

Swami Ramanand Teerth Marathwada University Nanded

Choice Based Credit System (CBCS) Course Structure

B. Sc. Second Year (Semester- III)

Semester Pattern effective from June -2017

Zoology

CCZ III (Section B)

COMPARATIVE ANATOMY AND PHYSIOLOGY (P-VII)

Credits: 02 (Marks: 50)

Periods: 45

Unit –I	11
1) Comparative Anatomy of Vertebrates	
i) Integument	
ii) Heart	
iii) Kidney	
Unit –II	11
1) Enzymes	
i) Nature and Classification of enzymes.	
ii) Mechanism of enzyme action.	
iii) Factors affecting on enzymes activity.	
2) Nutrition	
i) Digestion of carbohydrates, proteins and lipids.	
ii) Vitamins – Fat soluble and Water soluble vitamins (Sources, deficiency diseases and effects)	
Unit –III	11
1) Respiration	
i) Definition of Aquatic and Aerial respiration.	
ii) Respiratory organs in man.	
iii) Mechanism of respiration.	
iv) Transport of O ₂ and CO ₂	
2) Circulation	
i) Blood – composition and functions.	
ii) Structure and working of heart.	
iii) E.C.G. and Blood Pressure.	
iv) Blood clotting.	
Unit- IV	12
1) Excretion	
i) Modes of excretion in animals (Ammonotelism, Ureotelism and Uricotelism)	
ii) Structure of kidney (V.S.)	
iii) Structure of uriniferous tubules.	
iv) Physiology of urine formation.	
v) Composition of urine.	

2) Nerve Physiology

- i) Structure and types of neurons.
- ii) Structure of synapse.
- iii) Conduction of nerve impulse.

3) Muscle Physiology

- i) Types of muscles- smooth muscles, skeletal muscles and cardiac muscles.
- ii) Ultra structure of skeletal muscles.

REFERENCES BOOKS

(Anatomy)

- 1. Comparative anatomy of vertebrates – Kent C. G.
- 2. Outlines of comparative Anatomy of Vertebrates – Kingsley C. G. (Central Book Depot Allahabad)
- 3. An Introduction of Vertebrates Anatomy – Messers H. M.
- 4. Comparative Anatomy – Montagna W., John Wiley and Sons Inc.

(Physiology)

- 1. Manual of Practical Zoology – P. K. G. Nair and K. P. Achar (Himalaya Pub.)
- 2. Eckert R. Animal Physiology (W. H. Freeman)
- 3. A Textbook of Animal Physiology – K. A. Goel and K. V. Shastri (Rastogi Pub.)
- 4. A Textbook of Practical Physiology – V.G. Ranade (P. V. G. Prakashan Pune.)
- 5. Animal Physiology – A. Maria Kytikan and N. Armugam (Saras Pub.)
- 6. Biochemistry – Arumugam et.al, (Saras Pub.)
- 7. Clinical Pathology and Haematology – Nanda Baheti (Kanhaiya Pub.)
- 8. Comparative Animal Physiology - C. Ladd Prosser.
- 9. Experimental Physiology – S. C. Rastogi (Wiley Eastern Ltd. London)
- 10. Human Physiology - Vander A. J., Sherman J. H. and Luciano D. S. (Mc Graw Hill London)
- 11. Medical Laboratory Techniques – Ramni Sood (Jaypee Brothers medical Pub. Pvt. Ltd. New Delhi).
- 12. Principles of Anatomy and Physiology – Tortora G. H. and Grabowasky S. R. (Harper Collins College Publication)
- 13. Text book of Animal Physiology – A. K. Berry (Emkay Publications, Delhi)
- 14. Principles of Animal Physiology – D. W. Wood
- 15. Physiology – Guyton and Hall