Semester - I

Subject: IA01SDA - Statistics in Dairying

Subject code	**IA01SDA**	Subject Name	**STATISTICS IN DAIRYING**

Course Objective:

1. Students will learn fundamentals of statistics.
2. Students will learn data collection, analysis & presentation
3. Students will learn regarding scientific experiments.

Learning Outcome: Students will learn:

CO-1: Students will be able to carry data collection for scientific survey work like Visualization of data: Collection, Organization and presentation of data, Various methods of data collection, Tabulation, charts & graphs and Data collection in livestock industry.

CO-2: Students will be able to calculate various statistics in dairying viz. Measure of central tendency & dispersion: Mean, Median, Mode, Geometric mean, Range, Dispersion, Variance, Standard deviation, Skewness & Kurtosis, Various Distributions, Correlation and Regression and test of hypothesis of various livestock data.

CO-3: Students will get skill to solve statistical problem by Computer application by use of spread sheet for various statistical functions and preparation of various graphs for data presentation.

PO-CO Mappings

Mapping Values to be used	None/0	Slight/1	Moderate/2	Substantial/3

Note: InPods allows you to use any number of mapping levels.

		Program Outcomes (PO)						
		PO -1	PO -2	PO -3	PO -4	PO -5	PO -6	PO -7
IA01SDA	**IA01SDA** - CO 1	2	2	1	1	1	1	1
	IA01SDA - CO 2	3	3	1	1	1	1	2
	IA01SDA - CO 3	2	3	1	1	1	1	2

Subject: IA02MFB - Management of Feeding for Bovine

Subject code	**IA02MFB**	Subject Name	**MANAGEMENT OF FEEDING FOR BOVINE**

Course Objective:

1. To develop understanding about different types of feed and fodder and their nutrient values.
2. To understand nutrient requirement of bovine in various stages of life like growth, pregnancy, lactation and dry period.
3. To understand various feed technology.

Learning Outcome: Students will learn

CO-1: Identification of locally available feed and fodder and calculate their nutrient values. Calculation of daily nutrient requirement for body maintenance and milk production.

CO-2: Computation of ration (Ration balancing) for various stages of life in cattle and buffalo. List cost ration preparation at field level from available feed sources.

CO-3: Bypass feed technologies like Fat, Protein, starch, Chelated minerals etc., Feed additives, enzymes, processing of feeds (Physical, chemical and biological methods),Total Mixed Ration preparation and its importance. Use of unconventional feeds, Hay and silage making.

PO-CO Mappings

Mapping Values to be used	None/0	Slight/1	Moderate/2	Substantial/3

Note: InPods allows you to use any number of mapping levels.

		Program Outcomes (PO)						
		PO -1	PO -2	PO -3	PO -4	PO -5	PO -6	PO -7
IA02MFB	**IA02MFB** - CO 1	3	3	2	2	1	1	1
	IA02MFB - CO 2	3	3	1	1	1	1	2
	IA02MFB - CO 3	2	3	1	1	1	1	3

Subject: IA03BPM - Bovine Production Management

Subject code	**IA03BPM**	Subject Name	**BOVINE PRODUCTION MANAGEMENT**

Course Objective:

1. To understand the basic aspect of dairying in India compared with developed countries, problems and prospects of Dairying.
2. To develop the knowledge of the different breed of cattle and buffaloes and its characteristics.
3. To understand the detailed aspect of care and management of different classes of dairy cattle and buffaloes.

Learning Outcome: Students will learn

CO-1: Good understanding of the importance of different Bovine breed and its characteristics.

CO-2: Scientifically management practices for Commercial dairy farming.

CO-3: Management of cattle in various physiological stages, Management of Cattle shelter and Importance of environmental hygiene in bovine health and its production

PO-CO Mappings

Mapping Values to be used	None/0	Slight/1	Moderate/2	Substantial/3

Note: InPods allows you to use any number of mapping levels.

