
2. ICAR Manuals on Goat and Sheep Production.
3. Kumar, S. – Goat Farming in India.
4. Pampori ZA. 2020. Profitable Sheep And Goat Farming.
5. Recent publications by SKUAST-J (Sher-e-Kashmir University of Agricultural Sciences and Technology – Jammu).
6. Principles of Animal Nutrition and Feed Technology by D V Reddy.
7. Animal Nutrition by McDonald, Edwards, and Greenhalgh.
8. Feed and Nutrition by Church and Pond.
9. Animal Feeding and Nutrition by Cullison.

NOTE FOR PAPER SETTERS

Mid Term Examination

The question paper will be of **25 marks**. There shall be **2 Sections** in the question paper with pattern as follows:

Section-A shall comprise of **4** short answer type questions covering the entire first Unit. The students have to attempt all the **4** questions from this section. Each question carries 2½ marks.

Section-B shall comprise of a total of **6** questions from Unit I. Each question shall be of **5 marks**. The students have to attempt any **3** questions.

EVALUATION OF SKILLS: ***Final Examination***

The Evaluation of Skills will be internal. The Examination of Skills shall be of **50** marks. The evaluation of skills will be done internally through the Board of three Members (including the trainer of the Course).

Note: Errors and omissions accepted, please. May immediately report to the Academic Section of the University of Jammu