Dept. of Zoology

Teaching Plan

Academic Year 2015- 16

Class: B.Sc.T.Y. **Semester: V**

Subject: Zoology **Paper No: XIX (Ecology)**

Periods per weeks: Theory . **Test:**

Weeks (Total) : 15

WEEKS	Topics to covered
1.	Introduction, Definition, basic concept, terminology used in ecology
2.	Abiotic environmental factors. Temperature; Concept, temperature fluctuation in different environment. Range of temperature tolerance, effect of temperature on animals, Thermal adaptation.
3.	Light-Concept, Light variation in different environment, effect of light on animals. Adaptation to salinity and moisture
4.	Biotic environmental factors :- Composition: - Definition, types, intraspecific and interspecific composition. Predation: - Definition, characteristics of predation. Commensalisms: - Definition and types with examples
5.	Mutualism: - Definition and example. Parasitism: - Definition and types with examples.
6.	Population :-Definition and basic concepts ;Characteristics of population; Density, Natality, Mortality, Dispersion and Age distribution.
7.	Population growth. Population regulation.
8.	Community :- Definition, basic concept and types. Structure of community; producer, consumers and decomposers.
9.	.Characters; ecological niche, diversity, abundance, dominance, ecotone, edge effect. Community succession; example of succession and climax
10.	Ecosystem : Definition, concept and types.
11.	Components of ecosystem, Dynamics of ecosystem: - primary production, secondary production,
12.	Food chain, food web, tropic level, energy of flow, ecological pyramids.
13.	Brief introduction to major ecosystems: - Marine ecosystem, Pond ecosystem
14.	Forest ecosystem and Desert ecosystem
15.	Revision, test and Seminar

Teacher's Signature **H.O.D. Signature**

Teaching Plan
Academic Year 2015- 16

Class: B.Sc. T.Y. **Semester: V**
Subject: Zoology **Paper No: XVIII-D**
(PARASITIC PROTOZOA AND HELMINTHES - I)

Periods per weeks: Theory . **Test:**
Weeks (Total) : 15

WEEKS	Topics to covered
1.	A- PARASITIC PROTOZOA Introduction to parasitology :- Definition, Parasite &host
2.	Types of parasites, host-parasite relationship Classification of protozoan parasites.
3.	Structure, life cycle, Pathogenecity , control measure of *Entamoeba coli*
4.	Structure, life cycle, Pathogenecity , control measure of *E. gingivalis*
5.	Structure, life cycle, Pathogenecity , control measure of *Giardia intestinalis*
6.	Structure, life cycle, Pathogenecity , control measure of *Trichomonas vaginalis*
7.	Structure, life cycle, Pathogenecity , control measure of *Trypanosoma gambience*
8.	Structure, life cycle, Pathogenecity , control measure of *Balantidium coli*
9.	Structure, life cycle, Pathogenecity , control measure of *Plasmodium vivax*
10.	Structure, life cycle, Pathogenecity , control measure of *P. falcipparium*
11.	Structure, life cycle, Pathogenecity , control measure of *P. ovale*
12.	Structure, life cycle, Pathogenecity , control measure of *P.malariae*
13.	Comparative study of Plasmodium sp.
14.	Structure, life cycle, Pathogenecity , control measure of *Eimeria tenella*
15.	Revision, test and Seminar

Teacher's Signature **H.O.D. Signature**

Teaching Plan

Academic Year 2015- 16

Class: B.Sc. T.Y. **Semester: V**
Subject: Zoology **Paper No: XIX**
ECOLOGY

Periods per weeks: PRACTICAL **Test:**
Weeks (Total) : 15

WEEKS	Topics to covered
1.	Estimation of productivity of pond ecosystem using white and dark bottle method.
2.	Determine the following parameters of soil. pH Alkalinity
3.	Determine the following parameters of soil. Chlorinity Salinity
4.	Analysis of DO, CO_2, Salinity, Chlorinity of water sample.
5.	Analysis of DO, CO_2, Salinity, Chlorinity of water sample.
6.	Study of animal association ship with example (Charts/photo) -Competition, mutualism, parasitism, predation and commensalisms.
7.	Study of animal association ship with example (Charts/photo) -Competition, mutualism, parasitism, predation and commensalisms.
8.	Estimation of population density by Quadrate method on field
9.	Estimation of population density by Quadrate method on field
10.	Preparation of permanent slides of following *Spirogyra, Verticella, Odogonium, Daphnia*
11.	Preparation of permanent slides of following *Spirogyra, Verticella, Odogonium, Daphnia*
12.	Preparation of permanent slides of following *Cyclops, Mysis, Cypris*, *keretella* .
13.	Preparation of permanent slides of following *Cyclops, Mysis, Cypris*, *keretella* .
14.	Project report: - Forest or fresh water ecosystem

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Teaching Plan

Academic Year 2015- 16

Class: B.Sc. T.Y. **Semester: V**
Subject: Zoology **Paper No: XX-D**
Parasitic Protozoa & helminthes I

Periods per weeks: PRACTICAL **Test:**
Weeks (Total) : 15

WEEKS	Topics to covered
1.	Study of microscopic structure of the following; **03** • *Entamoeba coli., Entamoeba histolytica* ,*Opalina*
2.	*Nyctotherus , Balantidium coli , Trichomonas* species
3.	*Trypanosoma* species, *Plasmodium* species, *Eimeria* species
4.	Study of microscopic structure of the following; **03** • *Entamoeba coli., Entamoeba histolytica* ,*Opalina*
5.	*Nyctotherus , Balantidium coli , Trichomonas* species
6.	*Trypanosoma* species, *Plasmodium* species, *Eimeria* species
7.	. Smear preparation:- Rat/ Fish blood smear (Giemsa stain)
8.	. Smear preparation:- Rat/ Fish blood smear (Giemsa stain)
9.	. Smear preparation:- Rat/ Fish blood smear (Giemsa stain)
10.	. Flagellate parasite from rectum of frog and Calotes with giemsa stain
11.	. Flagellate parasite from rectum of frog and Calotes with giemsa stain
12.	. Ciliate parasite from rectum of frog, smear with iron haematoxxyline or tungesto phosphoric acid for Balantidium Nyctotherus & Opalina.
13.	. Ciliate parasite from rectum of frog, smear with iron haematoxxyline or tungesto phosphoric acid for Balantidium Nyctotherus and Opalina.
14.	REVISION

