VIT®
Vellore Institute of Technology

Final Assessment Te

Course: **BCLE216L - Water Resourc**

Class NBR(s): **3459**

Time: **Three Hours**

- **KEEPING MOBILE PHONE/ANY ELECTRONIC GADGETS, EVEN IN 'OFF' POSITIO**
- **DON'T WRITE ANYTHING ON THE QUESTION PAPER**

Answer ALL Questions

(10 X 10 = 100 Marks)

1. Outline the concept of water stress and explain it causes. How does population growth, pollution and claimate change contribute to global water stress?

2. Explain the importance of oceans in global water resources management with reference to major Ocean applications.

3. Discuss the availability and distribution of surface water and grand water in India and globally. How does over-extraction of grand water impact water security?

4. Distinguish between blue, green and grey water footprints. Discuss how water footprint assessment can be carried out for agriculture, industrial and domestic sectors.

5. In a hydraulic research laboratory, water flows at the rate of 106 l/sec in a open channel in which rectangular and *V* notches are fitted. The width of the rectangular notch is 100 cm and the head of water over it is 0.15 m. If the *V* notches is right angled, determine the coefficients of discharge of both rectangular and *V* notches.

6. Enlist advantages and applications of Geophysical exploration techniques. Using neat sketch explain electrical resistivity method of geophysical exploration.

7. The depths of penetration along the length of a border strip at points 30 meters apart were probed. Their observed values are 200, 190, 180, 160 and 150 centimetres. Compute the water distribution efficiency.

8.a) Outline the necessity of *value water*. Explain various techniques used by economists for valuing water.

OR

8.b) Evaluate the involvement of the private sector in water resources management. What are the advantages and disadvantages of privatizing water supply and management?

9.a) Outline the objectives of National Water Framework Bill. Explain various features addressed in National Water Framework Bill.

OR

9.b) Explain the concept of Water User Associations (WUAs) and their role in irrigation management in India. Also, discuss drawback in WUAs.

10. With a schematic diagram represent losses from a typical water supply system. Enlist physical factors affecting loss rate and various pipe leak detection methods.

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