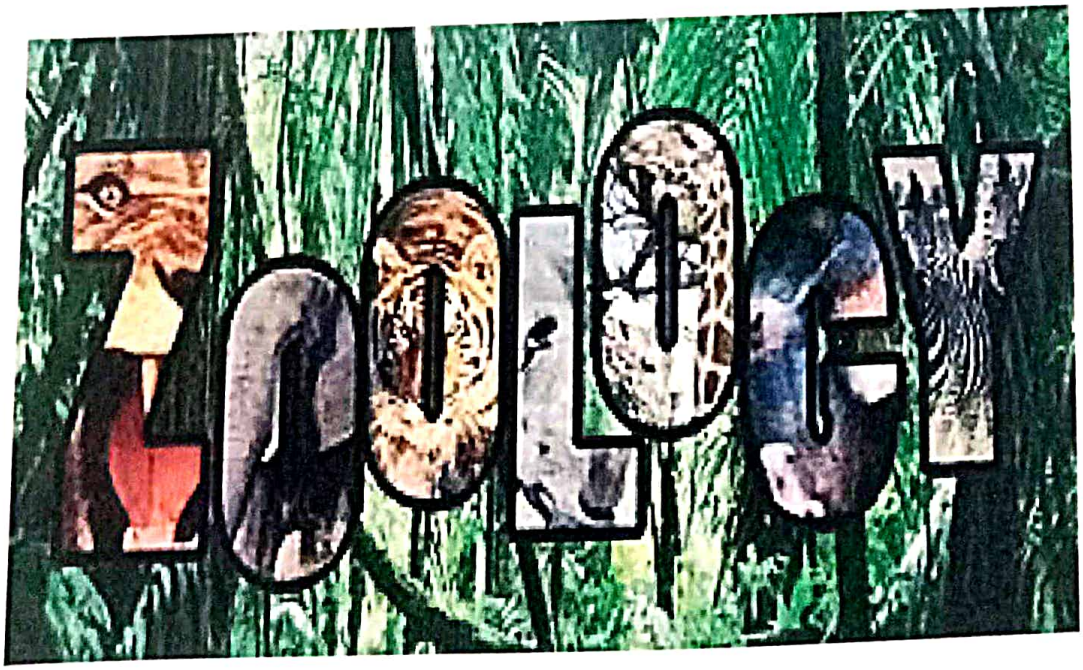
DODLA KOUSALYAMMA GOVERNMENT COLLEGE FOR WOMEN

Nellore, Andhra Pradesh - 524003

Autonomous College, College with Potential For Excellence

Re-accredited with 'A' Grade by NAAC

Board of Studies of ZOOLOGY—2017-18



Board of Studies meeting

On 12-6-2017

D.K.GOVT.DEGREE COLLEGE (AUTONOMOUS), *NELLORE*

ZOOLOGY MODIFIED SYLLABUS FOR I SEMESTER
ZOOLOGY - PAPER - I
ANIMAL DIVERSITY - NONCHORDATES

Periods:60

1.4 **Brief history, Significance of Diversity of Non Chordates**

UNIT - I

1.5 Protozoa

1.2.1 General characters

1.2.2 Classification of Protozoa up to classes with examples

1.2.3 *Elphidium* (type study)

1.6 Porifera

1.3.6 General characters

1.3.7 Classification of Porifera up to classes with examples

1.3.8 *Sycon* – External Characters, Types of cells,

1.3.9 Skelton in Sponges

1.3.10 Canal system in sponges

Unit - II

2.3 Coelenterata

2.1.1 General characters

2.1.2 Classification of Coelenterata up to classes with examples

2.1.3 Polymorphism in coelenterates

2.1.4 Corals and types of corals

2.4 Platyhelminthes

2.1.1 General characters

2.1.2 Classification of Platyhelminthes upto classes with examples

2.1.3 *Fasciola hepatica* - External Characters, Excretory system, Reproductive System, Life History and pathogenicity

Unit - III

3.3 Nemathelminthes

3.1.1 General characters

3.1.2 Classification of Nemathelminthes up to classes with examples

3.4 Annelida

3.2.3 General characters

3.2.4 Classification of Annelida up to classes with examples

3.2.3 *Hirudinaria granulosa* - External Characters, Digestive System, Excretory System and Reproductive System

3.2.4Vermiculture - Scope, significance, earthworm species, processing, Vermicompost Economic importance of Vermicomposting

Unit - IV

4.3 Arthropoda

4.1.1 General characters

4.1.2 Classification of Arthropoda up to classes with examples

4.1.3 Prawn - External Characters, Appendages.

4.1.4 *Peripatus* - Structure and affinities

4.4 Mollusca

4.2.5 General characters

4.2.6 Classification of Mollusca up to classes with examples

4.2.7 Pearl formation in Pelecypoda

Unit - V

5.3 Echinodermata

5.1.1 General characters

5.1.2 Classification of Echinodermata up to classes with examples

5.1.3 Water vascular system in star fish

5.4 Hemichordata

5.2.4 General characters

5.2.5 *Balanoglossus* - Structure and affinities

5.4 Non-Chordata larval forms

5.3.1 Trochophore

5.3.2 Nauplius

5.3.3 Glochidium

5.3.4 Bipinnaria

D.K.GOVT.DEGREE COLLEGE (AUTONOMOUS), NELLORE

ZOOLOGY MODIFIED SYLLABUS FOR II SEMESTER

ZOOLOGY - PAPER - II

ANIMAL DIVERSITY - CHORDATES

Unit - I

1.1 General characters of Chordata

1.2 Prochordata

a. Salient features of Cephalochordata
b. Structure of *Branchiostoma*
c. Salient features of Urochordata
d. Structure and life history of *Herdmania*
e. Retrogressive metamorphosis in *Herdmania*

