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SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)
B.Tech IV Year I Semester Supplementary Examinations February-2022
ENVIRONMENTAL ENGINEERING
(Civil Engineering)

Time: 3 hours

Max. Marks: 60

(Answer all Five Units 5 x 12 = 60 Marks)

UNIT-I

- 1 a Explain the factor affecting the per capita demand. 6M
b What are the necessities and importance of water supply scheme? 6M

OR

- 2 a What are points to be kept in mind while selecting a site for intake structure? 6M
b With sketch, explain the hydrologic cycle of water. 6M

UNIT-II

- 3 a Briefly explain any four chemical characteristics of water. 6M
b List out any six drinking water standards with their effects. 6M

OR

- 4 a Explain the working principle of slow sand filter with the help of neat sketch. 8M
b Compare slow sand filter with rapid sand filter. 4M

UNIT-III

- 5 a Write short notes on methods of distribution system. 6M
b Briefly explain the various methods of waste water detection? 6M

OR

- 6 a Mention the various sewer appurtenances in sewerage system. 6M
b What should be the characteristics of materials to be used for sewers? 6M

UNIT-IV

- 7 a Write a note on various physical constituents of wastewater. 6M
b Design a grit chamber for a maximum wastewater flow of 10000 m³/day to remove particles up to of 0.25 mm dia, having specific gravity of 2.65. The settling velocity of these particles is found to range from 0.02 to 0.025 m/sec. Maintain a constant flow through velocity of 0.28 m/sec through the provision of a proportional flow weir. 6M

OR

- 8 a Define activated sludge process with their operation including advantages and disadvantages. 6M
b What do you understand by oxidation pond and explain the process of oxidation and stabilization? 6M

UNIT-V

- 9 a Explain the factors affecting the sludge digestion. 6M
b Describe, with the help of sketch the gravity-sludge thickener. 6M

OR

- 10 a Discuss the criterion for design of a septic tank. 6M
b Write a detailed note on design of Inhoff tank. 6M

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