

REVISED CODE AND SYLLABUS OF M. Sc. ANIMAL NUTRITION

SEMESTER - I

V.Sc. - 603	Livestock Production Management (LPM)	Credit 2 + 0 + 2 = 3 D
V.Sc. - 605	Animal Production Management (APM)	Credit 2 + 0 + 2 = 3 D
AN - 710	Principles of Animal Nutrition (PAN)	Credit 2 + 0 + 2 = 3
MAS - 711	Statistics - I	Credit 2 + 0 + 2 = 3
AN - 712	Applied Animal Nutrition (AAN)	Credit 2 + 0 + 2 = 3
		<u>15</u>

SEMESTER - II

V.Sc. - 604	Animal Health and Hygiene (AHH)	Credit 1 + 0 + 2 = 3 D
COMP - 609	Computer Orientation (CO)	Credit 2 + 0 + 2 = 3
MAS - 715	Statistics - II	Credit 2 + 0 + 2 = 3
AN - 717	Animal Physiology (AP)	Credit 2 + 0 = 2
AN - 719	Livestock and Poultry Nutrition (LPN)	Credit 2 + 0 + 2 = 3
AN - 721	Ruminant Nutrition (RN)	Credit 2 + 0 + 2 = 3
		<u>17</u>

SEMESTER - III

ECON - 705	Research Methodology (RM)	Credit 2 + 0 + 2 = 3
PP - 822	Poultry Farm Management (PFM)	Credit 2 + 0 + 2 = 3
AN - 826	Analytical Technology (AT)	Credit 1 + 0 + 2 = 2
AN - 827	Non Ruminant Nutrition (NRN)	Credit 2 + 0 + 2 = 3
AN - 828	Animal Feed Technology (AFT)	Credit 2 + 0 + 2 = 3
AN - 880	Seminar	Credit 0 + 4 = 2
		<u>16</u>

SEMESTER - IV

AN - 899	Dissertation	Credit 0 + 30 = 15
----------	--------------	--------------------

OUTLINES OF REVISED SYLLABUS OF M. Sc. ANIMAL NUTRITION

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 – OUTLINES OF SYLLABUS OF M. Sc. ANIMAL NUTRITION

AN – 710 PRINCIPLES OF ANIMAL NUTRITION (PAN) Cr.: (2 + 0 + 2) = 3

Carbohydrates, Lipids and Proteins – Classification and role in the animal body; their digestion, absorption and metabolism in ruminants and mono gastrics. Nutritional importance of minerals and vitamins, their metabolism, deficiency symptoms and requirement.

AN – 712 APPLIED ANIMAL NUTRITION (AAN) Cr.: (2 + 0 + 2) = 3

Evaluation of feeds by digestion experiments. Feeding experiments, group and individual feeding controlled vs ad – lib feeding, equalized paired feeding, feeding trials, feeding standard unconventional feeds. Feed conversion their utilization in livestock, Feeding standards, Feed conversion efficiency, supply of green fodder round the year, Preparation of balanced ration feeding schedule for animals in herd, Mixing of feeds, Feeding schedule for kids, Feeding of lambs, Nutritional related metabolic disorders, Feeding practices for dairy animals, New trends in feeding farm animals. **Practical** : Improving nutritive value of low grade roughages, Detoxification of anti – nutritional factors in feeding, cropping scheme for green fodder supply, Preparing balanced ration feeding schedule for dairy herd. Preparing least

AN – 717 ANIMAL PHYSIOLOGY (AP) Cr.: (2 + 0) = 2

Intercellular organization and chemical composition of the cell. Body fluids : Blood – composition and properties, Homeostasis and control of acid – base balance system. Reflex and conditioned reflexes. Physiology and endocrines and role of hormones in lactation and reproduction. Physiology of ruminant and non – ruminant digestive system, Physiology of reproductive systems of farm animals including poultry, milk secretion. Physiological factors for maximizing reproductive efficiency, growth and lactation. Growth in farm animals and factors affecting it.

AN – 719 LIVESTOCK AND POULTRY NUTRITION (LPN) Cr.: (2 + 0 + 2) = 3

Classification and role of nutrients. Digestion, absorption and metabolism of nutrients. Estimation of digestibility coefficients, Nutrient requirements of animals for growth, production and reproduction. Nutritional imbalances and antiquality factors. Non – nutritive feed additives, Methods / systems of feeding sheep, goats, pigs, cattle and poultry.

Practical : Identification and classification of feeding stuffs. Proximate analysis of feeds / fodders. Mixing of feeds. Formulation of rations for goats, sheep, cattle, buffaloes and poultry.

AN – 721 RUMINANT NUTRITION (RN) Cr.: (2 + 0 + 2) = 3

Development of rumen stomach. Rumen micro – organisms and their role in the utilization of feeds and forages. Factors affecting nutritive value of feeds and fodders. Computation of economical rations for different categories of cattle, buffaloes, sheep and goats. Fodder preservation. Improving nutritive value of low grade roughages. New concepts in the feeding of high yielding dairy animals.

