## **IV B.Tech - I Semester – Regular Examinations - DECEMBER 2022**

## WATERSHED MANAGEMENT (CIVIL ENGINEERING)

Duration: 3 hours

Max. Marks: 70

Note: 1. This question paper contains two Parts A and B.

- 2. Part-A contains 5 short answer questions. Each Question carries 2 Marks.
- 3. Part-B contains 5 essay questions with an internal choice from each unit. Each question carries 12 marks.
- 4. All parts of Question paper must be answered in one place.

## PART – A

		BL	CO
1. a)	What is the function of a watershed?	L2	CO1
1. b)	What is meant by sheet erosion?	L2	CO2
1. c)	Define percolation tanks and recharge wells.	L1	CO3
1. d)	What is the difference between aquifer and	L2	CO4
	groundwater recharge?		
1. e)	How is biomass management useful for	12	CO5
	ecosystem management?	LZ	005

## PART – B

			BL	СО	Max. Marks
		UNIT-I			
2	a)	Explain physiographic characteristics of	L2	CO1	6 M
		Watershed with neat sketches wherever			
		necessary.			

BL – Blooms Level CO – Course Outcome

Management in India. List out the Principles of Watershed Management in detail. Imagement in India. List out the Principles of Watershed Management in detail.   4 a) Explain types of erosion in detail along with causes. L2 CO2 6 M   b) Explain Universal soil loss equation in detail. L2 CO2 6 M   b) Explain Universal soil loss equation in detail. L2 CO2 6 M   OR   5 a) Explain in detail the Contour techniques L3 CO2 6 M   b) List out measures to arrest soil erosion in a watershed. Discuss each measure in detail. L3 CO2 6 M   UNIT-III   6 What are the objectives of rain water lL2 CO3 12 M   OR		b)	Describe watershed deterioration and its	L2	CO1	6 M
3 Explain the necessity of Watershed Management in India. List out the Principles of Watershed Management in detail. L2 CO1 12 M   4 a) Explain types of erosion in detail along with causes. L2 CO2 6 M   b) Explain Universal soil loss equation in detail. L2 CO2 6 M   5 a) Explain in detail the Contour techniques L3 CO2 6 M   b) List out measures to arrest soil erosion in detail. L3 CO2 6 M   b) List out measures to arrest soil erosion in detail. L3 CO2 6 M   b) List out measures to arrest soil erosion in detail. L3 CO2 6 M   UNIT-III   6 What are the objectives of rain water in detail. L2 CO3 12 M   OR   OR   In water harvesting.   In water harvesting with respect to L2 CO3 12 M   CO2 6 M   In water harvesting with respect to L2 CO3 12 M   Arrow of rain water harvesting with respect to L2 CO3 12 M   <			consequences.			
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	7	Exp	plain water harvesting with respect to	L2	CO3	12 M
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	UNIT-IV					
8	a)	Explain in detail the methods used for artificial recharge.	L2	CO4	7 M	
	b)	Briefly explain about measures taken for	L2	CO4	5 M	
		Reclamation of saline and alkaline soils.				
		OR				
9	a)	Briefly explain the artificial recharge	L2	CO4	8 M	
		techniques for groundwater in detail.				
	b)	List out the advantages and disadvantages	L2	CO4	4 M	
		of artificial recharge.				
UNIT-V						
10	a)	Discuss about the role of ecosystem and	L2	CO5	6 M	
		bio-mass management.				
	b)	What are the objectives of horticulture	L2	CO5	6 M	
		and Silvi pasture system? Explain.				
OR						
11	a)	Explain in detail about the inter, mixed	L2	CO5	6 M	
		and strip cropping.				
	b)	Give a brief explanation on social forestry	L2	CO5	6 M	
		and afforestation.				