

Course: MICROBIOLOGY PG

Semester	3
Paper Number	MMCB 4312
Paper Title	ECOLOGY
No of credits	3
Non composite/composite	Composite
No. of periods assigned	3
Course description/objective	<ul style="list-style-type: none"><li>• To know the conservation and sustainable development</li><li>• To know environmental impact assessment</li></ul>
Reference List	<ol style="list-style-type: none"><li>1. Fundamentals of Ecology-Odum.</li><li>2. Environmental Studies-Mitra and Chakraborty</li><li>3. Fundamentals of Ecological Modelling-Jorgensen</li></ol>
Evaluation	<p>Theory: 30 (20 End sem + 10 CIA) Practical: 20 (10 End sem + 10 CIA) End semester Question Paper format: Theory 20 MARKS</p> <ul style="list-style-type: none"><li>• SHORT QUESTION: FROM 7 QTNS ANSWER 5 (EACH 2 MARKS) = 5X2=10</li><li>• LONG QUESTION: FROM 4 QTNS ANSWER 2 (EACH 5 MARKS)= 2X5=10</li></ul> <p>10 marks end sem viva</p>

## **ECOLOGY**

### **THEORY: 30**

Interaction between abiotic and biotic factors in an ecosystem, ecological niche, limiting factor, concept of community, fluctuation and succession. Ecological pyramid, energy flow, food chain, food webs and their dynamism, stability and complexity of ecosystem, bio geo chemical cycles, conservation and sustainable development, environmental impact assessment. Ecological modelling: Concept and Approach [AKM]

### **PRACTICAL 20**

Calculation of frequency of species through Ground Quadrat determination. Calculation of Shannon Wiener diversity index .Calculation of Shannon Evenness. Calculation of Simpson's index. Demonstration of Margalef diversity index.

### **Reference:**

Fundamentals of Ecology-Odum.

Environmental Studies-Mitra and Chakraborty

Fundamentals of Ecological Modelling-Jorgensen