

R18

Code No: 156AX

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech III Year II Semester Examinations, March - 2024

ENVIRONMENTAL ENGINEERING

(Civil Engineering)

Time: 3 Hours

Max. Marks: 75

- Note:** i) Question paper consists of Part A, Part B.
ii) Part A is compulsory, which carries 25 marks. In Part A, Answer all questions.
iii) In Part B, Answer any one question from each unit. Each question carries 10 marks and may have a, b as sub questions.

PART – A

(25 Marks)

- 1.a) What are the types of water demand? [2]
- b) Specify any two water quality standards. [3]
- c) Define sedimentation. [2]
- d) What are multimedia filters? [3]
- e) Explain the characteristics of sewage. [2]
- f) List out various sanitary fittings. [3]
- g) What is Sludge disposal? [2]
- h) Explain about trickling filters [3]
- i) What is meant by air pollution? [2]
- j) What are ESPs? [3]

PART – B

(50 Marks)

- 2.a) Write a short note on protected water supply.
- b) Distinguish between Surface water quality and groundwater quality. [5+5]

OR

- 3.a) Explain various sources of water in detail.
- b) Compare from quality and quantity and other considerations. [5+5]

- 4.a) Explain the principle of coagulation and flocculation.
- b) Write the drinking water standards for Fluorides and Nitrates and write their significance. [5+5]

OR

5. 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. [10]

- 6.a) Explain the estimation of waste water and storm water.
- b) Write a short note on shapes and materials of sewers. [5+5]

OR

- 7.a) Give brief note on ultimate disposal of sewage.
- b) What is self-purification of rivers? Explain. [5+5]

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8.a) Explain with flow diagram a conventional wastewater treatment plant.

b) What are skimming tanks and sedimentation tanks?

[5+5]

QA QA QA QA OR QA QA QA QA G

9.a) Design a Septic tank for a small colony of 100 persons with daily sewage flow of 135 litres per head per day.

b) Write a short notes on soak pits.

[5+5]

10.a) Describe Global effects of air pollution.

b) What are Meteorological parameters affecting air pollution.

[5+5]

QA QA QA QA OR QA QA QA QA G

11.a) Write a short note on Atmospheric stability and Plume behavior.

b) Explain the measures for the Control of particulates in air.

[5+5]

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