SYLLABUS FOR THE SUBJECT OF VETERINARY SCIENCE
PAPER – I

Anatomy and Physiology

General terms used in Anatomy and Physiology. Anatomy and Physiology of different systems such as Digestive System, Cardiovascular System, Respiratory System, uro-general system, Endocrine Glands, Nervous System, Sense Organs. Comparative Anatomy and Physiology of different systems of various domestic animals.

Pharmacology and Toxicology

Terminology Drug development and drug regulation. Sources of drugs and drugs classification. Physiochemical properties of drugs, Disposition and bioavailability of drugs. Structure activity and dose response relationship, Drug Resistance, Drug safety, adverse effects, tissue residue and public health. Pharmacology of drugs affecting various systems, Chemotherapeutic agents, antibiotics, antifungal, antiviral, antiparasitic drugs. Terms used in toxicology, Forensic toxicology, Sources of poisoning and poisonous plants. Specific and non specific antidote therapy.

Parasitology

Effects of parasites on their host and their economic significance. Immunity and resistance of parasites. Mode of action of anti-parasitic drugs. Parasitic zoonoses examples, Epidemiology, Diagnosis, Pathogenesis and control of various parasites such as Protozoa (Trypanosoma, Toxoplasma, Babesia, Theileria, Coccidia, Etc). Helminthes (Ascariasis, strongylosis, haemonchus, oestertagia, fasciolosis, schistosoma, Ectoparasites (mange, mite, ticks, flies).

Microbiology

Pathology


Reproduction

Regulation of hormones, Physiology of estrous cycle. Fertilization, Implantation, gestation and parturition, male reproductive system. Biotechnology and recent trends. Artificial insemination technique, estrus synchronisation, embryo transfer, Genetic engineering, nuclear transfer and cloning. Disease of reproduction, cervicovaginal prolapse, post partum complications, uterine infections, infertility problems, Genetic and acquired abnormalities of testis accessory sex glands and infertility problems in males.

Veterinary Medicine


Surgery

Veterinary Epidemiology

Principles of epidemiology and its relation to public health. Determinants of
Surveillance and monitoring, data collection and interpretation. Analytical epidemiology,
Cohort or prospective study, case-control or retrospective study. Experimental
epidemiology, clinical trials, field trial or community trials. Epidemic investigation.
Control and eradication of transboundary and other infectious diseases. Diseases
transmissible to human beings through milk and other diary products, Meat, Poultry and
other foods. Urine and feaces of animals. Environment and residues. Sanitary and
phyto-sanitary measures for the prevention of disease during export and import
livestock products. Role of veterinary public health in producing safe human food
according to WTO standards. Personal hygiene and public sanitation. Active and
passive surveillance. Writing a research report.

RECOMMENDED BOOKS

   3rd Edition. USA.
   University Press USA.
   “Veterinary Parasitology”. Longman Scientific and Technical, UK.
4. Quinn, P.J., 2002. veterinary Microbiology and Microbial Disease. 1st Ed.
   Blackwell Science, Ltd., USA.
   Veterinary Laboratory Medicine Clinical Pathology. 4th Ed., Iowa State Press.
   Ames, Iowa, USA.
   Saunders, Philadelphia, Pennsylvania, USA.
   Febiger, Philadelphia, USA.
   Medicine, 9th Ed. Bailliere Tindall, London, U.K.
   London, UK.
Animal Nutrition


Poultry

Development of poultry industry in Pakistan; present status and future potential of poultry industry; important classes, breeds and varieties of poultry and their characteristics; objectives of poultry breeding for meat and egg production; qualitative and quantitative traits and their heritability estimates, systems of breeding and their significance; pure breed vs present day hybrid used for meat and egg production; the role of selection in genetic improvements. Brooding, rearing and laying house equipments; raising of broilers; rearing of layer chicks; shifting and housing of pullets; cage vs floor management; layer and breeder management; causes of poor performance of layer and breeder flocks and development of managerial strategies for its improvement; factors affecting pullet development; basic principles for site selection; poultry house construction and design; requirements of housing from biological engineering, economic and hygienic point of view.

Livestock Management


Animal Breeding and Genetics
Genetic and phenotypic correlation. Emerging techniques. Traits of economic importance in farm animals. Use of computer for data handling and analysis. Breeding systems; random mating, inbreeding, line breeding and out breeding; selection of superior animals, principles, basis, kinds and methods; traits of economic importance in cattle, buffalo sheep, goats and poultry; animal genetic resources, their conservation and preservation; emerging breeding technologies; national breeding policy, constraints and future breeding plans.

RECOMMENDED BOOKS


