

DEPARTMENT OF ZOOLOGY
ABHEDANANDA MAHAVIDYALAYA, SAINTHIA
ACADEMIC PLAN (SUGGESTIVE)

Semester: I

Courses: CORE COURSE II (CC-2)- ECOLOGY

Total Marks: 75

Total credit: 06 (Theory-4+ Practical-2)

Total no. of lectures: 90 (T-60+P-30)

Objective: To have a tentative course of action well in advance through the said Academic Plan to be able to:

- execute the new CBCS with ease
- finish syllabus and conduct evaluations on time to the satisfaction of both the student and the teacher.

Evaluation method: C1- 10% of the total marks (class test/assignt/seminar +Attnd)

C2- 10% of total marks (class test/assignment/seminar +Attend)

C3- 60 marks [T-(10x2) + (5x2) + (2x5) + P-20]-semester end examination

C1: 8th week from the beginning of the semester
Completion of 1/3rd of the total course syllabus
Around 3rd week of September 2017

C2: 16th week from the beginning of semester
Completion of 2/3rd of the syllabus
Around 3rd week of November 2017

C3: 21st-23rd week Full Syllabus

Around Last Week of December, 2018

Syllabus CC1

ECOLOGY (THEORY)

Unit 1: Introduction to Ecology

Unit 2: Population

Unit 3: Community

Unit 4: Ecosystem

Unit 5: Applied Ecology

PRACTICAL-

1. Study of life table and plotting of survivorship curves of different types from the hypothetical /real data

2. Determination of population density in a natural/hypothetical community by quadrat method and calculation of Shannon-weiner diversity index.

3. Study of an aquatic ecosystem: phytoplankton and zooplankton, measurement of area, temperature, determination of P^H and free CO_2 .

4. Report on a visit to National park /Biodiversity park/Wild life sanctuary/Biodiversity Museum.

<p>Texts prescribed by university for uniformity in translation and ease of access</p>	<ul style="list-style-type: none"> ● Odum, E. P. & Barret, G. W. (2005). Fundamentals of Ecology. 5th Ed. Thompson Brooks/Cole ● Dash, M. C., (2001). Fundamental of Ecology. 2nd Ed. Tata McGraw-Hill Company. ● Smith, R. L. & Smith, T. M. (2001). Ecology and Field Biology. Benjamin Cummings Pearson Education. ● Robert Desharnais, Jeffrey Bell, 'Eco Labs' ● Darrell S Vodopich, 'Ecology Lab M
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<p>ACADEMIC PLAN</p>	
<p>Semester Begins</p>	<p>Fourth Week of July 2017</p>
<p>Number of lectures/week (1hr/lecture)</p>	<p>Theory=08+ Practical=04</p>
<p>Tentative no. of classes/topic taken and syllabus covered before C1</p> <p>1/3rd of CC-I should have been covered</p>	<p><u>THEORY</u></p> <ul style="list-style-type: none"> ● Unit-I History of ecology, Autecology and synecology, Levels of organization, Laws of limiting factors, Study of Physical factors, The Biosphere...(4L) ● Unit-3 Community characteristics: species diversity, abundance, , dominance, richness, Vertical

	<p>stratification, Ecotone and edge effect. succession with one example.....(12L)</p> <p><u>Practical-point1</u></p> <p>Study of life tables and plotting of survivorship curves of different types from the hypothetical/real data provided.....(6L)</p>
1 nd week of September 2017	<ul style="list-style-type: none"> • Deciding of method of evaluation for C1 • Topic/area- Unit1&3 • Notifying students about the topic and the method of assessment
2 nd week of September 2017	<ul style="list-style-type: none"> • Submitting question papers for class test/ topic for seminar/ assignment
3 rd week of September 2017	<ul style="list-style-type: none"> • Conducting C1 (8th week of sem.) • Class test/seminar/assignment • Calculating class attendance
4 th week of September 2017 (before college breaks for Puja vacation)	<ul style="list-style-type: none"> • Department meeting • Keeping record marks for C1
Syllabus covered before college breaks for puja vacation.	<ul style="list-style-type: none"> • Unit-5 <p>Wildlife Conservation (in-situ and ex-situ conservation). Management strategies for tiger conservation; Wild life protection act (1972)....(6L)</p> <ul style="list-style-type: none"> • <u>Practical-point2</u> <p>Determination of population density in a natural/hypothetical community by quadrature method and calculation of Shannon-Weiner diversity index for the same community....(6L)</p>

<p>Puja break</p>	
<p>Tentative no. of classes/topic taken and syllabus covered before C2</p> <p>2/3rd of CC1 should have been covered</p>	<ul style="list-style-type: none"> • Unit-2 Unitary and Modular populations Unique and group attributes of population: Demographic factors, life tables, fecundity tables, survivorship curves, dispersal and dispersion. Geometric, exponential and logistic growth, equation and patterns, and K strategies. Population regulation, density dependent and independent factors Population Interactions, Gause's Principle with laboratory and field examples, Lotka-Volterra equation for competition....(22L) • Unit-4 Types of ecosystem with an example in detail, Food chain: Detritus and grazing food chains, Linear and Y-shaped food chains, Food web, Energy flow through the ecosystem, Ecological pyramids and Ecological efficiencies Nutrient and biogeochemical cycle with an example of Nitrogen cycle Human modified ecosystem...(15L) • Practical-point3 &4 Study of an aquatic ecosystem: Phytoplankton and zooplankton, Measurement of area, temperature, determination of pH and free CO₂....(.12L) <p>4. Report on a visit to National</p>

	Park/Biodiversity Park/Wild life sanctuary/ Biodiversity Centre/ Any Museum/Sea shore(1L)
1 st week of November 2017	<ul style="list-style-type: none"> • Deciding of method of evaluation for C2 • Topic/area- Unit4&2 • Notifying students about the topic and the method of assessment
2 nd week of November 2017	<ul style="list-style-type: none"> • Submitting question papers for class test/ topic for seminar/ assignment
3 rd week of November 2017	<ul style="list-style-type: none"> • Conducting C2 (16th week of sem.) • Class test/seminar/assignment • Calculating class attendance
4 th week of November 2017	<ul style="list-style-type: none"> • Department meeting • Keeping record marks for C2
3 rd week of December 2017	Syllabus for CC2 should have been completed including providing necessary guidelines, pointers,study materials leaving them enough time to prepare for C3
1 st week of January 2018	Clearing last moment doubts of students regarding any portion of CC2 for C3