CBCS SCHEME

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BCV654A

Sixth Semester B.E./B.Tech. Degree Examination, June/July 2025
Water Conservation and Rainwater Harvesting

Time: 3 hrs. Max. Marks: 100

Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.
2. M : Marks , L: Bloom's level , C: Course outcomes.

		Module – 1	M	L	C
Q.1	a.	Write the importance of water conservation.	5	L2	CO1
	b.	Define Monsoon. Write in detail about Monsoon in India with its features.	10	L2	CO1
	c.	Write a short note on Dry spells, Wet spells and Critical dry spells.	5	L1	CO1
		OR			
Q.2	a.	Explain Hydrological cycle with neat sketch.	5	L1	CO1
	b.	Explain the geographical distribution of water in Karnataka.	8	L2	CO1
	c.	Write the different possibilities of water loss from soil	7	L1	CO1
		Module – 2			
Q.3	a.	Define Aquifer with its neat sketch and its types.	6	L1	CO1
	b.	Define Aquiclude, Aquitard and Aquifuge.	6	L1	CO1
	c.	Write a short note on different parameters of water quality and its impact on Human Health.	8	L2	CO1
		OR			
Q.4	a.	Explain in detail Rain water harvesting methods and its benefits.	10	L2	CO1
	b.	Describe the subsurface methods for ground water recharge used in rural areas.	10	L2	CO1
		Module – 3			
Q.5	a.	Write the factors affecting ground water recharge, explain each of the points in detail.	8	L2	CO2
	b.	Write in detail the revival of traditional techniques for water harvesting with neat sketch.	12	L2	CO2
		OR			
Q.6	a.	Explain in detail the steps involved in the preparation of technical drawing and designing of rainwater harvesting structure.	12	L2	CO2

	b.	The drainage area [catchment area] of an area is 12 hectares. The classification of the surface of this area is follows: % of total surface area / Type of surface / Coefficient of run off 20% / Hard pavement / 0.85 20% / Roof surface / 0.8 15% / Unpaved street / 0.2 30% / Garden and lawn / 0.2 15% / Forest / 0.15 If the time of concentration of rain fall is 30 minutes. Calculate the quantity of runoff rainwater.	8	L3	CO2
		Module – 4			
Q.7	a.	Write the key practices to be followed for elementary conservation of water.	10	L1	CO3
	b.	Describe the conservation methods to be followed in agriculture and industries. Write its significance.	10	L2	CO3
		OR			
Q.8		Explain the following: i) Limiting the consumption of water ii) Reuse and Recycling iii) Elimination of losses iv) Pollution prevention.	20	L2	CO3
		Module – 5			
Q.9	a.	Write the importance of subsurface investigation of ground water.	5	L1	CO4
	b.	Write a short note on physical properties measured in geophysical methods.	5	L2	CO4
	c.	Describe: i) Electrical resistivity method ii) Seismic refraction method.	10	L2	CO4
		OR			
Q.10	a.	Write in detail the present laws regarding water management.	10	L2	CO4
	b.	Define water footprints with its types. Write its sustainability assessment.	10	L2	CO4

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