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Code No: 156AX

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech III Year II Semester Examinations, February/March - 2022

ENVIRONMENTAL ENGINEERING

(Civil Engineering)

Time: 3 Hours

Max. Marks: 75

Answer any five questions
All questions carry equal marks

1. Predict the population for the year 2027, 2037, 2047 and 2057 from the following census figures of a town by Arithmetic progression method, Incremental increase method and Geometric progression method? [15]

Year	1957	1967	1977	1987	1997	2007	2017
Population in thousands	89	97	120	135	147	156	172

- 2.a) List the different layout of distribution system and explain the grid iron distribution system in detail.
b) List the factors influencing the selection of pumps in water supply. [10+5]
- 3.a) Write a short on the V notch method.
b) Write a short note on pressurized sewers.
c) Give Hazen-Williams formula and write about the significance of it. [5+5+5]
- 4.a) What are the advantages of flushing tank and Inverted siphons?
b) Write a short note on corrosion of sewers.
c) In what circumstances Oxidation Pond is used, explain its working principle? [5+5+5]
5. Explain the working principle of gravity settlers and cyclone filters and its advantages. [15]
6. Explain the typical functions of each unit operations used in water treatment process. [15]
- 7.a) Write a short note on intake structures.
b) Describe in detail the working principle of displacement pumps.
c) Write a short note on Multi Media filters. [4+6+5]
- 8.a) Describe in detail the sludge thickening process and its different types.
b) What is the significance of clarifier?
c) Give formula of stokes law. [10+2+3]

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