



Govt. of Jammu & Kashmir
CLUSTER UNIVERSITY SRINAGAR
P.G DEPARTMENT OF ZOOLOGY
S.P.COLLEGE SRINAGAR

NAAC Re-Accredited Grade A

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شہری پرتاپ کالج

श्री प्रताप कालेज

UNIT 1: ANATOMY AND PHYSIOLOGY – I

- 1.1. **Digestive system:** Physiology of digestion, absorption, energy balance, BMR.
- 1.2. **Respiratory System:** Comparison of respiration in land and aquatic mammals, anatomical considerations, Gaseous exchanges, Transport of respiratory gasses. Neural and chemical regulation of breathing.
- 1.3. **Cardio-vascular system:** Heart structure, Myocardium organisation, Myogenic heart, Conducting system, Cardiac Cycle, Blood pressure, Neural and Chemical regulation of heart beat rate and B.P.
- 1.4. **Circulatory fluids:** Composition of blood, plasma, formed elements; blood volumes, Blood volume regulation. Haemopoiesis, Homostasis.

UNIT II: ANATOMY AND PHYSIOLOGY – II

- 2.1 **Excretory system:** Anatomy of Kidney and conducting system. Nephron structure, urine formation, micturation, regulation of water balance. Role of kidney in Acid-Base balance.
- 2.2 **Nervous system:** Neurons, Nerve impulse generation and conduction; synaptic transmission.
- 2.3 **Nervous system:** Gross anatomy of brain and spinal cord. PNS, ANS.
- 2.4 **Sense organs:** Vision and Hearing.

UNIT III: ANATOMY AND PHYSIOLOGY –III

- 3.1. **Skeleton:** appendicular and axial skeleton of Man. An overview. Pectoral and Pelvic girdles and limbs.
- 3.2. Physiology and mechanism of muscle contraction.
- 3.3. **Endocrine system:** Hormones- chemical nature and mechanism of action. Endocrine glands and their hormones, functions, hormonal disorders, Neurohormones.
- 3.4. Thermoregulation in animals. Homeotherms, poikilotherms. Aestivation and Hibernation.

UNIT IV: ANATOMY AND PHYSIOLOGY –IV

- 4.1. Reproductive cycles in Mammals: A brief comparative account.
- 4.2. Human female reproductive system: an overview; menstrual cycle, effect of hormones on female reproductive cycles, pre-menstrual syndrome, dysmenorrhoea, amenorrhoea, Menopause.
- 4.3. Human male reproductive system- an overview. Hormonal control of male reproductive functions; impotence, male climacteric.
- 4.4. Infertility-female infertility, male infertility; assisted reproductive techniques; abortion, spontaneous and induced abortions; female foeticide.