Roll No.												

PRESIDENCY UNIVERSITY

BENGALURU

Mid - Term Examinations – OCTOBER 2025

Date: 10-10-2025 **Time:** 11.45am to 01.15pm

School: SOE	**Program:** B. Tech	
Course Code : CIV2047	**Course Name:** Water Infrastructure Systems	
Semester: V	**Max Marks**: 50	**Weightage**:25%

CO - Levels	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**
Marks	**50**				

Instructions:

(i) Read all questions carefully and answer accordingly.

(ii) Do not write anything on the question paper other than roll number.

Part A

Answer ALL the Questions. Each question carries 2marks. **5Q x 2M=10M**

1	What are the objectives of the community water supply system?	**2 Marks**	**L1**	**CO1**
2	Enlist the types of intake based on source and position.	**2 Marks**	**L1**	**CO1**
3	Define design discharge. Give the design period for distribution systems and storage reservoir.	**2 Marks**	**L1**	**CO1**
4	Write the design periods for four different components of water supply scheme.	**2 Marks**	**L1**	**CO1**
5	Name any factors affecting selection of sources of water.	**2 Marks**	**L1**	**CO1**

Part B

Answer the Questions. **Total Marks 40M**

<table>
<tr><td>6.</td><td>a.</td><td>Find out the fire demand for a town of population 1 lakh, assuming one fire accident breakout per month and which loss for 5 hrs. Using national board of fire underwriters formula and express fire demand in lpcd.</td><td>10 Marks</td><td>L2</td><td>CO1</td></tr>
<tr><td colspan="6">Or</td></tr>
<tr><td>7.</td><td>a.</td><td>A water supply scheme has to be designed for a city having a population of 100,000. Estimate the important kind of draft which may be required to be recorded for an average water consumption of 250 lpcd. Also record the required capacities of the major components of the proposed water works systems for the city using a river as the source of supply.</td><td>10 Marks</td><td>L2</td><td>CO1</td></tr>
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<table>
<tr><td>8.</td><td>a.</td><td>The following data have been noted from census department.

<table><tr><td>Year</td><td>1994</td><td>2004</td><td>2014</td><td>2024</td></tr><tr><td>Population</td><td>8000</td><td>12000</td><td>17000</td><td>22500</td></tr></table>
the probable population in the year 2034, 2044 and 2054 using Arithmetic increase method?</td><td>15 Marks</td><td>L3</td><td>CO1</td></tr>
<tr><td colspan="6">Or</td></tr>
<tr><td>9.</td><td>a.</td><td>The following data have been noted from census department

<table><tr><th>Year</th><th>Population</th></tr><tr><td>1990</td><td>18000</td></tr><tr><td>2000</td><td>28000</td></tr><tr><td>2010</td><td>336000</td></tr><tr><td>2020</td><td>45500</td></tr></table>
Identify the probable population in the year 2030, 2040 and 2050 using Incremental increase method?</td><td>15 Marks</td><td>L3</td><td>CO1</td></tr>
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<table>
<tr><td>10.</td><td>a.</td><td>Physical water quality is defined as those characteristics of water which respond to the senses of sight, touch, smell, taste and feel. Enlist and explain any two Physical parameters.</td><td>15 Marks</td><td>L2</td><td>CO1</td></tr>
<tr><td colspan="6">Or</td></tr>
<tr><td>11.</td><td>a.</td><td>Chemical water quality is estimated by finding the</td><td>15 Marks</td><td>L2</td><td>CO1</td></tr>
</table>

		concentration of various chemical substances which pose threat to human health and as well as damage to the property. Enlist and explain any two chemical parameters.			