

C. Class Room:

- 1) Different breeds of cows and buffaloes and their production and reproduction parameters
- 2) Conservation and development of indigenous breeds through selective breeding.
- 3) Benefits of Systematic breeding and genetic improvement of dairy animals
- 4) The existing State Breeding Policy and its enforcement.
- 5) Introduction to AI, and its importance, role of AI in genetic upgradation across nations, Natural Service (NS) vs AI, advantages and limitations.
- 6) External and internal body parts of a dairy animal and their function
- 7) Male reproductive organs & their functions
- 8) Semen, its collection, evaluation, processing, preservation
 - different types of semen packing,
 - structure of mini and medium straws
 - information printed on straw and its importance
 - Breed wise Straw colour codes
- 9) Female reproductive organs & their functions
- 10) Oestrus cycle:
 - Internal and external symptoms at different stages of oestrus cycle
 - Correct time of insemination
 - Determinants of first AI in heifers
 - Methods of heat detection in cattle and buffaloes
- 11) Puberty, Maturity, Breeding, Fertilization, Implantation, Gestation and Calving
- 12) Ideal calving interval

- Service period, dry period and Inter-calving period
- 13) Process of insemination:
 - Collecting History
 - Standard Operating Procedure (SOP)
 - 14) Importance of:
 - Proper method of semen withdrawal from container
 - Proper thawing
 - Proper preparation of AI gun
 - Proper site of semen deposition
 - Care of animal during & after insemination
 - 15) AI equipment and accessories & their care
 - 16) Liquid nitrogen handling:
 - Structure of LN container
 - Handling & care of LN container
 - Precaution in handling of LN
 - Different models of LN containers
 - Importance of maintaining cold chain and LN refilling schedule.
 - Proper LN level in container & its checking. Evaporation rates and refilling interval of commonly used containers in the field under normal working conditions.
 - LN conservation measures
 - 17) Pregnancy Diagnosis
 - 18) Methods of calculating conception rates and factors affecting conception rates
 - 19) Method of drying of animals on completion of 7th month pregnancy.
 - 20) Common reproductive disorders/ diseases, repeat breeding, causes of abortion, zoonotic and sexually transmitted diseases.
 - 21) Measures to obtain maximum fertility
 - 22) Ear tagging , importance of record keeping, recording formats and submission of records into the INAPH application(offline & online versions) through
 - 23) PDA/Netbook/Desktop (training in data entry with dummy data on test server, different flash messages, saving the data, synchronization of data with the server and using action reports in day to day work.
 - 24) Starting an AI centre- Requirements
 - 25) Method of non-surgical castration
 - 26) Care and management of new born calf and heifers till it becomes pregnant.
 - 27) Care and management of Dry Pregnant animals
 - 28) Care and management of animals before and after calving, precautions at the time of calving and use of naval kit for disinfection of naval cord
 - 29) Importance of Animal housing and general management in getting full expression of genetic capability
 - 30) Basic concept on importance of bio-security measures to be adopted during AI.
 - 31) Economically important diseases and their prevention through timely vaccination (FMD,HS/BQ, ANTHRAX) ; vaccination schedules; importance of maintaining cold chain

- 32) Basic aspects of nutrition and concept of Ration Balancing
- 33) Importance of proper nutrition including feeding of vitamins and mineral mixtures and deworming in fertility management with emphasis on the adverse impact of macro and micronutrients deficiencies on fertility status/reproductive health of animal.
- 34) Basics of first aid in livestock
- 35) Hygienic clean milk production and prevention of mastitis
- 36) Importance of Animal Insurance;
- 37) Significance of Assisted reproductive technologies viz., ETT-IVF, Sex sorted semen