Unit - II

2.3 Cyclostomata

2.1.1 General characters of Cyclostomata
2.1.2 Comparision of the *Petromyzon* and *Myxine*

2.4 Pisces

2.2.3 General characters of Fishes
2.2.4 Classification of fishes up to Class level with examples
2.2.3 *Scoliodon* - External features, Respiratory system, Heart,

2.2.7 Migration in Fishes
2.2.8 Types of Scales
2.2.9 Dipnoi

Unit - III

3.3 Amphibia

3.1.1 General characters of Amphibian
3.1.2 Classification of Amphibia upto orders with examples.
3.1.3 *Rana hexadactyla* - External features, Digestive system, Respiratory system, Heart,
3.1.4 Parental care in Amphibia.

3.4 Reptilia

3.2.5 General characters of Reptilia
3.2.6 Classification of Reptilia upto orders with examples
3.2.7 Calotes - External features, Digestive system, Respiratory system, Heart, Brain
3.2.8 Identification of Poisonous snakes and Non Poisonous snakes

Unit - IV

4.2 Aves

4.1.1 General characters of Aves

4.1.2 Classification of Aves upto subclasses with examples.

4.1.3 *Columba livia* - External features, Digestive system, Respiratory system, Heart, Brain

4.1.6 Flight adaptation in birds

Unit - V

5.4 Mammalia

5.1.1 General characters of Mammalia

5.1.2 Classification of Mammalia upto classes with examples

5.5 Dentition in mammals

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ZOOLOGY REVISED SYLLABUS FOR III SEMESTER

ZOOLOGY - PAPER - III

CYTOLOGY, GENETICS AND EVOLUTION

Periods: 60 **Max. Marks: 75**

Unit - I

1. Cytology - I

1.1 Definition, history, prokaryotic and eukaryotic cells, virus

1.2 Electron microscopic structure of eukaryotic cell.

1.3 Plasma membrane –Different models of plasma membrane, and functions (Unit Membrane Model, Fluid Mosaic Model)

Unit – II

2. Cell organelles

2.1 Structure and functions of Endoplasmic Reticulum

2.2 Structure and functions of Golgi apparatus

2.3 Structure and functions of Lysosomes

2.4 Structure and functions of Ribosomes

2.5 Structure and functions of Mitochondria

2.6 Structure and functions Nucleus

2.7 Chromosomes - Structure, types, functions

Unit - III

3. Genetics

3.1 Principles of inheritance, Monohybrid cross, Dihybrid cross.

3.2 Incomplete dominance and codominance

3.3 Lethal alleles, Epistasis, Pleiotropy, Multiple Alleles(ABO Blood Grouping, Rh Factor)

Unit – IV

4. Genetics – II

4.1 Sex determination(xx-xy, xx-xo, zz-zw,Geneic balance theory)

4.2 Sex linked inheritance, (x-linked, y linked)

4.3 Extra chromosomal inheritance

4.4 Human karyotyping

Unit-V

5. Evolution

5.1 Lamarckism, Darwinism, Neo – Darwinism, Hardy-Weinberg Equilibrium.

5.2 Mutations,Variations, Isolating mechanisms, Natural selection.

5.3 Types of Natural selection (directional, stabilizing, disruptive)

5.4 Speciation (Allopatric and Sympatric)

5.5 Evidences of Evolution (Structural , Paleontological, Embryological Evidences)

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ZOOLOGY REVISED SYLLABUS FOR IV SEMESTER

EMBRYOLOGY, PHYSIOLOGY AND ECOLOGY

TIME : 3 hrs

Max Marks : 70

Unit - 1

1.1 Developmental Biology and Embryology

1.1Gametogenesis (Spermatogenesis and Oogenesis)

1.2Fertilization

1.3Types of eggs

1.4Types of cleavages

1.5 Formation and functions of Foetal membrane in chick embryo

1.6 Development, types and functions of Placenta in mammals

Unit - II

2.5 Physiology - I

2.1.1 Elementary study of process of digestion

2.1.2 Respiration - Pulmonary ventilation, transport of oxygen and carbondioxide

2.1.3 Circulation - Structure and functioning of heart, Cardiac cycle

2.1.4 Excretion - Structure of nephron, urine formation, counter current mechanism

Unit - III

3.2 Physiology - II

3.1.1 Nerve impulse transmission - Resting membrane potential, origin and propagation of action potentials along myelinated and non-myelinated nerve fibers

3.1.2 Muscle contraction - Ultra structure of muscle fibre, molecular and chemical basis of muscle contraction

3.1.3 Endocrine glands - Structure, secretions and the functions (of hormones) of pituitary, thyroid, parathyroid, adrenal glands and pancreas

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Unit - IV

4.2 Ecology

4.1.1 Important abiotic factors of Ecosystem - Temperature, light, water, oxygen and CO_2

4.1.2 Nutrient cycles - Nitrogen, carbon and phosphorus

4.1.4 Components of Ecosystem (Example:lake), food chains and food web, energy flow in ecosystem

Unit - V

5.2 Ecology - II

5.1.1 Habitat and ecological niche

5.1.2 Population studies

5.3 Zoogeography

5.2.1 Zoogeographical regions

5.2.2 Study of physical and faunal peculiarities of Oriental, Australian and Ethiopian regions