

Code No: 156AX

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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech III Year II Semester Examinations, August/September - 2021

ENVIRONMENTAL ENGINEERING

(Civil Engineering)

Time: 3 Hours

Max. Marks: 75

Answer any five questions
All questions carry equal marks

- 1.a) Distinguish between Surface water quality and groundwater quality.
- b) Write the drinking water standards for Fluorides and Nitrates and write their significance. [7+8]
2. Explain the principle of coagulation and flocculation. [15]
3. Calculate the size of a rectangular sedimentation tank to treat 1.8 million litres of raw water per day. Assume particle size 0.03 mm, sp. gravity 1.8, kinematic viscosity of water at 20°C as 1.01 centistokes, expected efficiency of particle removal as 75% with tank working under good performance condition. [15]
4. Determine the ultimate first stage BOD of a waste where 5-day BOD at 20°C is 200 mg/l. Assume the reaction constant $k_1 = 0.2 \text{ day}^{-1}$. [15]
5. Explain the one pipe and two pipe systems of plumbing. [15]
6. Explain with flow diagram a conventional wastewater treatment plant. [15]
7. Design a Septic tank for a small colony of 100 persons with daily sewage flow of 135 litres per head per day. [15]
8. Discuss the application of various air pollution control equipment. [15]

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