

SIR C R REDDY AUTONOMOUS COLLAGE, ELURU

(Affiliated by Adikavi Nannaya University, rajamahendravaram)

II B.Sc IV SEM syllabus

SUBJECT: ZOOLOGY- PAPER IV

EMBRYOLOGY, PHISIOLOGYAND ECOLOGY

PERIODS: 60

UNIT-I

1.1Developmental biology and embryology

1.1.1 Gametogenesis

1.1.2 Fertilization

1.1.3 Types of eggs

1.1.4 Types of cleavage

Development of frog up to formation of primary germ layer

Formation and function of foetal membrane in chick embryo

Development, types of placenta in mammals

UNIT-II

2.1 Physiology-I

2.1.1 Elementary study of **process** of digestion

2.1.2 Absorption of digested food

2.1.3 Respiration-pulmonary ventilation, transport of oxygen and carbon dioxide

2.1.4 circulation-structure and function of heart and cardiac cycle

2.1.5 excretion-structure if nephron, urine formation, counters current mechanism

UNIT-III

3.1 Physiology-II

3.1.1 Nerve Impulse transmission – Resting membrane potential, origin and Propagation of action potentials along myelinated and non- myelinates
Nerve fibers

3.1.2 Muscle contraction – ultra structure of muscle fiber, molecular and chemical
Basis of muscle contraction

3.1.3 Endocrine glands – structure, secretions and the functions (of hormones)
Of pituitary gland, thyroid, parathyroid, adrenal gland and pancreas

3.1.4 Hormonal control of reproduction in mammals

4.1 ECOLOGY-I

Unit IV

4.1.1 Meaning and scope of ecology

4.1.2 Important abiotic factors of ecosystem – temperatur, light, water, oxygen and CO₂

UNIT-V

5.1 ECOLOGY-II

5.1.1 Habitat and ecological niche

5.1.2 Community interactions- mutualism, commensalism, parasitism, competition,

Predation

5.1.3 Ecological succession

5.1.4 Population studies

ADDITIONAL INPOUT

5.1.5 Population Growth Curve

5.2 Zoogeography

5.2.1 Zoogeographical regions

5.2.2 study of physical and faunal peculations of oriental, Australian And Ethiopian regions

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II BSC IV Semester Model (CBCS Pattern) paper – 2017-17

Subject: Zoology

Paper IV Embryology, Physiology and Ecology

Time: 3hrs

Max Marks: 75M

Section – A

- This section consists of two parts.
- Candidates have to answer four questions choosing at least one question from each part.
- Each question carries ten marks.

Part – A (Physiology)

4X10=40M

- 1) Describe the physiology of digestion of various types of food in human digestive system.
- 2) Write an essay on structure and functions of mammalian heart.
- 3) Explain the transmission of nerve impulse through a nerve fiber with the help of suitable diagrams.
- 4) Give an account of the secretions of pituitary gland.

Part – B (Embryology, Ecology and Zoogeography)

- 5) Define gametogenesis, describe in detail the process of spermatogenesis.
- 6) Write an essay on the structure, development and types of placenta in mammals.
- 7) Describe the temperature as important abiotic factor of Ecosystem.
- 8) Describe the geographical and faunal characters of oriental region.