

Course Code	Course Title	C	H	I	E	T
17U5ZMC7	Animal Physiology and Animal Behaviour	3	3	25	75	100

Objectives

- ❖ To learn the importance of animal physiology
- ❖ To study the animal behaviour.

Learning Outcome

1. Create awareness in animal physiology and animal behaviour
2. Motivates the students to be placed in clinical laboratories.

Unit-I

Nutrition: Digestion and absorption of carbohydrates, proteins and lipids. Role of gastro intestinal hormones in digestion; calorie requirements, energy requirements of man, Malnutritional diseases (Kwashiorkor, marasmus, ketosis and night blindness). Respiration: Respiratory pigments – Types, properties and function. Exchange and transport of gases (O₂ and CO₂), Respiratory quotient.

Unit-II

Circulation: Composition and functions of blood, cardiac cycle, cardiac rhythm. Cholesterol level, urea level and sugar level in blood. Pace maker. Origin of heart beat and its regulation, Electrocardiogram (ECG). Excretion: Classification of animals based on excretory products, Ornithine cycle. Mechanism of urine formation and hormonal control. Endocrine glands: structure and functions of pituitary, thyroid and gonads.

Unit –III

Osmoregulation: Osmoregulation in fishes (freshwater, marine and migratory fishes). Thermoregulation: Acclimatization; Thermoregulatory mechanisms (hibernation, basking and aestivation).

Unit-IV

Nerve Physiology: Types of neuron, conduction of nerve impulse along a nerve fibre. Muscle physiology: Types of muscles, Ultra structure and properties of muscles. Theories of muscle contraction. Isotonic and Isometric contraction.

Unit-V

Biological rhythms: Introduction and Types of biological rhythms (Circadian, Lunar and Circannual). Biological clock: Definition with examples.

Text books

1. Rastogi, S.C. 2007. Essentials of Animal Physiology, New Age International Publishers.
2. Verma P.S., Tyagi B.S and Agarwal V.K. 1995. Animal Physiology. S. Chand & Co Ltd, New Delhi.
3. Gunadevia, H.S. & Hare Govinda Singh. 2009. Text book of Animal Behavior, S Chand & Co Ltd, New Delhi.

Reference books

1. Hill, R.W., Wyse, G.A. & Anderson, M. 2012. Animal Physiology. Sinauer Associates.
2. Goyal & Sastri. 2017. Animal Physiology. Rastogi Publication, Meerut.