

THE KAVERY ENGINEERING COLLEGE*(An Autonomous Institution)***B.E./B.TECH DEGREE END SEMESTER THEORY EXAMINATIONS, APRIL-MAY 2025***Fourth Semester**Agricultural Engineering***AI3402 – Soil and Water Conservation Engineering***Regulations - 2021***Duration : 3 Hrs****Maximum : 100 Marks****PART – A (ANSWER ALL QUESTIONS) (Marks 10*2=20)**

Q.No	Questions	BLT	CO	Marks
1.	What are the different types of water erosion?	L2	1	2
2.	How would you compare sheet erosion and rill erosion?	L2	1	2
3.	Can you list the applications of the Universal Soil Loss Equation?	L1	2	2
4.	How would you explain the limitations of the Revised Universal Soil Loss Equation?	L2	2	2
5.	Where is terracing most commonly applied for erosion control?	L2	3	2
6.	Can you explain why bunding is considered an effective soil conservation measure?	L1	3	2
7.	List out the purpose of an earthen dam in water conservation.	L1	4	2
8.	What is morphometric analysis of watershed?	L2	4	2
9.	Outline the primary sources of sediment in water bodies.	L1	5	2
10.	Give any five factors influencing sedimentation.	L1	5	2

PART – B (ANSWER ALL QUESTIONS) (Marks 5*16 = 80)

Q.No	Questions	BLT	CO	Marks
11. a	Explain in detail about vegetative measures of gully control.	L2	1	16
	Or			
b i	Illustrate the mechanics of water erosion in terms of energy transfer and soil detachment.	L2	1	8
	Or			
i	Explain the drop spillway components with its functions.	L2	1	8
12. a	Explain the process of determining soil erosion using morphometric analysis in watersheds.	L2	2	16
	Or			
b	How would you compare the SCS-CN method with the Universal Soil Loss Equation (USLE) in terms of their utility for soil erosion estimation?	L2	2	16

13.	a	i	Explain the significance of strip cropping in preventing soil erosion.	L2	3	8
		i	Compare and contrast the effectiveness of mechanical and	L2	3	8
		i	agronomic measures in soil erosion control.			
			Or			
	b	i	Explain the advantages and disadvantages of grassed waterways in erosion control.	L2	3	8
		i	How would you describe the factors that determine the selection of	L2	3	8
		i	erosion control measures for different landscapes?			
14.	a		Construct process and design considerations for an earthen dam with neat sketch.	L3	4	16
			Or			
	b	i	What are the basic components of a farm pond, and how is it used for water conservation?	L2	4	8
		i	Identify the advantages of using check dams for water	L2	4	8
		i	conservation?			
15.	a	i	What are the main sources of sediment in water bodies, and how do they affect water quality?	L2	5	8
		i		L2	5	8
		i	Explain the term bed load, and how is it estimated in rivers.			
			Or			
	b		Describe the different types of sediment loads and their impact on river morphology.	L2	5	16