**ANIMAL HUSBANDRY**

**PAPER-II**

**Total Marks: 100**

**Animal Nutrition**

Basic terms used in Animal Nutrition. Digestion of carbohydrates, proteins and lipids in

monogastric and ruminants. Bio-chemical pathways that influence nutrient metabolism.

Metabolism of proteins, carbohydrates, lipids as nutrients, energy metabolism,

classification, functions and deficiency symptoms of minerals and vitamins factors

affecting nutritive value of feeds. Techniques for estimating nutritive value of feed stuffs.

Factors effecting the nutritive value of feeds. Measures of food energy; gross energy,

metabilisable energy, net energy. Determination of digestibility, digestion coefficient.

Calculation of TDN. Nutritive ratio. Role of probiotic in animal nutrition. Feeding of urea

to ruminants. Technology for urea. Molasses mineral blocks. Procedure for block

making. Feed raw materials handling, storage, grinding, mixing, processing and storage

of finished feed. Quality control in feed processing. Feed stuff laws and regulations.

**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 managemental 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**

Routine practices at dairy and sheep/goat farms. Management of animals at different

stages. Housing, Feeding and production management. Management during inclement

weather. Management of range livestock. Judging of animals. Breeding practices.

Sanitation procedure. Planning for year round feed and fodder supply and preservation.

Manure handling and disposal hygienic milk production practices. Maintaining farm

records and evaluation. Financial and labor management. Transportation and marketing

of animals and their production.

**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**

*1. D.N. Panday and Amita Bajpai 2003. Recent Trend in Animal Nutrition and Feed*

*technology for livestock, pets and laboratory animals.*

*2. Sainsbury, D. 1999. Poultry Health and Management; chickens, turkey, ducks,*

*geese and quails, Blackwell scientific publications, London, UK.*

*3. Hunton, P. (Editor). 1995 Poultry production: production system approach.*

*Elsevier science publishers, Amsterdam, the Netherlands.*

*4. Lagates, J.E. and E.J. Warwich, 1990. Breeding and improvement of Farm*

*Animals. McGraw-Hall Publishing Co. New York.*

*5. Bourdon, R.M. 2000. Understanding Animal Breeding. Prentice-Hall, Inc. Upper,*

*Saddle River, New Jersey.*

*6. Jagdish, P. 2005. Principles and practices of Dairy Farm Management. Kalyani*

*publishers Delhi India.*

7. *Shah, S.I. 1994. Animal Husbandry. National Book Foundation, Islamabad,*

*Pakistan.*