



ANDHRA PRADESH STATE COUNCIL OF HIGHER EDUCATION

Model syllabus for 4- Year UG Honours in B.vocational (Dairy and Animal Husbandry) as Major in consonance with curriculum framework w.e.f.AY2025-26

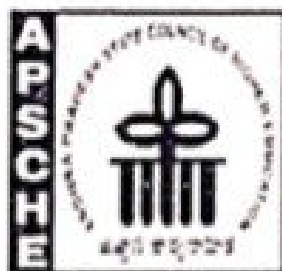
COURSE STRUCTURE (FOR SEMESTER I to VIII)

Year	Semester	Course	Title of the course	No. of hrs/ week	No. of credits		
I	I	1	Dairy Husbandry management production and dairy design & dairy development (Theory)	3	3		
			Dairy Husbandry management production and dairy design & dairy development (Practical)	2	1		
		2	Indian milk dairy products (Theory)	3	3		
			Indian milk dairy products (practical)	2	1		
	II	3	Bio-chemistry and physical chemistry of milk (theory)	3	3		
			Bio-chemistry and physical chemistry of milk (Practical)	2	1		
		4	Dairy plant management (theory)	3	3		
			Dairy plant management (Practical)	2	1		
		II	III	5	Milk and milk products Technology (theory)	3	3
					Milk and milk products Technology (practical)	2	1
6	Basic of animal nutrition(theory)			3	3		
	Basic of animal nutrition (practical)			2	1		
7	Fodder production and conservation(theory)			3	3		
	Fodder production and conservation (practical)			2	1		
IV	8		Veterinary physiology (theory)	3	3		
			Veterinary physiology (practical)	2	1		
	9		Laboratory Diagnostic & Techniques (theory)	3	3		
			Laboratory Diagnostic & Techniques (practical)	2	1		
10	Veterinary Gynacology & AI(Artificial insimination)(theory)	3	3				
	Veterinary Gynacology & AI (Artificial insimination) (practical)	2	1				

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III	V	II	Veterinary pharmacology (theory)	3	3	
			Veterinary pharmacology (practical)	2	1	
		12	Meat production and meat abattoir management(theory)	3	3	
			Meat production and meat abattoir management (practical)	2	1	
		13	Veterinary immunology & Vaccinations (Theory)	3	3	
			Veterinary immunology & Vaccinations (practical)	2	1	
	VI	14	Basics of Veterinary surgery (Theory)	3	3	
			Basics of Veterinary surgery (Practical)	2	1	
		15	Poultry farm management and production (theory)	3	3	
			Poultry farm management and production (practical)	2	1	
	IV	VII	16	Basics of veterinary anatomy(theory)	3	3
				Basics of veterinary anatomy (practical)	2	1
17			Dairy farm general management (theory)	3	3	
			Dairy farm general management (practical)	2	1	
18			Cattle feed mixing plant (theory)	3	3	
			Cattle feed mixing plant (practical)	2	1	
19			Animal genetics and breeding (theory)	3	3	
			Animal genetics and breeding (practical)	2	1	
20			Fundamental of veterinary medicine (theory)	3	3	
			Fundamental of veterinary medicine (practical)	2	1	
VIII			21	Milk production management Dairy plant Design and Dairy development (theory)	3	3
				Milk production management Dairy plant design and Dairy development (practical)	2	1
		22	Animal birth control programme (theory)	3	3	
			Animal birth control programme (practical)	2	1	
		23	Principles of Dairy chemistry and Dairy microbiology (theory)	3	3	
			Principles of Dairy chemistry and Dairy microbiology(practical)	2	1	
		24	Livestock production and management (theory)	3	3	
			Live stock production and management (practical)	2	1	
		25	Dairy economic and marketing (theory)	3	3	
			Dairy economic and marketing (practical)	2	1	



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COURSE STRUCTURE (FOR SEMESTER I to VIII)

Year	Semester	Course	Title of the course	No. of hrs/ week	No. of credits
I	I	1	Dairy Husbandry management production and dairy design & dairy development (Theory)	3	3
			Dairy Husbandry management production and dairy design & dairy development (Practical)	2	1
		2	Indian milk dairy products (Theory)	3	3
			Indian milk dairy products (practical)	2	1

SEMESTER-I
COURSE I : DAIRY HUSBANDRY MANAGEMENT AND PRODUCTION AND DAIRY DESIGN & Dairy Development

Theory **Credits-3** **3hrs /week**

Learning outcomes :

After completion the course student is able to

- Understand establishment of dairy farm
- Various types of dairy animal breeders, breeding techniques
- Various types of feeds, and know about diseases in dairy animals

Unit-I

9 hrs

Introduction to Dairy farm and Advantages of Dairy, Past and present status of production in dairy farm development in national level, Economic traits of dairy cattle, Sheep and Goats, Methods of selection of dairy animals, Classification of dairy animals such as Indigenous, Exotic, Cross breeds (Indian cattle and Buffalo breeds).

