

Code: 20CE4703D

IV B.Tech - I Semester – Regular Examinations - DECEMBER 2023

**WATERSHED MANAGEMENT
(CIVIL ENGINEERING)**

Duration: 3 hours

Max. Marks: 70

Note: 1. This paper contains questions from 5 units of Syllabus. Each unit carries 14 marks and have an internal choice of Questions.

2. All parts of Question must be answered in one place.

BL – Blooms Level

CO – Course Outcome

			BL	CO	Max. Marks
UNIT-I					
1	a)	Describe the hydrological cycle in brief.	L2	CO1	7 M
	b)	Explain briefly about physical characteristics of watersheds.	L2	CO1	7 M
OR					
2	a)	Give a brief explanation on hydrology and socio-economic characteristics of watershed.	L2	CO1	7 M
	b)	Explain briefly about concept of sustainable development in watershed management.	L2	CO1	7 M
UNIT-II					
3	a)	Explain in detail the different techniques to control soil erosion.	L2	CO2	7 M

	b)	How do you estimate soil loss due to erosion using Universal Soil Loss equation (USLE)? Explain briefly.	L3	CO2	7 M
OR					
4	a)	Explain classification of erosion along with examples.	L3	CO2	8 M
	b)	List out the different types of soil erosion. What are the consequences of soil erosion?	L3	CO2	6 M
UNIT-III					
5	a)	Explain about different principles of water harvesting.	L2	CO3	7 M
	b)	Briefly explain about different rainwater harvesting structures for long term.	L3	CO3	7 M
OR					
6	a)	List out the advantages and disadvantages of RWH.	L1	CO3	4 M
	b)	Explain Rainwater Harvesting with at least one successful case study.	L4	CO3	10 M
UNIT-IV					
7	a)	Discuss about the reclamation of saline soils.	L3	CO4	7 M
	b)	Explain in detail the methods used for artificial recharge.	L3	CO4	7 M
OR					
8	a)	Give a brief explanation the factors affecting the artificial recharge of groundwater.	L3	CO4	4 M

	b)	Discuss the various artificial groundwater recharge practices involved in the small watersheds.	L3	CO4	10 M
UNIT-V					
9	a)	Discuss about the bio-mass management in ecosystem.	L3	CO5	6 M
	b)	Discuss briefly about the silvi-pasture and social forestry.	L1	CO5	8 M
OR					
10	a)	What is dry land agriculture?	L2	CO5	4 M
	b)	Discuss watershed approach-planning, implementation & management by giving an example.	L4	CO5	10 M