



VIT

Vellore Institute of Technology
(Deemed to be University under section 3 of U.G.A. Act, 1956)

SLOT: B2+TB2

SCHOOL OF CIVIL ENGINEERING
CONTINUOUS ASSESSMENT TEST - II
FALL SEMESTER 2025-2026

REG. NO. [REDACTED]

Programme Name & Branch : B.Tech & Civil Engineering
Course Code : BCLE216L
Course Name : WATER RESOURCE MANAGEMENT
Faculty Name(s) : Dr. JAGADEESH P
Class Number(s) : VL2025260104386
Date of Examination : 06-10-2025
Exam Duration : 90 minutes

Maximum Marks: 50

General instruction(s):

- Answer All Questions
- M - Max mark; CO - Course Outcome; BL - Blooms Taxonomy Level
(1 - Remember, 2 - Understand, 3 - Apply, 4 - Analyse, 5 - Evaluate, 6 - Create)
- **Course Outcome Statements:**
- CO 2: Understand the water resource potential in global, India scenario and explore the water resources using different technologies.
- CO 4: Explain the concept of water in agricultural and economic aspects.

Q. No	Question	M	CO	BL
1.	Determine optimal number of rain gauges in a basin from the following data so as to limit the percentage error within 10%. Existing stations = 5 No. Average rainfall at the stations = 90, 80, 54, 45, 41, cm respectively.	10	2	4
2.	A V-notch and a rectangular notch are connected in series. Water flows through a 90° V-notch first and then after flowing through a sufficient length of 1.25m wide channel, the flow passes over a rectangular notch of 0.125m width. The discharge coefficients of the V-notch and rectangular notches are 0.6m and 0.7m respectively. If the depth of flow over the V-notch is 350 mm find the head over the rectangular notch.	10	2	4
3.	A farmer diverts water from Cavary river to irrigate his field. The following data are available: Water diverted from the canal: 1200m ³ Water delivered to the field: 960m ³ Water stored in the root zone: 720m ³ Water needed by the crop (i.e., beneficial use): 650m ³ Determine the following, i) Water conveyance efficiency (Ec) ii) Water application efficiency (Ea) iii) Water use efficiency (Eu) iv) Over irrigation efficiency (Eo)	10	2	5
4.	How can agricultural pollution harm our environment? Describe agricultural impact on both surface and groundwater quality.	10	4	3
5.	Describe the role of the private sector in water resources management. What are the potential advantages and disadvantages of involving private entities in the development, operation, and maintenance of water infrastructure and services?	10	4	3