Unit-II

9 hrs

Definition, Characteristics and Types of breeding, Process of breeding, Artificial Insemination, Embryo transfer techniques, Housing of dairy animals and systems of housing, Cleaning and Sanitation of dairy farm, Care and management of Calf, Heifer, Milk /dairy animals and pregnant, Bull and Bullocks animals, Parturition/ Calving, Castration, Weaving, dehorning and deworming.

Unit-III

9 hrs

Digestion of ruminants, Nutrient requirements of dairy animals feed, Definition and benefits of Fodder and forage to dairy animals, Harvesting techniques, Feed additives, Pro biotic s, Common feed stuffs. And water requirements to dairy animals.

Unit-IV

9 hrs

Diseases to dairy animals: Mastitis - Common contagious diseases – Foot and Mouth disease, Anthrax – Black quarter – Tuberculosis – John's disease – Brucellosis – Rabies. Health Care management such as sick, indigestion, Respiration problem, bloat diseases and Vaccination programme and to be maintained record.

Unit-V

9 hrs

Significance of dairy business, Construction of Vermi - composting, Government schemes for development of dairy, Cooperative societies, Good management practices for dairy industry, Proposal of bank loan for establishment of Dairy farm

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SEMESTER -1

**COURSE 1 : DAIRY HUSBANDRY MANAGEMENT PRODUCTION and DAIRY
DESIGN & DAIRY DEVELOPMENT**

Practical **credits-1** **2hrs /week**

1. External Anatomy of cow/bullock/bull/calf
2. Internal Anatomy of cow/bullock/bull/calf
3. Diagram of male and female reproductive system of cow/bull
4. Study various types of breeds of dairy animals (photographs/models)
5. Identification of diseases causing microbes in dairy animals
6. Process of castration
7. Process of dehorning
8. Preparation of vermi compost
9. Design of a Dairy farm
*Submission of Field note book (Visited to veterinary hospital/university/dairy farm)

Scheme of valuation

1. Draw a neat diagram of digestive system of any cow /bull-----10 marks

OR

Preparation of vermi compost

2. Draw a neat diagram of male/female Reproductive system of any cow/bull -----10 marks
3. Identify the any three (A,B,and C) of breeds of dairy animals (diagram /model/ photograph)-
4. Identify the following D and E related diseases in the dairy animals (photograph/model/Diagram)

2x3=6marks

5. Field note book

05marks

6. Certified record

10 marks

MODEL QUESTION PAPER

Course B.voc Dairy & animal husbandry

DAIRY HUSBANDRY MANAGEMENT PRODUCTION AND DAIRY DESIGN & DAIRY DEVELOPMENT

Time: 3 hours

Marks: 75

SECTION – A

(5x3=15)

Answer any FIVE Question carries FIVE Marks, (Draw a labeled diagram wherever necessary)

1. Embryo transfer
2. Artificial Insemination.
3. Characteristics of breeding dairy animal
4. Castration
5. Benefits of fodder
6. Significance of Dairy Business
7. Government scheme for development of dairy
8. Foot and Mouth disease to dairy animals

SECTION-B

Answers any FIVE Questions, carries TEN marks(5x12=60)

- 9 .a) Write an easy on Indian Dairy animals
(Or)
b) Explain the present status of dairy farm
- 10.a) Care and management of dairy animals, Explain
(Or)
b) Design and construction of Dairy housing system
- 11.a) Explain the digestive system of Ruminants
(Or)
b) Write about an easy on harvesting techniques
- 12.a) Write an easy on common diseases in dairy animals
(Or)
b) Write an easy on vaccine program
- 13.a) How to prepare for project report of establishment of dairy farm for apply of bank loan
(Or)
b) Explain the good management practice for dairy industry

SEMESTER-1
COURSE II:- INDIAN MILK DAIRY PRODUCTS

Theory **credits-3** **3hrs/week**

Learning outcome:

After completion of course, student is able to

1. Understand about composition of milk, clean milk production, and organic milk production,
2. Advantages of milk products,
3. Acquire knowledge on various methods of milking and sanitation and to provide hands on experience.

UNIT- I

9 hrs

Composition of cow, buffalo, goat, sheep and Human milk and physical and properties of milk., and white revolution, production and consumption of milk, and Differences between colostrums and Normal Milk .