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Teaching Plan
Academic Year 2015- 16

Class: B.Sc. T.Y. **Semester: VI**

Subject: Zoology **Paper No: XXI**

EVOLUTION

Periods per weeks: Theory .
Weeks (Total) : 15

WEEKS	Topics to covered
1.	Concept of organic evolution • Definition and concept. • Theories of organic evolution in brief; Preformation theory, Bear's Law, Biogenetic law, catastrophism, Lamarckism, Darwinism and Germplasm theory.
2.	Origin of Life :- • Definition, Abiogenesis, Biogenesis. • Chemical evolution of life.
3.	Evidences of Organic Evolution :- • Anatomical evidences. • Embryological evidences.
4.	Darwinism :- • Introduction :- Natural selection theory, • Artificial selection theory and sexual selection theory.
5.	Elemental forces of evolution :- • Mutation: - Concept and role in evolution. • Recombination: - Concept and role in evolution.
6.	• Natural selection: - Concept and role in evolution.
7.	• Isolation: - Concept and role in evolution.
8.	• Genetic Drift. : - Concept and role in evolution.
9.	Basic patterns of evolution :- • Sequential and divergent evolution.
10.	• Microevolution: - Concept, silent features and mechanism with example.
11.	• Macro evolution: - Concept, silent features and mechanism with example. • Mega evolution: - Concept, silent features and mechanism with example.
12.	Species and speciation:- • Species: - Morphological concept, Genetical concept, biological concept of species
13.	• Speciation: - Definition, concept, mechanism of speciation. • Allopatric, Sympatric and Parapatric speciation
14.	Fossils :- Definition , fossil formation
15.	Types of fossils.

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TEACHING PLAN
Academic Year 2014- 15

Class: B.Sc. T.Y. **Semester: VI**
Subject: Zoology **Paper No: XXII-D**
Periods per weeks: Theory **Helminthes II**
Weeks (Total) : 15

WEEKS	Topics to covered
1.	PARASITIC HELMINTHES General characters and classification of helminthes
2.	Structure ,life history, pathogenecity and control measure of *Schistosoma haematobium*
3.	Structure ,life history, pathogenecity and control measure of *Taenia Saginata*
4.	Structure ,life history, pathogenecity and control measure of *Echinococcus granulossus*
5.	Structure ,life history, pathogenecity and control measure of *Trichinella spiralis*
6.	Structure ,life history, pathogenecity and control measure of *Enterobius vrmicularis*
7.	Structure ,life history, pathogenecity and control measure of *Ancylostoma duodenale*
8.	Structure ,life history, pathogenecity and control measure of *Wuchereria bancroftii, Dracunculus medinensis*.
9.	Gross morphology of Trematoda and Cestoda
10.	Gross morphology of Nematodes
11.	Reproductive organs of Trematodes and Cestodes
12.	Reproductive organs of Nematodes and Cestodes
13.	Body wall of Trematodes and Cestodes
14.	Body wall of nematodes and Cestodes
15.	Students seminar and revision of syllabus

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Teaching Plan
Academic Year 2014- 15

Class: B.Sc.T.Y. **Semester: VI**
Subject: Zoology **Paper No: XXIII**
Periods per weeks: Practical . **Evolution**
Weeks (Total) : 15

WEEKS	Topics to covered
1.	Embryological evidences of evolution with the help of (chart)
2.	Embryological evidences of evolution with the help of Demonstration of examples
3.	Adaptive modification in feets of birds
4.	mouth parts of insects
5.	Study of successive stages of evolution in Horse
6.	Study of successive stages of evolution with the help of human models/charts
7.	Discuss on patterns of speciation 1) Allopatric speciation
8.	Discuss on patterns of speciation 2) Sympatric speciation
9.	Study of the homologous organs.
10.	Study of the analogous organs.
11.	embryological evidences
12.	Observation of slides – Mouth parts
13.	Observation – Feets of birds
14.	Study of natural selection using *E. coli* bacteria
15.	Study of geographical era

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Teaching Plan
Academic Year 2015- 16

Class: B.Sc. **Semester: VI**
Subject: Zoology **Paper No: XXIV-D**
(Helminthes II)

Periods per weeks: Practical .
Weeks (Total) : 15 **Tutorial:**

WEEKS	Topics to covered
1.	Study of microscopic structure of schistosoma sps. And Fasciola
2.	Redia larva, cercaria larva v.s. body wall of Fasciola
3.	Mehrochis,Ganeo, Tremorchis and paramphistomum
4.	Taenia saginata, echinococcus, scolex of T. solium
5.	Mature proglottid, Grand proglottid
6.	Hexacanth larva, Body wall of tape worm micro filarial, Trichenalla
7.	Entrobis vermicularis, T.S body wall, Ascaris lumbricoides, Ancyclostoma
8.	Collection and preservation
9.	Staining and identification of trematodes parasites
10.	Cestodes parasites from the chick intestine
11.	Identification of parasites (cestodes)
12.	Trematodes parasites from the rectum of frog
13.	Identification trematode parasites
14.	Nematode parasites from verteberate host
15.	Identification of parasites
16.	REVISION

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