

B.E (Civil Engineering) 4th Year 2nd Semester Examination, 2024
(1st / 2nd Semester /-Repeat/ Supplementary / Annual /-Bianual)

Subject: Ecology and Environmental Management

Full Marks: 100

Time: Two hours/Three hours/Four hours/Six hours

(50 marks for each part)

Use a separate Answer-Script for each part

No. of Question	Part-I	Marks
<u>Answer Question-I and any two questions from the rest</u>		
Q.1)	a) Define “Sustainable Development” and “Sustainable Development Goals”. b) Draw the “Waste Management Hierarchy” diagram and justify the order of preference. c) Classify different “Waste Minimization Techniques” with the help of a neat schematic diagram. d) State the essential components of an effective “Environmental Management Plan (EMP)”.	(3+2) (2 +3) 5 5
Q.2)	a) Explain the significance of “Substitution of Raw Material” in achieving waste minimization for modern distilleries. b) State the significance of “Technology change” in achieving waste minimization for modern brick kilns.	7 8
Q.3)	a) What are the essential features of “Leopold Matrix method of Environmental Impact Analysis”? b) Discuss in brief on the steps followed in the “Semi-quantitative Index Method of Environmental Impact Analysis” to estimate the potential environmental impact.	6 9
Q.4)	a) Write short notes on i) Screening ii) Scoping in the context of “Environmental Impact Assessment”. b) Describe the three-step process applied for impact mitigation for any type of developmental project with suitable examples.	(4+4) 7

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BACHELOR OF ENGINEERING (CIVIL ENGINEERING) , Fourth Year, Second Semester EXAMINATION 2024

SUBJECT: ECOLOGY AND ENVIRONMENTAL MANAGEMENT

Full Marks 30/100

Time: ~~Two hours/Three hours/Four hours/Six hours~~

Use a separate Answer-Script for each part

No. of Questions	Part II (Marks:50)	Marks
	<p>Answer any Three (3) question Two (2) marks are reserved for neatness and to the point answer. Assume relevant data if necessary</p>	
Q1.	Write short notes on :- (any four)	4 x 4 = 16
a)	Open Ecosystem.	
b)	Productivity	
c)	Limonitic zone in aquatic environment	
d)	Landscape Ecology	
e)	Artificial ecosystem	
f)	Ecological pyramid	
g)	Food chain	
Q2.	Define Ecology. What is its need for studying as Civil Engineering paper? What are the different subdivisions of ecology as subject?	2+3+5
a)	..Justify the significance and importance of ecological factors and nutrient flow in ecosystem?	6
Q3.	What do you understand by ecosystem? Explain briefly the biotic components of an ecosystem	6
b)	With the help of neat sketch explain desert or marine ecosystem.	10
Q4.	What is biogeochemical cycle? What is its significance? Draw a neat labeled sketch of nitrogen Cycle and explain briefly its significance with limitation.	8
b)	Describe the major components of pond ecosystem with a neat sketch	8