

Rajasthan Public Service Commission, Ajmer

SYLLABI OF THE PAPER/SUBJECTS PRESCRIBED FOR THE MAIN EXAMINATION

OPTIONAL SUBJECT

ANIMAL HUSBANDRY AND VETERINARY SCIENCE PAPER-I (Code No. 03)

Unit	Subject matter
1.	<p>Animal Breeding & Genetics :</p> <p>Frequency of genes and genotype; Hardy-weinbug law and equilibrium frequencies, Forces changing gene frequencies- mutation, migration and selection. Variation, their causes, Partitioning of phenotypic variance, Estimation of additive, non-additive and environmental variance in animal populations, Genetic nature of differences between species and breeds of livestock. Resemblance between relatives. Heritability, repeatability, genetic and environmental correlations.</p> <p>Concept and measurement of relationship. Mating systems; Inbreeding and out breeding; their uses, consequences and limitations. Bases and methods of selection; their effective and limitations. Selection indices, sire indices,. Interspecific hybridization. Estimation and utilization of general and specific combining ability. Diallel crossing. Recurrent selection and reciprocal recurrent selection. Breeding efficiency and factors affecting.</p>
2.	<p>Animal Nutrition:</p> <p>Digestive system of ruminants and non ruminants. Major and minor nutrients, their functions, symptoms of deficiency and sources. Digestion, absorption and metabolism of carbohydrates., fats and proteins. Digestibility coefficients and feed evaluation. Basal feeds, energy and protein supplements, agro-industrial by products and non conventional feeds. Top feeds. Feed additives. Methods of improving low quality roughages. Conservation of green fodders. Antinutritive factors in feeds and fodders. Feeding standards for farm animals. Computation of balance ration and feeding of various categories of livestock. Feeding of livestock during drought and scarcity periods. Supply of green fodder throughout the year. Pasture and its management. Grazing methods.</p>
3.	<p>Livestock Production and Management:</p> <p>a. Breeds: Origin, distribution, characteristics and utility of important breeds of cattle, buffalo, sheep, goat, pig, camel and poultry.</p> <p>b. Management :</p>

- (i) Cattle & buffalo: Oestrus, its detection and insemination. Care of pregnant and parturient cow. Care of calf, growing and milking animals, bull and bullocks. Grooming, exercise, bathing, milking, castration, marking, dehorning and age determination. Systems of housing under various agro-climatic conditions.
 - (ii) Sheep and goat : Management of breeding goats and sheep, browsing, grazing, feeding and housing.
 - (iii) Camel : Breeding, feeding, housing and management of camel. Meat and wool production and marketing.
 - (iv) Pigs: Feeding, breeding, housing and management of pigs.
 - (v) Poultry : Present status and future scope of poultry farming. Egg structure, formation, selection, incubation and hatching. Rearing of chicks and management of growers and layers,. Broiler production,. Housing chicken. Poultry housing equipments. marketing of eggs, poultry and its meat.
- c. Dairy Science : Present status and future scope of dairy industry in India. Milk Production and its utilization. Principles involved in production of safe & clean milk. Physico-chemical and nutritional properties of milk. Quality measurements of milk and milk products. Legal standards. Pasteurization, sterilization and homogenization of milk. Phosphates test, adulteration of milk and its detection. Manufacture of milk products and their marketing. Cleaning and sterilization of dairy equipments.
- d. Extension : Extension programmes in Animal Husbandry. Dairy development projects organizing milk producers and dairy cooperatives.

**ANIMAL HUSBANDRY AND VETERINARY SCIENCE
PAPER-II (Code No.03)**

Unit	Subject matter
1. Pharmacology :	Principles of drug action. Pharmacology of drugs acting on digestive, respiratory, nervous, excretory and circulatory systems. Chemotherapeutic drugs, anthelmintics, insecticides.
2. Microbiology :	Morphology and cell structure of bacteria : Classification and nomenclature of bacteria. Bacteriostatic and bactericidal substances. Antigens, immunoglobulin classes and sub classes. Antigen-antibody reactions. Types of immunity and their classification. Different methods of confirming and their interactions. Bacteriophage, study of viruses responsible for common disease on the basis of etiology, virus characters, pathogenicity, transmission.
3. Parasitology:	

Introduction to parasitology, types of parasitism, host parasite relationship, resistance to parasites, importance of parasites in animal health, Broad classification of parasite, Pathogenicity, symptoms, treatment, control and immunity of common parasitic diseases caused by trematodes, cestodes, nematodes and protozoan parasites Role and importance of arthropods in relation, transmission of disease.

4. Pathology :

General pathology-disturbance of cell metabolism-degenerations and infiltrations. Disturbances of circulation and cell growth. Inflammation of urogenital, digestive, nervous and integumentary systems.

5. Medicine and Public Health:

General remarks on etiology, symptoms, diagnosis and treatments of diseases of digestive, respiratory, cardiovascular, nervous systems and skin. Common causes of poisoning in animals. their signs and treatment.

Post-mortem examination of vetero-legal cases, vetero-legal wounds, common frauds in the sale of livestock and livestock products, cruelty against animals in India.

Study of incidence, etiology, mode of infection, symptoms, course, diagnosis, prognosis, treatment, prevention and control of common bacterial, viral rickettsial and parasitic diseases of domesticated animals and poultry in India.

General principles, nature and problems of meat inspection. Examination of animals before slaughter, methods of slaughter, dressing of carcasses, postmortem inspection, spoilage of meat and meat products.

6. Surgery & Radiology:

General surgery including wounds, thermal injuries, fractures their classification, signs and treatments. Shock sutures and ligatures. Sterilization. Reasons for administration of preanaesthetics and anesthetic. Local and general anesthesia. Anesthetic accidents and emergencies. Regional surgery of head, neck, chest and abdomen of common surgical affections. Surgical affections of fore limbs and hind limbs. Importance of veterinary radiology as diagnostic and therapeutic aid.

7. Obstetrics & Gynecology:

Animal reproduction- anatomy and functions of male and female reproductive organs, sperm physiology and morphology, semen and its composition, Artificial insemination. Semen diluters, Free zing. Merits, demerits, methods and storage. Infertility : study of diseases of genital organs their etiology, symptoms and treatment. Physiology of parturition, handling of dystopia, pre and post-partum complications. Study of mammary gland.

