

Code No: 138CU

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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech IV Year II Semester Examinations, September - 2020

INDUSTRIAL WASTE WATER TREATMENT

(Civil Engineering)

Time: 2 Hours

Max. Marks: 75

**Answer any Five Questions
All Questions Carry Equal Marks**

- 1.a) Give the characteristics and composition of raw sewage.
b) How does the self purification of stream occur when it has been polluted by discharge of waste in it? [7+8]
2. What are the underlying object in the methods of sewage treatment and disposal? Give an outline of the methods involved. [15]
- 3.a) Sketch and describe the construction and working of grit chambers.
b) Distinguish between preliminary and primary treatment operations. Illustrate with a flow diagram. [7+8]
- 4.a) Explain how does grease trap differ from skimming tank?
b) Mention the objectives to be achieved in screening. [7+8]
- 5.a) Compare and contrast a standard rate filter and high rate filter.
b) What is biofilter? State its principle of action. [8+7]
- 6.a) What are the essential features necessary for the optimum function of the trickling filter?
b) Discuss the operational difficulties of rotating biological contactors. [8+7]
7. Discuss briefly the design and principle of Activated Sludge process. Also state different modifications of activated sludge process. [15]
8. What is meant by sludge thickening? State and explain the methods of sludge treatment. [15]

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