

Seat No. **OCT-NOV 2025 WINTER EXAMINATION****1154 B.Tech. CBCS****Sub. Name: Environmental Engineering-I****Sub. Code: 66237/80765/81002****Day and Date: Wednesday, 17-12-2025****Total Marks: 70****Time: 02:30 PM To 05:00 PM**

- Instructions:**
1. All questions are compulsory
 2. Assume suitable data wherever necessary and mention it boldly
 3. Draw neat labelled diagrams wherever necessary
 4. Figures to the right indicate full marks

Q1) Attempt all questions. [12]

1. Why it is necessary to study Population forecasting? Discuss in brief population forecasting methods. [8]
2. Sketch and explain river intake structures. [4]

Q2) Attempt any Two. [12]

- a. Find the dimensions of rectangular sedimentation basin for the following data; [8]
 1. Volume of water to be treated=3 million litres per day
 2. Detention period=4 hours
 3. Velocity of flow=10 cm/min

OR

Explain the principle and working of Tube settler.
- b. What is difference between Coagulation and Flocculation. [4]

Q3) Attempt any Two. [11]

- a. Enumerate the various methods of water softening .Explain any one method in detail. [6]
- b. Explain the difference between slow and rapid sand filter and Multi-media filter. [5]

OR

State the causes and remedies of odour and taste problem in drinking water.

Q4) Attempt all questions. [12]

1. Write a short note on Salient feature of rural water supply scheme. [8]
2. What are the various forces acting on underground pressure pipes? Explain with formulae. [4]

Q5) Attempt any Two.

- a. Determine the equivalent length of 30cm diameter pipe for the network mentioned in the table using Hazen Willim's formula. [8]

Pipe	Length(m)	Diameter(mm)
PQ	600	400
QR	700	200
RS	800	300
ST	300	300

OR

Explain any two various layouts of water distribution with neat sketch.

- b. Discuss leakage detection in water distribution system with reference to, [4]
i) causes ii) methods

Q6) Attempt any Two.

[11]

- a. Sketch and explain i) Air valve ii) Sluice valve iii) Non return valve [6]

- b. Write a short note on [5]

1. Hydrants
2. DPR

OR

Explain necessity and importance of water audit in water supply system.

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 (81002) Environmental Engineering-I Part 3 SEM 5
- 2] (1154) B.Tech. CBCS (80765) Environmental Engineering-I Part 3 SEM 5
- 3] (101) Bachelor of Engineering (66237) Environmental Engineering-I Part 3 SEM 5