		Program Outcomes (PO)						
		PO -1	PO -2	PO -3	PO -4	PO -5	PO -6	PO -7
IA03BPM	**IA03BPM** - CO 1	2	2	1	1	1	1	1
	IA03BPM - CO 2	2	2	1	1	1	1	2
	IA03BPM - CO 3	3	3	1	1	1	1	2

Subject: IA04DCM - Dairy Cooperative Management

Subject code	**IA04DCM**	Subject Name	**DAIRY COOPERATIVE MANAGEMENT**

Course Objective:

1. Students will learn about the nature, function and various theories of cooperation, management and leadership.
2. Student will learn about the Amul Model-Three tier Dairy Cooperative network and its importance in present era.
3. Student will get knowledge regarding Legislation of cooperatives including registration of society, bylaws, Audit and liquidation

Learning Outcome: Students will learn

CO-1: Students will be able to register the new cooperative society as per the legislation of cooperatives and bylaws

CO-2: Students will efficiently manage the dairy cooperative society by using management and leadership skill.

CO-3: Students will understand about the function and importance of different cooperative societies.

PO-CO Mappings

Mapping Values to be used	None/0	Slight/1	Moderate/2	Substantial/3

Note: InPods allows you to use any number of mapping levels.

		Program Outcomes (PO)						
		PO -1	PO -2	PO -3	PO -4	PO -5	PO -6	PO -7
IA04DCM	**IA04DCM** - CO 1	2	2	1	1	1	1	3
	IA04DCM - CO 2	2	2	3	3	1	1	2
	IA04DCM - CO 3	3	3	1	1	1	1	2

Subject: IA05EMD - Economics and Marketing in Dairying

Subject code	**IA05EMD**	Subject Name	**ECONOMICS AND MARKETING IN DAIRYING**

Course Objective:

1. To learn basic aspects of economics as applicable to livestock business.
2. To learn basic aspects Livestock marketing
3. To learn the Principles of Management as applicable to livestock business

Learning Outcome: Students will learn

CO-1: Scope of economic principles as applied to dairy, Important features of land, labour, capital and organization, Livestock products and their contributions to national economy

CO-2: Economics of animal disease and disease losses

CO-3: Livestock business and its Concepts-Nature and scope

PO-CO Mappings

Mapping Values to be used	None/0	Slight/1	Moderate/2	Substantial/3

Note: InPods allows you to use any number of mapping levels.

		Program Outcomes (PO)						
		PO -1	PO -2	PO -3	PO -4	PO -5	PO -6	PO -7
IA05EMD	**IA05EMD** - CO 1	2	2	1	1	1	1	1
	IA05EMD - CO 2	2	2	1	1	1	1	2
	IA05EMD - CO 3	2	2	1	1	1	1	3

Subject: IA06ECO - English Communication

Subject code	**IA06ECO**	Subject Name	**English Communication**

Course Objective:

1. To acquaint and familiarize the students with the various aspects of English communication
2. To improve and refresh the knowledge in English grammar
3. To develop prolificacy in written communication in English

Learning Outcome: Students will learn

CO-1: Importance of various aspects of Oral Communication like importance of body language, importance of culture and culture conditioning, how to address in formal meetings and Importance of face expression.

CO-2: Tenses their types and usage, use of articles, vowels and consonants. Intonation and its usage with correct usage. Pronunciation of similar sounding words.

CO-3: Ability in written communication of different forms such as paragraph, report, business letters and E-Mail messages, References and bibliographies

PO-CO Mappings

Mapping Values to be used	None/0	Slight/1	Moderate/2	Substantial/3

Note: InPods allows you to use any number of mapping levels.

		Program Outcomes (PO)						
		PO -1	PO -2	PO -3	PO -4	PO -5	PO -6	PO -7
IA06ECO	**IA06ECO** - CO 1	2	2	1	1	3	2	1
	IA06ECO - CO 2	2	2	1	1	3	1	2
	IA06ECO - CO 3	2	2	1	1	3	1	1

Semester - II

Subject: IIA01BBM - Bovine Breeding Management

Subject code	**IIA01BBM**	Subject Name	**BOVINE BREEDING MANAGEMENT**

Course Objective:

1. Students will learn bases of cattle breeding & various methods of breeding.
2. Student will learn various methods of performance record standardization.
3. Students will learn regarding various breeding improvement program.

Learning Outcome: Students will learn:

CO-1: Students will be able to implement state breeding policy at field level in village viz. CRS, ICDP and Progeny Testing Program: Field v/s Stationed, Buffalo PT Program in Mehsana Breed and other Gujarat State Breeding Policies.

CO-2: Students will understand the importance and standardization of accurate performance recordings for various economic traits in cattle and buffalo like Correction for Fat, Age, Lactation Length and Frequency of milking.

