FACULTY OF LIFE SCIENCES

Syllabus

For

Interdisciplinary Course in Zoology (UG & PG)

Examinations: 2019–20

Guru Nanak Dev University
Amritsar

Note: (i) Copy rights are reserved.
Nobody is allowed to print it in any form.
Defaulters will be prosecuted.

(ii) Subject to change in the syllabi at any time.
Please visit the University website time to time.
Interdisciplinary Course in Zoology (UG)

ZOL 001: Animal Diversity (Odd Semester)

Credit 4-0-0
Max. Marks : 100
Mid Semester Marks : 20
End Semester Marks : 80

Time: 3 Hrs.

Mid Semester Examination: 20% weightage
End Semester Examination: 80% weightage

Instructions for the Paper Setters:
Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

Section-A

Invertebrates
Broad classification (upto class level) and Important features of the following phyla:
Protozoa
Porifera
Coelentrate
Platyhelminthes
Aschelminthes

Section-B

Invertebrates
Broad classification (upto class level) and Important features of the following phyla:
Annelida
Arthropoda
Mollusca
Echinodermata

Section-C

Lower Chordates and Vertebrates
Broad classification (upto class level) and Important features of the following phyla/subphyla:
Hemichordata
Urochordata
Cephalochordata
Vertebrata (Important features of the following classes):
Cyclostomata, Chondrichthyes, Osteichthyes

Section-D

Vertebrates
Important features of the following classes:
Amphibia
Reptilia
Aves
Mammalia
Interdisciplinary Course in Zoology (UG)

Suggested Reading Material:

Interdisciplinary Course in Zoology (UG)

ZOL-002: Important Wildlife Projects in India (Even Semester)

Credits 4-0-0
Max. Marks : 100
Mid Semester Marks : 20
End Semester Marks : 80

Mid Semester Examination: 20% weightage
End Semester Examination: 80% weightage

Instructions for the Paper Setters:
Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

Section-A
1. Wildlife:
   Introduction, Importance, Threats
   Conservation methods- In-situ and Ex-situ
   Important wildlife sanctuaries and national parks in India

Section-B
2. Ecological status and conservation status of the following :
   i) Tiger
   ii) Elephant
   iii) Hangul

Section-C
3. Ecological status and conservation status of the following :
   i) Crocodile breeding project
   ii) One horned rhinoceros
   iii) Musk deer

Section-D
4. Ecological status and conservation status of the following :
   i) Great Indian Bustard
   ii) Manipur Brow Antler Deer
   iii) Asiatic Lion & Gir National Park
Interdisciplinary Course in Zoology (UG)

Suggested Reading Material:

8. Sharma, P. D Ecology and Environment , BPR Publishers
Interdisciplinary Course in Zoology (PG)

ZOL 051: Concepts of Environmental Biology (Odd Semester)

Credits: 4-0-0
Max. Marks: 100
Mid Semester Marks: 20
End Semester Marks: 80

Time: 3 Hrs.

Mid Semester Examination: 20% weightage
End Semester Examination: 80% weightage

Instructions for the Paper Setters:
Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

Section-A
Environmental pollution & Disasters
Pollution – Definition, types and control of pollution.
Eutrophication and Bioaccumulation of pollutants.

Section-B
Water and Wastewater studies with reference to environment.
Natural and Man induced disasters – Floods, Earthquakes, landslides, deforestation and Tsunami.

Section-C
Environmental Impact Assessment
Environmental hazards and risk assessment.
Environmental Planning and management – need and scope of EI A.
EIA processes.
Policies and laws with reference to environmental protection.
Agencies involved in protection and conservation of environment.

Section-D
Recent Trends in Environmental Biology
Biofertilizers and food form micro-organisms
Solid waste management with vermicomposting
Bioremediation
Bioreactors in Environment monitoring.
Interdisciplinary Course in Zoology (PG)

Suggested Reading Material:

Interdisciplinary Course in Zoology (PG)

ZOL 052: Concepts of Zoology (Even Semester)  
Credits 4-0-0  
Time: 3 Hrs.  
Max. Marks : 100  
Mid Semester Marks : 20  
End Semester Marks : 80

Mid Semester Examination: 20% weightage  
End Semester Examination: 80% weightage

Instructions for the Paper Setters:
Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four 
Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are 
required to attempt five questions, selecting at least one question from each Section. The fifth 
question may be attempted from any Section.

Section-A

Evolution
Origin of Life
Evolution of multicellularity
Theories and evidences of animal evolution

Taxonomy
Importance of classification
Nomenclature
Concept of species

Section-B

Ecology
Ecosystem Components
Niche
Homeostasis
Biotic and Abiotic factors affecting animals

Behaviour
Innate and learnt behaviour
Parental care
Migration

Section-C

Embryology
Gamete structure, Gametogenesis
Fertilization
Early development upto three germ layers

Applied Zoology
Economically important Invertebrates
Economically important Vertebrates

Section-D

Cell and Cell Organelles
Prokaryotic & Eukaryotic cell
Introduction to cell organelles(nucleus, mitochondria, ribosomes, lysosome, endoplasmic reticulum, golgi complex)
Suggested Reading Material

Interdisciplinary Course in Zoology (PG)

Odd Semester
PSL053: HUMAN RIGHTS AND CONSTITUTIONAL DUTIES
(COMPULSORY PAPER)

Credits: 4
Time: 3 Hrs.
Max. Marks : 100
Mid Semester Marks : 20
End Semester Marks : 80

Mid Semester Examination: 20% weightage
End Semester Examination: 80% weightage

Instructions for the Paper Setters:
Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

Section - A

INTRODUCTION TO HUMAN RIGHTS

Foundational Aspects: Meaning, Nature, Classification
Evolution of the Concept: Magna Carta to Universal Declaration of Human Rights; Generations of Human Rights

Section – B

INTRODUCTION TO HUMAN DUTIES
Conceptual Perspective: Meaning, Nature & Characteristics of Human Duties; Classification of Human Duties; Relevance of Human Duties
Human Duties in India: Fundamental Duties in Indian Constitution Part IV A
((a) to abide by the Constitution and respect its ideals and institutions, the National Flag and the National Anthem;
(b) to cherish and follow the noble ideals which inspired our national struggle for freedom;
(c) to uphold and protect the sovereignty, unity and integrity of India;
(d) to defend the country and render national service when called upon to do so;
(e) to promote harmony and the spirit of common brotherhood amongst all the people of India transcending religious, linguistic and regional or sectional diversities; to renounce practices derogatory to the dignity of women;
(f) to value and preserve the rich heritage of our composite culture;
(g) to protect and improve the natural environment including forests, lakes, rivers and wild life, and to have compassion for living creatures;
(h) to develop the scientific temper, humanism and the spirit of inquiry and reform;
(i) to safeguard public property and to abjure violence;
(j) to strive towards excellence in all spheres of individual and collective activity so that the nation constantly rises to higher levels of endeavour and achievement;
(k) who is a parent or guardian to provide opportunities for education to his child or, as the case may be, ward between the age of six and fourteen years.)
Section - C

CONCEPT OF HUMAN RIGHTS IN INDIA

Constitutional-Legal Framework: Fundamental Rights; Directive Principles of State Policy


Section – D

ACTUAL STATUS OF HUMAN RIGHTS IN INDIA


Readings List