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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech IV Year I Semester Examinations, November/December - 2017.

INDUSTRIAL WASTE WATER TREATMENT

(Civil Engineering)

Time: 3 Hours

Max. Marks: 75

Note: This question paper contains two parts A and B.

Part A is compulsory which carries 25 marks. Answer all questions in Part A.

Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub-questions.

PART - A

(25 Marks)

- 1.a) Define pollution. [2]
- b) Explain the characteristics municipal waste water. [3]
- c) Define equalization. [2]
- d) What do you mean by strength reduction? [3]
- e) Define air stripping. [2]
- f) What do you mean by absorption process? [3]
- g) Define characterization of waste water. [2]
- h) What is the composition of waste water from petroleum refinery? [3]
- i) Define CETP. [2]
- j) What are the problems associated with CETP. [3]

PART - B

(50 Marks)

- 2.a) Explain different properties of industrial wastes.
- b) What are the various sources of pollution? [5+5]

OR

- 3.a) How can we classify municipal waste water?
- b) Explain in detail about Natural water bodies. [5+5]

- 4.a) Explain the pre and primary treatment of waste water.
- b) Explain the oil separation by floatation. [5+5]

OR

- 5.a) How can you justify volume reduction of waste water?
- b) Explain the strength reduction of waste water. [5+5]

- 6.a) Explain the disposal of treated waste water.
- b) What are the various ways of membrane separation process? [5+5]

OR

- 7.a) How the process of nitrification is performed in waste water treatment.
- b) Explain in detail about phosphorus removal. [5+5]

- 8.a) What are the various characteristics of sugar industry?
b) Explain in detail about the food processing industries.

[5+5]

OR

- 9.a) Explain the treatment methods in steel industry.
b) What are the various In-plant Control Measures of petroleum industries?

[5+5]

- 10.a) Explain in detail about the CETP's working condition in India.
b) Illustrate the Composition of food industry.

[5+5]

OR

- 11.a) Explain the Characteristics and Composition of Textiles industry.
b) Classify the treatment procedure in CETP.

[5+5]

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