

BOE-113 T-General Botany

Semester: I	Course Title:General Botany	Credits: 2
Course code:BOE-113 T	Minor Botany -(T)	Hours: 2/week

COs

COs	COURSE OUTCOMES
CO1	Understand the structure and function of an ecosystem. Understand the principle and working of some ecological instruments;
CO2	Classify the different plant forms to their respective groups based on their thallus structure and reproduction.
CO3	Understand the process of mushroom cultivation and analyze its entrepreneurial scope.

CO-PO Mapping:

	PO 1	PO 2	PO 3	PO 4	PO 5
CO 1	1	1	1		
CO 2	1	2	1		
CO 3		1	2		

Unit	Detailed Syllabus	No. of Hours of Teaching
I	<u>Environmental biology</u> -Introduction, Scope and Branches of Ecology -Ecosystems, Kinds of Ecosystems: Natural, Artificial -Components of Ecosystem, Components of Freshwater Ecosystem (Pond), Components of Terrestrial Ecosystem (Grassland) -Food chain, food web, Ecological Pyramids, Productivity of an Ecosystem, Energy flow in an Ecosystem -Biogeochemical Cycles- Nitrogen, Sulphur -Biotic Factors : Symbiosis: Mutualism, Proto-cooperation, Commensalism Antagonism: Predation, Parasitism, Antibiosis, Competition, Saprophytism -Edaphic factor: Importance of soil, Effect of soil on plants -Composition of soil, origin and development of soil, soil profile -Soil composition, Soil texture -Soil water, water holding capacity -Soil-air, soil organisms -Electrical conductivity of soils -Soil erosion -Soil conservation	15

II	<p><u>Diversity of Lower Plants</u></p> <p>-General account: Habit and habitat of Algae, Fungi. General characters, Pigments, Food reserves, flagella, thallus organization & -Modes of reproduction in Algae.</p> <p>-Life history of the following genera including morphology and reproduction excluding development: (Classification as per G. M. Smith) 1. <i>Spirogyra</i> 2. <i>Nostoc</i> 3. <i>Volvox</i></p> <p>-Importance of Algae in Industry & Agriculture</p> <p>-Life history of the following genera including morphology and reproduction, excluding development (Classification according to Ainsworth) 1. <i>Mucor</i> 2. <i>Agaricus</i></p> <p>-Mushroom Cultivation – Importance</p> <p>-Economic importance of fungi.</p> <p>-Study of Lichens and their types</p>	15
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Suggested Reference Books:

- Kumar, H.D. (1999). Introductory Phycology, 2nd edition. New Delhi, Delhi: AffiliatedEast-WestPress.
- Lee, R.E. (2008). Phycology, 4th edition. Cambridge, Cambridge: Cambridge UniversityPress,
- Raven, F.H., Evert, R.F., Eichhorn, S.E. (1992). Biology of Plants. New York, NY: W.H.Freemanand Company
- Alexopoulos,C.J.,Mims,C.W.,Blackwell,M.(1996).IntroductoryMycology,4thediti on.Singapore, Singapore: John Wiley&Sons.
- Sethi, I.K. andWalia,S.K.(2011).TextbookofFungiandTheir Allies.Noida,U.P.:MacmillanPublishersIndiaLtd.
- Webster,J.,Weber,R.(2007).IntroductiontoFungi,3rdedition.Cambridge,U.K.:Camb ridge UniversityPress.
- GanguleeH.C.,Kar,A.K.andSantraS.C.(2011). CollegeBotanyVolIII. 4thEditionNewCentralBook Agency.

BOE -113P:Botany Minor Practical

Semester: I	Course Title: Botany Minor Practical-113	Credits: 2
Course No.: BOE 113 P	Minor Botany -Practical	Hours: 4/week

COs

COs	COURSE OUTCOMES
CO 1	Understand the various interactions between organisms as biotic factors. Learn the basics of soil science.
CO 2	Identify life cycle patterns of various groups. Describe the vegetative and reproductive structure of the forms studied.
CO 3	Understand the process of mushroom cultivation and analyze its entrepreneurial scope. Study lichens and their economic importance.

CO-PO Mapping

	PO 1	PO 2	PO 3	PO 4	PO 5
CO 1	1	1	1		
CO 2	1	2	1		
CO 3		1	2		

List of Practicals

Practical No.	Title of the Practical
1.	Study of Chart of Ecosystem classification
2.	Study of artificial ecosystem by Terrarium chart/model
3.	Study of Biotic factors
4.	Study of Soil pH
5.	Soil texture & soil types
6.	Electrical conductivity of soil
7.	Study of soil Water holding capacity
8.	Study of <i>Spirogyra</i>
9.	Study of <i>Nostoc</i>
10.	Study of <i>Volvox</i>
11.	Study of <i>Mucor</i>
12.	Study of Mushroom
13.	Study of Lichens and types by chart/specimen/slides