UNIT- II

9 hrs

Animal Hygiene – Milker’s hygiene – Production of clean milk and organic milk –Methods of milking – milk handling –Cleaning and disinfection of dairy farm and milk room and defenation and advantages of Homogenization, Standardization of milk and packing of milk .

UNIT-III

9 hrs

Market milk industry in India, milk collection systems and pricing policies clean milk production practice, fixing of price for milk buying of milk –methods of milk payment, organization of raw milk transport, problems and transportation of milk, milk cooling and chilling centers, platform tests, chilling, preheating, filtration, clarification, storage

UNIT –IV

9 hrs

Types of microorganisms present in the milk, milk borne diseases such as Bacterial, Virus, and other diseases., pasteurization (Definition) and sterilization of milk.

Market milk such as Toned, doubled toned, standardization and full cream milk –Standards and

UNIT –V

9 hrs

Methods and manufactures of Ice-creams, method of manufactures of indigenous milk products such as Cheese, Curd, Paneer, Khoa, Chenna , Ghee and Butter .

SEMESTER-I

COURSE 2: INDIAN MILK DAIRY PRODUCTS

Practical credits -1 2hrs/week

1. Estimation of Fat in milk
2. Estimation of PH in milk.
3. Microscopic observation of milk
4. Cream separation from Milk
5. Preparation of butter
6. Preparation of milk products such as ghee, Khoa, Kulfi, Butter, Paneer , Cheese, and Dahi.
7. Visit to Milk dairy
8. Preparation of milk powder
 - * Observation of dried and concentrated milk, Microscopic observation, preparation of milk products and Packing, etc.,
 - * Field note book should submit at the time of practical examination

Scheme of valuation (50 marks)

1. Estimation of fat	7 Marks
OR	
Estimation of PH in milk	
2. Microscopic observation of milk	07 marks
3. Preparation of Milk powder	07 Marks
4. Separation of cream	07 marks
5. Separation of cream from milk	07 Marks
6. Field note book	05 Marks
7. Certified record	10 marks

References (Paper-I and II)

1. Jagadish Prasad, 2002. Principles and practices of Dairy Farm Management. Kalyani Publishers, Ludhiana.
2. ICAR, 2013. Hand book of Animal Husbandry, New Delhi
3. Ranjhan, S.K., and N.N. Pathak, 2003. Text book on buffalo production, Vikas Publishing House Pvt. Ltd., New Delhi
4. Sastry, N.S.R., C.K. Thomas and R. A. Singh, 2015. Livestock Production Management, Kalyani Publishers, New Delhi
5. Banerjee, G.C., 2006. Text book of Animal Husbandry New Delhi.
6. Balasubramani, P and S. P. Palaniappan, 2002. Principles and Practices of Agronomy. Agro bios (India), Jodhpur
7. Chatterjee, B.N and P. K. Das, 1989. Forage crop production – Principles and practices, Oxford and IBH, Publishing Co. Pvt. Ltd. , New Delhi.
8. ICAR, 1996. Hand book of Agriculture. Indian Council of Agricultural Research, New Delhi
9. Dairy Microbiology –R K Robinson
10. Milk products preparation and quality control -C P Ananthakrishnan
11. Food Microbiology -W C Frazier
12. Outlines of Dairy Technology - Sukumar De
13. Modern Dairy products -Lincoln M Lampert
14. Milk and milk products – Eckles , combs ,Harold macy
15. Dairy management in india – madhanmoham

MODEL QUESTION PAPER

Course B voc Dairy & animal husbandry

INDIAN MILK DAIRY PRODUCTS

Time: 3 hours

Marks: 75

PART – A

Answers any five of the following question .Each question carries equal marks (5x3=15)

1. Composition of cattle milk
2. White revolution .
3. Methods of milking
4. Disinfection of dairy farm
5. Market milk in india .
6. Milk cooling and chilling centers .
7. Types of microorganisms in milk
8. Pasteurization
9. Composition and classification of cream s
10. Paneer production .

SECTION-B

Answers all question .Each question carries equal marks .

(5x10=50)

11.a) write about physical and chemical properties of milk .
(Or)

b) Elaborate on the different between colostrums and normal milk

12) a) Describe homogenization process and its signification in dairy industry .
(Or)

b)write about organic milk methods of milking ,milk handling .

13.) a) Discuss the methods of milk payment and the organization of raw milk transport .
(or)

b) Given an account on feature of milk collection systems and pricing policies in market milk industry in india .

14.)a)Explain in detail about the different milk born e diseases and their prevention .
(or)

b) write a detailed account on different variants of market milk

15.)a) Describe the methods used in manufacture of ice –creams.
(or)

b)Discuss briefly the steps involed in production of cheese.