

Seat No. **OCT-NOV 2025 WINTER EXAMINATION****1154 B.Tech. CBCS****Sub. Name: Water Resource Engineering-I****Sub. Code: 66235/80763/81000****Day and Date: Friday ,12-12-2025****Total Marks: 70****Time: 02:30 PM To 05:00 PM**

Instructions: 1. Draw neat labelled diagrams wherever necessary
 2. Figures to the right indicate full marks
 3. Use of Scientific calculator is allowed

Special Inst.: Question number 4 and 8 are compulsory questions. solve any two questions from question number 1 to 3 and any two questions from question number 5 to 7.

Q1) A. Enlist different recording type of rain gauges and explain any one of type rain gauge with suitable sketch in brief ? **[6]**

B. What is Engineering Hydrology ? Explain scope of Engineering hydrology **[6]**

Q2) [11]

a. Define Infiltration ? Explain the methods to measure infiltration ? **[5]**

b. The rates of rainfall for successive 30 minutes periods of a three hours storm are: 1.6, 3.6, 5.0, 2.8, 2.2 and 1.0 cm/h. The corresponding surface runoff is estimated to be 3.2 cm. Calculate Phi index and W index. **[6]**

Q3) [11]

a. Define Term Flood Hydrograph ? Explain its components ? **[5]**

b. Define Standard Project flood (SPF), maximum Probable flood (MPF) and Design Flood **[6]**

Q4) Write a note on:(Solve any two) [12]

a. Flood Discharge by rational Formula. **[6]**

b. Measurement of rainfall **[6]**

c. Measurement of Runoff **[6]**

Q5) [11]

a. Explain in detail with neat sketch. [5]
a) Aquifer b) Aquiclude c) Aquifuge d) Aquitard e) Perched Aquifer

b. Derive the equation for discharge well penetrating through a confined aquifer [6]

Q6) [12]

a. What is mean by irrigation? Explain benefits and ill effects of irrigation ? [6]

b. Explain in detail general layout, main components & functioning of Percolation tank ? [6]

Q7) [11]

a. Explain in detail classes and availability of soil water ? [5]

b. Explain in detail methods of improving duty ? [6]

Q8) Write a Note on:(Solve any two) [12]

a. Crop rotation [6]

b. Bandhara Irrigation [6]

c. Sprinklar Irrigation [6]

End Of Question Paper

Important Note for Chief Exam Officer / SRPD Coordinator / Sr Supervisor/ Student -

This Question Paper may be distributed for following Subjects as common code.

सदरची प्रश्नपत्रिका खालील विषयांकरिता वितरित करता येईल.

1] (101) Bachelor of Engineering (66235) Water Resource Engineering-I Part 3 SEM 5

2] (101) Bachelor of Engineering (81000) Water Resource Engineering-I Part 3 SEM 5

3] (1154) B.Tech. CBCS (80763) Water Resource Engineering-I Part 3 SEM 5