CO-3: Students will participate in field progeny testing program for crossbred cattle and Mehsana buffalo breed.

PO-CO Mappings

Mapping Values to be used	None/0	Slight/1	Moderate/2	Substantial/3

Note: InPods allows you to use any number of mapping levels.

		Program Outcomes (PO)						
		PO -1	PO -2	PO -3	PO -4	PO -5	PO -6	PO -7
IIA01BBM	**IIA01BBM** - CO 1	2	2	1	1	1	1	1
	IIA01BBM - CO 2	2	2	1	1	1	1	1
	IIA01BBM - CO 3	2	2	1	1	1	1	1

Subject: IIA02BFM - Bovine Fertility Management

Subject code	**IIA02BFM**	Subject Name	**BOVINE FERTILITY MANAGEMENT**

Course Objective:

1. Students will learn fundamentals of fertility &AI technology.
2. Students will learn various aspects of fertility management.
3. Students will learn various methods of controlled breeding technology

Learning Outcome: Students will learn

CO-1: about male & female animal reproductive system and its function and also manage cattle herd

fertility.
CO-2: about Artificial Insemination and its importance in animal breeding & also manage AI centre in village.
CO-3: about how to guide farmers for A calf A Year Program and make dairy business profitable.

PO-CO Mappings

Mapping Values to be used	None/0	Slight/1	Moderate/2	Substantial/3

Note: InPods allows you to use any number of mapping levels.

		Program Outcomes (PO)						
		PO -1	PO -2	PO -3	PO -4	PO -5	PO -6	PO -7
IIA02BFM	**IIA02BFM** - CO 1	2	2	1	1	1	1	1
	IIA02BFM - CO 2	2	2	1	1	1	1	3
	IIA02BFM - CO 3	2	2	1	1	1	1	2

Subject: IIA03CAA - Cooperative Accounting & Auditing

Subject code	IIA03CAA	Subject Name	**COOPERATIVE ACCOUNTING & AUDITING**

Course Objective:

1. To develop understanding about various aspect of cooperative accounting and its advantages and disadvantages.
2. To understand difference between - Financial Accounting vs. Cost accounting, Financial Accounting vs. Management Accounting. And book and record keeping
3. To understand various aspect of cooperative Auditing and its advantages and disadvantages.

Learning Outcome: Students will learn

CO-1: Accounting of village dairy cooperative society. Book and register maintain, day book and subsidiary day book, cash book preparation.

CO-2: Types of accounting and its advantages and disadvantages. Milk bills, balance sheet, Annual account registers, credit-debit transactions, depreciations.

CO-3: Auditing at village dairy cooperative society. Audit planning, Verification and Valuation of Assets & Liabilities. Importance and requirement of audits in cooperative milk society,

PO-CO Mappings

Mapping Values to be used	None/0	Slight/1	Moderate/2	Substantial/3

Note: InPods allows you to use any number of mapping levels.

		Program Outcomes (PO)						
		PO -1	PO -2	PO -3	PO -4	PO -5	PO -6	PO -7
IIA03CAA	IIA03CAA - CO 1	2	2	1	1	1	1	1
	IIA03CAA - CO 2	2	2	1	1	1	1	1
	IIA03CAA - CO 3	2	2	1	1	1	1	1

Subject: IIA04DES - Dairy Extension Services

Subject code	**IIA04DES**	Subject Name	**DAIRY EXTENSION SERVICE**

Course Objective:

1. Students will learn about the fundamentals of extension and use and implementation of various Extension teaching methods
2. Students will learn about Program Planning, diffusion and adoption of innovation in dairy extension
3. Students will learn about constraints in adoption of scientific dairy farming and Application of ICT in dairy sector.

Learning Outcome: Students will learn

CO-1: By the end of this course, the student will have a good understanding regarding the dairy development programmes running by government as well as by dairy cooperatives and will understand to use of Audio visual Aids as per the condition

CO-2: Students will able to find out constrains and overcome measures in scientific dairy farming

CO-3: Students will able to work on INAPH, AMUl.Org Software for data entry about Artificial Insemination.

