

**JK Lakshmipat University Jaipur**  
**INSTITUTE OF ENGINEERING AND TECHNOLOGY**

End Term Examination, April 2024  
B. Tech. (All Branches), Semester VI

Roll No.....

**Course Code and Name : CE1215**  
Urban and Regional Planning

Time: 2.5 hours      Max. Marks: 30

**Instructions to students:**

1. Do not write anything other than your roll number on question paper.
2. Assume suitable data wherever required and mention it clearly.
3. Writing appropriate units, nomenclature, and drawing neat sketches/schematics/ flow chart wherever, required are an integral part of the answer.
4. Write your answers in detail and it should be appropriate to the marks assigned for that question.

1. Describe in detail about few of the new cities proposed in India. (Minimum 4).  
(6) {CO 1}
2. Write the advantages and disadvantages of each type of transportation mode.  
(6)  
{CO 3}
3. Draw a neat sketch for showing the various components of a Sewage treatment plant. (3.0)  
What do you understand by activating sludge process? (3.0)  
{CO 3, 5}
4. Agra is the third largest city in Uttar Pradesh with 46 Lac residents in the urban area. As per the demographic data it is expected that for next 20 years it will increase with the rate of 2.5% per year and then for next 20 years with the rate of 2.0 % per year. It is also observed that per day around 140 Liters water is supplied for per person. Also 5% additional water is supplied for public use. Find out the total water requirement of ~~Kanpur~~ Agra city after 40 years. Also assume 10% losses due to leakage and theft.  
(6)  
{CO 3,5}
5. Ajmer is one of the famous cities in the central Rajasthan? Under the "Swaccha Bharat and Smart City Project" it is required to laid sewer pipeline. Due to the slope and land acquisition constraint the limited diameter of pipeline is 900 mm (0.9 m). Assume half full flow condition in the sewer line and find that for how many people this line can carry the sewer without any problem. Use Manning's roughness coefficient for calculating the discharge in the sewer. Following data can be used for the design:  
(a) Manning's roughness coefficient: 0.018  
(b) Slope: 0.0007  
(c) Per day per person sewer generation: 100 Lit. (0.1 m<sup>3</sup>)  
(6)  
{CO 3,5}