

REVISED CODE AND SYLLABUS OF M.Sc. POULTRY PRODUCTION

SEMESTER - I

V. Sc. - 603	LIVESTOCK PRODUCTION MANAGEMENT (LPM)	(2 + 2) = 3 D
V. Sc. - 605	ANIMAL PRODUCTION MANAGEMENT (APM)	(2 + 2) = 3 D
AGB - 706	FUNDAMENTAL GENETICS (FG)	(2 + 2) = 3
MAS - 711	STATISTICS - I	(2 + 2) = 3
PP - 713	POULTRY NUTRITION (PN)	(2 + 2) = 3
		<u>15</u>

SEMESTER - II

V. Sc. - 604	ANIMAL HEALTH AND HYGIENE (AHH)	(2 + 2) = 3 D
COMP - 609	COMPUTER ORIENTATION (CO)	(2 + 2) = 3
MAS - 715	STATISTICS - II	(2 + 2) = 3
AGB - 716	POULTRY BREEDING (PB)	(2 + 2) = 3
AN - 717	ANIMAL PHYSIOLOGY (AP)	(2 + 0) = 2
PP - 723	POULTRY DISEASES (PD)	(2 + 2) = 3
		<u>17</u>

SEMESTER - III

ECON - 705	RESEARCH METHODOLOGY (RM)	(2 + 2) = 3
PP - 822	POULTRY FARM MANAGEMENT (PFM)	(2 + 2) = 3
PP - 880	SEMINAR	(0 + 4) = 2
PP - 829	EGG TECHNOLOGY (ET)	(2 + 2) = 3
PP - 830	POULTRY MEAT TECHNOLOGY (PMT)	(2 + 2) = 3
PP - 819	HATCHERY MANAGEMENT (HM)	(2 + 0) = 2
AN - 828	POULTRY FEED TECHNOLOGY (PFT)	(2 + 2) = 3
		<u>19</u>

SEMESTER - IV

PP - 899	DISSERTATION	(0 + 30) = 15
----------	--------------	---------------

OUTLINES OF SYLLABUS OF M.Sc. POULTRY PRODUCTION MANAGEMENT

DEFICIENCY COURSES

V.Sc. – 603 *LIVESTOCK PRODUCTION MANAGEMENT (LPM)* Credit : 2 + 0 + 2 = 3

Common terms, Livestock and milk production statistics, Importance of Livestock, Important breeds of cattle & buffaloes; Care and management of dairy calves, heifers, bulls and cows. Dairy farm buildings – objectives, advantages, factors affecting location and grouping, Design of barns, clean milk production, dairy farm records. Classification of feeds and fodders, agro – industrial byproducts, Management practices in feeding, soiling, ensiling, hay making, pasturing, Developing practical and economical rations. Planning supply of green fodder throughout the year, Digestive system, Digestive traits. Methods and systems of breeding, Detection of oestrus & pregnancy, Hormones and their role in production and reproduction. Reproductive organs of cow and bull, A. I.; sterility and its causes.

V. Sc. – 604 *ANIMAL HEALTH & HYGIENE (AHH)* Credit : 1 + 0 + 2 = 2

Basic herd health programme, Sanitation of herd, Dipping & shearing of animals. Diagnosis of diseases, classifications of diseases, Signs of ill health and preventive measures. Principles of immunization and vaccination schedule for various farm animals. Important diseases of dairy animals, goat, sheep, pig and poultry; their etiology, symptoms, pathogenesis, diagnosis, treatment, prevention and cure.

- a) Mastitis and its control,
- b) Prevention and control of F.M.D., R.P., Rabies and Bucellosis,
- c) Prevention and cure of coccidiosis, Ranikhet and Salmonellosis.

Euthanasia of animals – conditions and various drugs used for euthenizing the animals.
Anesthesia of animals – various sedatives and tranquilizers used in farm animals.
Animal quarantine.

V.Sc. – 605 *ANIMAL PRODUCTION AND MANAGEMENT (APM)* Credit : 2 + 2 = 3

1. **Goat :**

Common terms, importance, Important breeds, Breeding, Feeding, care of kids, Management practices : tethering, age determination, disbudding, castration, hoof trimming, Goat housing, Preventive measures of diseases and vaccination, Goat milk and meat, Pashmina and Mohair.

2. **Sheep :**

Common terms, importance, important breeds, Breeding, Feeding, Management practices – lambing, care of ewe at and after lambing, Care of lamb, Docking, castration, Dipping, Shearing, Observation regarding sick vs. healthy animals, wool – related terms, wool yield, grading parameters for judging wool quality.

3. **Pigs :**

Common terms, importance, important breeds, Feeding, Management of piglets, sow and boar, Breeding, Housing, Pig fenders, selection of hogs for slaughter and methods of slaughter, and Health care.

4. Poultry :

Common terms, importance of poultry industry, layers feeding and management, broiler management, Grading of eggs, selection of eggs for hatching, Egg preservation, Culling of layers.

CORE COURSES

A.G.B. – 706

FUNDAMENTAL GENETICS (FG)

Cr.: 3(2 + 2)

1. Introduction to genetics, history of genetics, milestones in the field from Mendel to genetic engineering.
2. Mendelian Genetics : Mendel's experiment and laws of inheritance, interaction of genes.
3. Cell Mechanis : cell division – mitosis and meiosis.
4. Sex determination and sex linkage: mechanism of sex determination, sex differentiation, sex – influenced inheritance, sex linked gene action and sex limited inheritance.
5. Gene Mapping : Linkage and crossing over, chromosome and gene mapping.
6. Mutation : Types and causes of mutation.
7. Chromosomal Abbrevations : Variation in chromosome structure and number.
8. Extra chromosomal inheritance : Maternal effects, plasmids, episomes and cytoplasmic and mitochondrial inheritance.

