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G. VENKATASWAMY NAIDU COLLEGE (AUTONOMOUS), KOVILPATTI – 628 502.



UG DEGREE END SEMESTER EXAMINATIONS - APRIL 2025.

(For those admitted in June 2021 and later)

PROGRAMME AND BRANCH: B.Sc., BOTANY

SEM	CATEGORY	COMPONENT	COURSE CODE	COURSE TITLE
VI	PART - III	CORE	U21BO612	PLANT ECOLOGY AND BIODIVERSITY

Date & Session: 26.04.2025/FN

Time: 3 hours

Maximum: 75 Marks

Course Outcome	Bloom's K-level	Q. No.	SECTION - A (10 X 1 = 10 Marks) Answer <u>ALL</u> Questions.
CO1	K1	1.	The soil area around the root zone is a) Biosphere b) Hydrosphere c) Rhizosphere d) Atmosphere
CO1	K2	2.	Conversion of atmospheric Nitrogen into usable form for plants is called. a) Nitrogen fixation b) Denitration c) Nitrification d) Ammonification
CO2	K1	3.	What is the main difference between a food chain and a food web? a) Food chains are linear, while food webs are interconnected b) Food chains involve only producers, while food webs involve all trophic levels c) Food webs exist only in forests d) Food chains do not include decomposers
CO2	K2	4.	The process of energy transfer from one trophic level to the next is called: a) Photosynthesis b) Nutrient cycling c) Trophic interaction d) Energy flow
CO3	K1	5.	The process of species migration and establishment is known as: a) Colonization b) Ecesis c) Succession d) Association
CO3	K2	6.	Transect studies in vegetation analysis involve: a) Using square plots to study flora distribution b) Observing animal behaviour in specific habitats c) Linear sampling across environmental gradients d) Soil composition analysis
CO4	K3	7.	Solve the problem by identifying right terminology. The plant and animal species arriving at a new area during succession is called a) Reaction c) Nudation b) Invasion d) Competition
CO4	K4	8.	Examine, which one of the following a) Succession in dry areas b) Succession in aquatic habitats c) Succession on rocks d) Succession in forest ecosystems
CO5	K5	9.	Defend the key reason for the loss of biodiversity? a) Pollination b) Invasive species c) Climate adaptation d) Mutualism
CO5	K6	10.	Predict the Right definition for the term "Endemic species" a) Species found in only one geographic location b) Species found across multiple continents c) Species that migrate annually d) Species introduced to new habitats

Course Outcome	Bloom's K-level	Q. No.	SECTION - B (5 X 5 = 25 Marks) Answer ALL Questions choosing either (a) or (b)
CO1	K1	11a.	List the abiotic factors that influence vegetation. (OR)
CO1	K3	11b.	Differentiate the Physical and Chemical properties of soil.
CO2	K3	12a.	Describe the components of an ecosystem and their interrelationship. (OR)
CO2	K4	12b.	List the various life forms with an example.
CO3	K4	13a.	Differentiate autecology and synecology with examples. (OR)
CO3	K5	13b.	Defend the role of migration in shaping ecological communities.
CO4	K1	14a.	Define nudation and invasion. Explain their roles in ecological succession. (OR)
CO4	K5	14b.	Interpret and illustrate the process of succession from rock to forest (climax) community.
CO5	K2	15a.	Discuss the significance of biodiversity hotspots with examples. (OR)
CO5	K4	15b.	Explain the Strength and limitations of the IUCN red list in Global Bio diversity conservation efforts.

Course Outcome	Bloom's K-level	Q. No.	SECTION - C (5 X 8 = 40 Marks) Answer ALL Questions choosing either (a) or (b)
CO1	K2	16a.	Explain in detail about nitrogen cycle, highlighting its significance in agriculture. (OR)
CO1	K3	16b.	Analyse the effects of anthropogenic changes on the carbon cycle and global warming.
CO2	K2	17a.	Write detailed account on ecological pyramids, their types and significance. (OR)
CO2	K3	17b.	Explain the structural and functional adaptations of plants in aquatic ecosystem.
CO3	K5	18a.	Evaluate the interaction between vegetation studies, environmental conservation and restoration. (OR)
CO3	K2	18b.	Explain the procedure for conducting transect study and its application in assessing environmental gradients.
CO4	K4	19a.	Analyse the effectiveness of hydrosere succession in demonstrating ecosystem development under contrasting environmental conditions. (OR)
CO4	K5	19b.	Evaluate the impact of climate change on the process of ecological succession and formation of climax communities.
CO5	K2	20a.	Compare the <i>in-situ</i> and <i>ex-situ</i> conservation methods. List out their significance. (OR)
CO5	K6	20b.	Judge the role of conservation education and awareness in mitigating threats to biodiversity and promote sustainable development, in contrast with the real time issues we face in India.