## DEPARTMENT OF ZOOLOGY
### SAROJINI NAIDU COLLEGE FOR WOMEN
### ACADEMIC CALENDAR
### SEMESTER 1
### CORE COURSE-I (ZOOACOR01T)
### NON-CHORDATES I: PROTISTS TO PSEUDOCOELOMATES

<table>
<thead>
<tr>
<th>UNITS</th>
<th>TOPICS</th>
<th>SUB TOPICS</th>
<th>ALLOTED TEACHER</th>
<th>NO. OF CLASS</th>
<th>MONTH COVERED</th>
</tr>
</thead>
</table>
| 1 | Protista, Parazoa and Metazoa | General characteristics and Classification up to classes  
Study of *Euglena, Amoeba and Paramecium*  
Life cycle and pathogenicity of *Giardia intestinalis, Leishmania donovani, Entamoeba histolytica* and *Plasmodium vivax*.  
Locomotion and Reproduction in Protista.  
Evolution of symmetry and segmentation of Metazoa. | MB/SB1 | 19 | JULY AUGUST |
| 2 | Porifera | Characteristics and Classification up to classes.  
Canal system and spicules in sponges. | SAB | 7 | AUGUST |
| 3 | Cnidaria | General characteristics and Classification up to classes  
Metagenesis in *Obelia*  
Polymorphism in Cnidaria, Corals and coral reefs: types, formation, distribution, conservation significance | SAB | 12 | SEPTEMBER OCTOBER |
| 4 | Ctenophora | General Characteristics. | SAB | 4 | JULY AUGUST |
| 5 | Platyhelminthes | General characteristics and Classification up to classes  
Life cycle and pathogenicity of *Fasciola hepatica* and *Taenia solium* | MB | 10 | AUGUST SEPTEMBER |
| 6 | Nemathelminthes | General characteristics and Classification up to classes  
Life cycle, and pathogenicity of *Ascaris lumbricoides, Ancylostoma duodenale* and *Wuchereria bancrofti*  
Parasitic adaptations in helminthes  
Origin and evolution of parasitic helminthes | MB | 8 | SEPTEMBER OCTOBER |
# Core Course-I (ZO0ACOR01P)
## Non-Chordates I: Protists to Pseudocoelomates

<table>
<thead>
<tr>
<th>Units</th>
<th>Topics</th>
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<th>Allotted Teacher</th>
<th>No. of Class</th>
<th>Month Covered</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Study of whole mount of</td>
<td><em>Euglena, Amoeba and Paramoecium, Binary fission and Conjugation in Paramoecirm.</em></td>
<td>MB</td>
<td>10</td>
<td>July</td>
</tr>
<tr>
<td>2</td>
<td>Examination of</td>
<td>Freshwater pond water collected from different places for diversity of protists in it.</td>
<td>MB</td>
<td>10</td>
<td>August</td>
</tr>
<tr>
<td>3</td>
<td>Study of</td>
<td><em>Sycon (T.S. and L.S.), Hyalonema, Euplectella, Spongilla, Obelia, Physalia, Millepora, Aurelia, Tubipora, Corallium, Alcyonium, Gorgonia, Metridium, Pennatula, Fungia, Meandrina, Madrepora.</em></td>
<td>SAB</td>
<td>18</td>
<td>August</td>
</tr>
<tr>
<td>4</td>
<td>Slide</td>
<td>One specimen/slide of any Ctenophore.</td>
<td>SAB</td>
<td>2</td>
<td>July</td>
</tr>
<tr>
<td>5</td>
<td>Study of</td>
<td>Adult <em>Fasciola hepatica, Taenia solium</em> and their life cycles (Slide/microphotographs). Adult <em>Ascaris lumbricoides</em> and its life stages (Slides/micro-photographs).</td>
<td>MB</td>
<td>10</td>
<td>August</td>
</tr>
<tr>
<td>6</td>
<td>Project Report</td>
<td>To submit a Project Report on any related topic on pond water protozoan or invertebrate diversity/ life cycles of mosquitoes, butterfly/moth etc / coral and coral reefs.</td>
<td>MB/SAB</td>
<td>10</td>
<td>September, October, November</td>
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</tbody>
</table>
# CORE COURSE-II (ZOOACOR02T)
## PRINCIPLES OF ECOLOGY

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</table>
| 1     | Introduction to Ecology | History of ecology  
Autecology and Synecology  
Levels of organization  
Laws of limiting factors  
Study of Physical factors  
The Biosphere. | TP              | 4            | JULY AUGUST  |
| 2     | Population              | 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, r 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. | SAB             | 20           | JULY AUGUST  |
| 3     | Community                | Community characteristics: species diversity, abundance, dominance, richness, Vertical stratification, Ecotone and Edge effect.  
Ecological succession and one example of it. | SAB             | 11           | SEPTEMBER OCTOBER |
| 4     | Ecosystem                | 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  
Ecological efficiencies  
Nutrient and biogeochemical cycle with an example of Nitrogen cycle  
Human modified ecosystem | SB1             | 10           | JULY SEPTEMBER |
Management strategies for tiger conservation  
Wild life protection act (1972). | TP              | 5            | SEPTEMBER OCTOBER |
## CORE COURSE-II (ZOOACOR02P)  
### PRINCIPLES OF ECOLOGY

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<tr>
<td>1</td>
<td>Study of life tables and plotting of survivorship curves of different types from the hypothetical/real data provided.</td>
<td>SAB</td>
<td>10</td>
<td>AUGUST SEPTEMBER</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Determination of population <strong>density</strong> of a natural/hypothetical population. Study of species <strong>diversity</strong> of a community by <strong>quadrat</strong> or any other suitable sampling method and calculation of <strong>Shannon-Weiner diversity index</strong> for the same community.</td>
<td>MB/SAB</td>
<td>15</td>
<td>SEPTEMBER OCTOBER</td>
<td></td>
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</table>
| 3     | **Study of an aquatic ecosystem:**  
Sampling of Phytoplankton and zooplankton  
Measurements of temperature  
Measurements turbidity/penetration of light  
Determination of pH  
Dissolved Oxygen content (Winkler’s method)  
Chemical Oxygen Demand and free CO2. | SN/SB2 | 25 | JULY AUGUST SEPTEMBER |
| 4     | **Excursion:**  
Visit to a National Park/ Wild life sanctuary/ any other Protected Forests within West Bengal.  
Report (including the actual field diary) on the study of the landscape and habitat features, Types of Forests, Major Flora and Fauna, Man-animal conflicts and other problems, Management and conservation measures. | MB/SAB | 10 | OCTOBER NOVEMBER |