

**KOLHAN UNIVERSITY,  
CHAIBASA**



**Proposed Syllabus for FYUGP, NEP-2020  
B.Sc. (Hons.) Zoology  
(Effective from Academic Year 2022-23 onwards)**

Designed by

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**Introductory Regular Course (IRC)**  
**Human Physiology**

**Theory (Credits 3):**

- UNIT I: Digestion and Excretion** **9 hrs**  
Digestion and absorption of nutrients: carbohydrates, fats and proteins; Excretory system: Mechanism of excretion and regulation of urine formation.
- UNIT II: Nerve and Muscle** **7 hrs**  
Structure of neuron and brief introduction of neuroglia; Propagation of nerve impulse (myelinated and non-myelinated nerve fibre); Structure of smooth, skeletal and cardiac muscles. Mechanism of muscle contraction.
- UNIT III: Respiration** **6 hrs**  
Respiration: Ventilation, External and internal respiration. Transport of carbon dioxide and oxygen in blood and tissues.
- UNIT IV: Circulation** **5 hrs**  
Structure of heart. Blood cells and blood vessels. Cardiac cycle. ECG.
- UNIT V: Reproduction** **9 hrs**  
Spermatogenesis and oogenesis. Fertilization and implantation. Menstrual cycle. Pregnancy and Parturition.
- UNIT VI: Endocrine glands and Hormones** **9 hrs**  
Structure and function of endocrine glands viz., pituitary, thyroid, parathyroid, pancreas, adrenal, ovaries and testes.

**Recommended Readings:**

- Tortora, G.J. and Derrickson, B.H. (2009) Principles of Anatomy and Physiology (12th edition) John Wiley and Sons, Inc.

- Widmaier, E.P., Raff, H. and Strang, K.T. (2008) Vander's Human Physiology (9th edition) McGraw Hill.
- Guyton, A.C. and Hall, J.E. (2011) Textbook of Medical Physiology (12th edition) Harcourt Asia Pvt. Ltd/ W.B. Saunders Company.
- Marieb, E. (1998) Human Anatomy and Physiology (4th edition) Addison-Wesley.
- Kesar, S. and Vashisht, N. (2007) Experimental Physiology, Heritage Publishers.