

DEPARTMENT OF ZOOLOGY
VALUE ADDED COURSE

Semester	Course Code	Course Title	Hours
III	21UZOVAC1	CLINICAL LABORATORY TECHNOLOGY	30

Course Outcomes:

At the end of the course, students will be able to:

- CO.1. Understand life threatening and non-life threatening health scenario
- CO.2. Explore the components of Blood and its relative tests
- CO.3. Highlight the significance of Urine, Stool and Semen analysis
- CO.4. Acquire knowledge on basic microbes relating to human health
- CO.5. Familiarize basic instrumentation usage in medical labs

UNIT- I Basic First Aid

6 hrs

Role and responsibilities of first aider – Unconscious (including seizure) – cardio pulmonary resuscitation (CPR) – Choking – wound and bleeding – injuries due to animal bites – suffering from shock – specific work related injuries.

UNIT - II Haematology

6 hrs

Introduction and scope - Rules and regulations followed in Lab - Anticoagulants and its types. **Blood:** Collection of blood (Venous and Capillary) Preservation of blood - Blood bank - ABO Blood grouping Rh typing. Total RBC count – Total leucocytes count - Differential count - Haemoglobin estimation, ESR, PCV - Bleeding and clotting time - Platelet count - Blood clotting.

UNIT- III Biochemistry

6 hrs

URINE: Collection, preservation and examinations – Protein – Glucose – Acetone – Bile salts – Bile pigments – Urobilin – Urobilinogen – Microscopical examination of urine.
FAECES: Microscopical examination – Intestinal parasites - Helminthes, nematodes, cestodes, trematodes and protozoa.
SEMEN analysis.

UNIT- IV Microbiology & Pathology

6 hrs

Classification and Morphology of Bacteria and Virus - Common viral diseases - Viral vaccines and antisera. Mycotoxins - Common fungal diseases.
Symptoms - Diseases and Diagnosis in Human - Common cold, Cholera, Typhoid, Malaria, Elephantiasis, Jaundice, Flu, Measles, Hepatitis B.

UNIT- V Cytogenetics and Instrumentation

6 hrs

Introduction to cytogenetics and karyotyping - Basic Instrumentation – pH meter, Autoclave, Incubator, Colorimeter, Haemocytometer, Haemoglobinometer, Centrifuge – Principles, Working methodology and applications.

Text Books

1. Kanai L. Mukherjee and Anuradha Chakravarthy. Medical Laboratory Technology, Procedure manual for routine diagnostic tests. 3 rd Edition (Volume I - III) Mc Graw Hill, 2017.

Semester	Course Code	Course Title	Hours
V	21UZOVAC2	DAIRY FARMING	30

Course Outcomes:

At the end of the course, students will be able to:

CO.1. Understand the biology of cattle and the various breeds

CO.2. Comprehend farm construction

CO.3. Familiarise the rearing techniques related to Cattle

CO.4. Acquire recent knowledge on the care and management of live stocks

CO.5. Develop entrepreneurial skills and become fit to earn their livelihood

Unit- I

6 hrs

Introduction to Dairy farming - Scope - Livestock in India - Dairy Animals - Indigenous: Murrah, Surti, Goat, Gir, Red Sindhi, Jamnapari, Malabari. Drought & dual type. Exotic: Jersey, Holstein and Buffaloes.

Unit- II

6 hrs

Care and Management: How to approach and handle cattles - Care and management of different classes of livestock - Cow, Calf heifer, Identification of Cattles – Transgenic (cows) live stock – Life cycle of ruminants.

Unit-III

6 hrs

Organization of a model dairy farm- Principles of dairying - Construction of Animal House: Housing of cattle - Sanitation- Methods of manure disposal.

Unit- IV

6 hrs

Cattle Feeding- Composition of feed - Roughages- Green Fodders- Silage and Pasture - Balanced diet. Common Cattle Diseases: Viral, Bacterial, Fungal, Protozoan and Helminthic - Treatment, Prevention (vaccination) and control.

Unit-V

6 hrs

Composition of Milk and its Nutritive value – Pasteurization and Milk processing - Milk and Public Health – Indian dairy products – Value addition of milk products – Other dairy by products Marketing – Extension centres for Animal Husbandry – Agencies funding Dairy farming.

*** Field visit to local dairy farm**

Text Book:

1. Banerjee, G.C., A text Book of Animal Husbandry, Oxford, 2018.