



RANI CHANNAMMA UNIVERSITY, BELAGAVI

WEL-COME

**TO THE COURSE STRUCTRE AND SYLLABUS OF UNDERGRADUATE
PROGRAMMES – B.Sc**

V Semester

w.e.f.

Academic Year 2016-17 and onwards

11. ZOOLOGY (OPTIONAL)

BSc-Zoology (Optional) Fifth Semester

Paper 5.1 and 5.2 Outline

STRUCTURE

Semester	Syllabus	Hour's
V Paper I	Ecology, Evolution, Paleontology, Zoogeography & Wild life Conservation	50
V Paper -II	Genetics, Biotechnology & Biostatistics	50

B Sc V Semester (5.1)
Paper-I
ZOOLOGY (optional)

(Ecology, Evolution, Paleontology, Zoogeography, Wild life Conservation)

Total-hours,50

Marks-80

Ecology.

Earth as Living-Planet. Sub divisions of ecology, Scope of ecology, Biosphere
1 hr

Abiotic factors ____
Light, Temperature (Effect on Animals and Plants)
2hr

Biotic Factor

Mutualism, Commensalism, Amensalism, Parasitism, Predation
, Competition, Parasitism.
2hrs

Habitats
4hrs

Freshwater habitat — Lotic and Lentic systems
Zonation of Sea, Marine Biota, Estuarine ecology, & Mangrooves
Terrestrial habitat — A brief account of Biomes.

Ecological Adaptations — Freshwater, Marine and Terrestrial.

Biogeochemical Cycles - Principles and concepts of Water, Nitrogen, Carbon,
2hrs

Oxygen cycles

Community Ecology-Community structure, Ecological niches, Edge effect,
Stratification, Ecoton.
2hrs

Population Ecology: Density, natality, mortality. Age distribution

Population growth, types and curves.
2hrs

Evolution.

The Solar System

Origin of Earth , Origin of Life and its theories

03hrs

The geological time scale

03hrs

Fossils: Definition and Kinds of fossils, How fossils are formed, Methods of Preservation. Connecting links and Living fossils. The importance of fossils

02hrs

Theories of Organic Evolution :

06hrs

Lamarckism, Darwinism, Mutation Theory

And the Modern Synthesis Theory;(population gene Pool, Gene Frequency . Variations — gene mutation, chromosomal mutation; Isolation and recombination.Genetic drift,Hardy-Weinberg equilibrium)

Modes of Evolution : Microevolution, Macroevolution and Mega-evolution.

02 hrs

,Evolution of Man and Horse

04 hrs

Paleontology

Mesozoic reptiles with a note on Dinosaurs.

03 hrs

Zoogeography: Zoogeographical realms of world ,
A brief account of Wallace's line

03 hrs

Wildlife Conservation :

09hrs

Wildlife in India,Causes for the depletion of wildlife.

Wild Life Conservation Techniques', methods'and measures

Brief account of ; IUCN, WWF,Bombay Natural History Society,
Indian Board for Wild Life, Red Data Book.

Wild Life Act 1972 and its amendments in India,CITES.

Project Tiger and Biosphere Reserve.

Total -11 Practicals

- 1; Study of fossils (vertebrate(3) and invertebrate(3).
1hrs
2. Mesozoic reptiles (Ichthyosaur, tyrannosaur, brontosaur, triceratops, archaeopteryx .
1hr
3. Evolution of man (Homo-erectus. Hemo-habills. Homo-neandertalences)
1hr
4. Evolution of Horse
1hr
- 5 ;Connecting links and living fossils (Neopilina, Peripatus, Limulus, Latimaria; Archaeopteryx and Duckbill platypus)
1hr
- 6 Study of threatened Animals of India (Tiger,Lion,singal horned rhinoceros
1hr
Musk deer,gaur,Golden langur,Loin tailed monkey.Python)
1hr
- 7 ;Estimation of CO_2 from different water samples
1hr
- 8; Estimation of dissolved oxygen
1hr
- 9; Estimation of Total hardness
1hr
- 10;Study of Ecological Adaptations and Morphological peculiarities,;ex-Hermit crab, 1hr
Draco,Stick insect,puffer fish,Exocoetus,Phrynosoma,chamaeleon and Bat.
- 11;Visit to nearby water body to study Ecosystem
1hr

REFERENCE BOOKS:-

Evolution : Odum

Organic Evolution: N.Arumugam
Evolution, Dobzhansky, Ayala, Stebbins & Valentine
Environmental Biology.Rastogi and Company, Meerut
Evolution of the Vertebrates, Colbert E.H. John Wiley and Sons, New York
Ecology;Principles and Application.chapman, Cambridge university press
Environmental Biology P.R.Trivedi and gurudeep Raj.
Recent Advances in Environmentai Biology –Diwan and D.K.Arora
Environmental Science;Eldon.D.Enger andBradly.F,Smith

Suggestions for Practical Examination

SEM — V-5.I

Q. NO I) Estimation of Carbondioxide/O xgen/Total hardness	8marks
Q.NO II) Evolution (Two spottings)	4 marks
Q NO III) Fossils (Two spottings)	4 marks
Q NO IV) Identification (Zoogeography & Wild life)	4 marks
Q NO V) Project on Local Biodiversity	10 marks
Q NO. VI Viva	5 marks
Q NO. VII Journal	5 marks

Note 1 :- Examiners can alter the Scheme of marks for practical in consultation with the staff of the host college.

marks	Note :2	Theory	Internal	20
marks			Final	80
marks		Practical	Internal	10
marks			Final	40

Note 3: Question paper pattern for THEORY examination

	Q No. 1	02 marks = 20 marks	10* 02	
30 marks	Q No. II	05 marks	06* 05	=
10 marks	Q No. III	10 marks	01* 10	=
10 marks	Q No. IV	10 marks	01* 10	=