ZOS505- ANIMAL BREEDING
Teaching Hours 10 /unit

COURSE OUTCOME

1. Expertise on identification of various animal breeds such as cattle breeds, sheep. Goat, swine, horse and poultry breeds *etc.*
2. Trained in different animal husbandry practices and are made to know the animal husbandry issues to deal in scientific manner.
3. Students will be well equipped with the advanced and basic techniques on the breeding methods for different animals in the laboratory.
4. Different processes adopted by various scientific labs and animal breeding centres are dealt in detail.
5. Economic importance of various breeds and advantages are discussed.
6. Training in domestication and breeding of various animals builds in them confidence to be Entrepreneurs.

UNIT I
What is animal husbandry? Animal husbandry Practices in India. Issues in animal husbandry –Assessing risk, Animal welfare, environmental Issues, consumer issues, marketing issues. Diseases of domestic animal and preventive measures. Breeding research - Conservation of breeds. Status, opportunities and challenges in conservation of Animal Genetic Resources. IPR - issues pertaining to animal genetic resources/animal products or by-products.

UNIT II
Selection of animals for breeding-Methods of selection- selection criteria – Artificial selection, Long term artificial selection. Gametic selection, Zygotic selection, heterozygous advantage. Heritability and genetic improvements- Broad and Narrow -sense heritability. Selection differential, Generation interval, Genetic gain. Evaluation of breeding animals-desirable traits, Identification system. Performance record, Reproductive efficiency, production traits, Selection indices. Selection of superior breeding stock-Breeding value, aids to selection.

UNIT III
Breeding methods –Inbreeding Systematic inbreeding measurement of inbreeding, panmictic index, Advantages and disadvantages of inbreeding. Cross breeding line breeding –Hybrid vigor, advantages and disadvantages. Methods of breeding of farm animals-cattle, swine, poultry, horse. Requirements and methods of breeding small lab animals (Rats and mice).

UNIT IV
Definition of breed-Breeds of animals- Cattle breeds-Beef cattle, Dairy cattle, Dairy goats, Sheep, Swine, Poultry and Horse breeds. Practical breeding plans –Dairy cattle breeding-Beef cattle breeding –Sheep breeding- Pig breeding –Poultry breeding. Feeding and managing of Dairy animals, Feeding and managing of swine, sheep poultry and horse breeds.

UNIT V

Modern trends in animal breeding-artificial insemination: super ovulation-embryo transfer techniques. Animal cloning. Institutional animal ethics committee. Advanced techniques in genetic manipulation for multiplication and improvement of livestock species.

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