PO-CO Mappings								
Mapping Values to be used		None/0	Slight/1	Moderate/2	Substantial/3			
Note: InPods allows you to use any number of mapping levels.								
		Program Outcomes (PO)						
		PO -1	PO -2	PO -3	PO -4	PO -5	PO -6	PO -7
IIA04DES	**IIA04DES** - CO 1	2	2	1	1	1	1	2
	IIA04DES - CO 2	2	2	1	1	1	1	1
	IIA04DES - CO 3	2	2	1	1	1	1	1

Subject: IIA05DFM - Dairy Farm Management

Subject code	**IIA05DFM**	Subject Name	**DAIRY FARM MANAGEMENT**

Course Objective:

1. To develop understanding about basic concept of economic principles applicable to dairy business.
2. To understand budget estimate for starting dairy farm, different type of cost on farm.
3. To understand different type of management and technology use in the dairy farm.

Learning Outcome: Students will learn

CO-1: Basic principle of the dairy economics. The Principle of Diminishing Return, Resource substitution, Opportunity costs, Enterprise combination, Cost Principles, Principles of comparative advantages, Time Principle, Cost compounding & Discounting; Dairy Enterprise Planning & Budgeting.

CO-2: Students will aware about selection of location, financial resources and managemental aspect for dairy farming. Cost of Establishment of dairy farm(Fixed cost, Variable Cost& Miscellaneous cost)

CO-3: They will also get knowledge about adoption of advance technology and its importance in dairy farm. Various type of technology adopted by dairy farms like Artificial insemination, Milking machine, chaff cutter, milk parlour, use of Fogger on animal house and fodder crops, tractors, silage making, Total Mixed Ration.

PO-CO Mappings								
Mapping Values to be used		None/0	Slight/1	Moderate/2	Substantial/3			
Note: InPods allows you to use any number of mapping levels.								
		Program Outcomes (PO)						

		PO -1	PO -2	PO -3	PO -4	PO -5	PO -6	PO -7
	IIA05DFM - CO 1	2	3	1	1	1	1	1
	IIA05DFM - CO 2	2	3	1	1	1	1	1
IIA05DFM	**IIA05DFM** - CO 3	2	2	1	1	1	1	1

Subject: IIA06HHM - Herd Health Management

Subject code	**IIA06HHM**	Subject Name	**HERD HEALTH MANAGEMENT**

Course Objective:

1. To understand the significance of dairy herd health management to optimize dairy production.
2. To learn the methods of diseases prevention & control in dairy animals.
3. To understand economics of various diseases.

Learning Outcome: Students will learn

CO-1: How to implement various strategies for disease prevention & control including Vaccination, Mass deworming, Ecto-parasite control

CO-2: Various methods of Diagnosis of mastitis and Mastitis control programs at the herd level as per preventive calendar.

CO-3: How to aware milk producers for implementing herd health management program.

PO-CO Mappings

Mapping Values to be used	None/0	Slight/1	Moderate/2	Substantial/3

Note: InPods allows you to use any number of mapping levels.

		Program Outcomes (PO)						
		PO -1	PO -2	PO -3	PO -4	PO -5	PO -6	PO -7
	IIA06HHM - CO 1	2	3	1	1	1	1	1
	IIA06HHM - CO 2	2	3	1	1	1	1	2
IIA06HHM	**IIA06HHM** - CO 3	2	2	1	1	2	1	1

Semester - III

Subject: IIIA01FPT - FIELD PROJECT AND TRAINING

Subject code	**IIIA01FPT**	Subject Name	**FIELD PROJECT AND TRAINING**

Course Objective:

1. To be trained for Artificial Insemination (A.I.), application of newer breeding technologies, scientific feeding to different classes of dairy animals
2. To learn preventive health management in commercial dairy farming including mastitis control
3. To learn how to run the Village Dairy Coop. Society (VDCS)

Learning Outcome: Students will learn

CO-1: Artificial Insemination and current breeding technologies to enhance the productivity of animal.

CO-2: Student will be able to perform all the operations of VDCS.

CO-3: How to adopt scientific farm practices and animal health management at the dairy farm level and compare the results of this with traditional farm practices at rural or village farm level.

PO-CO Mappings

Mapping Values to be used	None/0	Slight/1	Moderate/2	Substantial/3

Note: InPods allows you to use any number of mapping levels.

		Program Outcomes (PO)						
		PO -1	PO -2	PO -3	PO -4	PO -5	PO -6	PO -7
IIIA01FPT	**IIIA01FPT** - CO 1	3	3	2	3	1	1	3
	IIIA01FPT - CO 2	3	3	2	3	1	1	3
	IIIA01FPT - CO 3	2	2	2	3	2	1	3