PP – 713

POULTRY NUTRITION (PN)

Credit :2 + 2 = 3

Formation of egg, Digestive systems – digestive process, Nutrient and their functions. Classification of poultry feeds, Principles of feeding poultry, Composition of feeds for nutritive value and their use in poultry rations. Agro – industrial byproducts, Principles of feeding trial and evaluation of feed ingredients, Methods/system of feeding, Anti – nutritional factors, Metabolic disorders.

Practical : Identification of feeds, Determining nutritive value of feeds, Formulation of ration for different class of birds.

A.G.B. – 716

POULTRY BREEDING (PB)

Credit :2 + 2 = 3

Selection and storage of hatching eggs, factors affecting fertility, Embryo development, sexing of chicks, A.I. in poultry. Origin of domestic fowls, classification of poultry, Inheritance of qualitative and economic traits and their application, Inter – specific crossing and parthenogenesis, mating plans for egg, meat and selection, Breeding for feed efficiency, disease resistance, stress tolerance etc. Population size and flock structure in poultry breeding experiments. Control population, Random sample tests,

PP - 723

POULTRY DISEASES (PD)

Credit :2 + 2 = 3

Control measures for prevention of poultry diseases, vaccination programmes for layers and broilers, sanitation and disinfection in poultry farm, Postmortum, examination and disease related; Sources of diseases, etiology, means of spread and classification of poultry diseases, Causes, symptoms, Transmission, diagnosis, prevention and treatment of viral, bacterial, fungal, protozoal, parasitic, nutritional and hatchery borne diseases. Malformation and malposition of chicks.

Practical : Hygiene, segregation, isolation, and vaccination, post - mortum examination of birds.

PP - 822

POULTRY FARM MANAGEMENT (PFM)

Credit :2 + 2 = 3

Present status, future scope of poultry industry in India, Importance and constraints of poultry industry, Distinguishing features of different types of chicken, merits and demerits of local vs. foreign breeds, Performance of hybrid varieties of chicken developed in India, starting poultry farm, chicken management - natural and artificial brooding, Management of brooder house, Grower's management - Pullet and cockerels. Management of breeding stock, layers management, Broilers management, management problems and remedies, Poultry housing - purpose, functional requirement, location, essentials, systems of housing, Types of house construction, layer house equipments, housing hygiene, litter management, Trapnesting, Record keeping. Poultry farm waste management, Technical standards for poultry.

Practical : Handling birds, Trapnesting, Record keeping, economics of poultry, House design, litter management.

PP - 829

EGG TECHNOLOGY (ET)

Credit :2 + 2 = 3

Egg structure and its nutrients, Types of abnormal eggs, Evaluation of egg quality - Raw and boiled egg examination, Defects in egg, Grading, Causes of deterioration in egg quality, Packaging of eggs, Preservation, Whole egg and liquid egg, Natural defence mechanism of eggs, Egg marketing, contamination of eggs.

Practical : Egg parts, grading of eggs, Determining external and internal quality of eggs, preservation of eggs. Determining microbial contamination of egg contents. Preparation of egg products.

PP - 830

POULTRY MEAT TECHNOLOGY (PMT)

Credit :2 + 2 = 3

Scientific processing of poultry meat, Cut – up parts of chicken carcass, Factors affecting yield and quality of chicken carcass, Causes of deterioration in quality, Microbiology of meat, Grading of chicken and dressed meat, standards for poultry meat, Public health hazards from contaminated meat, Preservation of poultry meat – canning, chilling, freezing.

Practicals : Slaughtering of birds, grading of chicken carcass, dressed meat, cut – up parts, Preservation of meat, Preparation of various poultry meat production.

PP – 819

HATCHERY MANAGEMENT (HM)

Credit :2 + 2 = 3

Objectives, essentials and principles of poultry breeding, selection of a breed for egg and meat. Selection of eggs for hatching, Incubation – natural and artificial factors affecting fertility and hatchability of eggs. Principles of successful incubation, Physiology of embryo development, mortality of embryos – causes and control, Grading and sexing of chicks, vaccination, Hatchery born diseases, Packing and transport of chicken. Construction/design of model Hatchery. Hatchery Hygiene and management hatchery byproducts and wastes.

Practical : Maintenance of hatchery records, determination of cost of day old chicks, Grading sexing and vaccination of chicks, Incubation of eggs for hatchability percentage.

AGB – 828

POULTRY FEED TECHNOLOGY (PFT)

Credit :2 + 2 = 3

Present status of poultry feed resources, classification utilization of agro – industrial and animal byproducts, Processing of feeds and their effects on nutritive value and performance of poultry. Methods of storage of feeds – their effects on quality. Least cost ration formulation. Quality control in poultry feed industry. Anti – nutritional factors, Feed additives, Non – nutrient feed additives and their functions, Important considerations in formulation of poultry feed.

Practical : Identification of poultry feeds, Evaluation of poultry feeds, Formulation of poultry rations; Study of design of poultry feed plants; Visit to feed plants.

PP – 899

DISSERTATION

Credit :0 + 30 = 15

SUPPORTING COURSES

COMP – 609

COMPUTER ORIENTATION (CO)

Credit :2 + 2 = 3

MAS – 711

STATISTICS – I

Credit :2 + 2 = 3

MAS – 715

STATISTICS – II

Credit :2 + 2 = 3

CON – 718

RESEARCH METHODOLOGY (RM)

Credit :2 + 2 = 3