**Department of Zoology**

**Lesson plan (2021-22) Dr. Bindu Rani**

**B.Sc. Semester – IV (Theory)**

Paper I: Life and Diversity of Chordates-II

**APRIL:**

*Class Amphibia*

* General characters and classification of chordates, differences between Chordata, Nonchordata and Vertebrata
* Origin and evolution of amphibians
* Type study of *Rana tigrina*

**MAY:**

* Parental care in amphibians

*Class Reptilia*

* Origin and evolution of reptiles
* Extinct reptiles
* Poisonous and non-poisonous snakes
* Poison apparatus in snakes
* Type study of *Hemidactylus*

**JUNE:**

*Class Aves*

* Type study of *Columba livia*
* Flight adaptations and principles of aerodynamics in bird flight
* Migration in birds

*Class Mammalia*

* Classification of class Mammalia
* Adaptive radiations of mammals
* Type study of *Rattus*

**JULY:**

*Class Mammalia*

* Type study of *Rattus*
* Dentition in mammals

**Department of Zoology**

**Lesson plan (2021-22) Dr. Bindu Rani**

**B.Sc. Semester – IV (Theory)**

Paper II: Mammalian Physiology-II

**APRIL:**

**Circulation:**

* Origin, conduction and regulation of heart beat
* Cardiac cycle, electrocardiogram
* Cardiac output, fluid pressure and flow pressure in closed and open circulatory system
* Composition and functions of blood and lymph
* Mechanism of coagulation of blood, coagulation factors, anticoagulants and haemopoiesis

**MAY:**

**Respiration:**

* Exchange of respiratory gases
* Transport of gases
* Lung air volumes
* Oxygen dissociation curve of haemoglobin, Bohr’s effect
* Hamburger’s phenomenon (Chloride Shift)
* Regulation of respiration

**Excretion:**

* Ammonotelic, ureotelic and uricotelic excretion
* Ornithine Cycle in liver
* Urine formation and counter current mechanism of urine concentration
* Osmoregulation
* Micturition

**JUNE:**

**Neural Integration:**

* Nature, origin and propagation of nerve impulse (in medullated and non-medullated nerve fibres)
* Conduction of nerve impulse across synapse

**Chemical integration of endocrinology:**

* Structure and mechanism of hormone action

**Chemical integration of endocrinology: (contd..)**

* Physiology of endocrine glands (hypothalamus, pituitary, thyroid, parathyroid, adrenal, pancreas and gonads)

**JULY:**

**Reproduction:**

* Spermatogenesis
* Capacitation of spermatozoa
* Ovulation, formation of corpus luteum
* Oestrous-anoestrous cycles
* Menstrual cycle in human
* Fertilization, implantation and gestation