

8. (a) Give the characteristics of wastewater from Fertilizer industry. How do you treat the wastewater ? **10**
- (b) Discuss, how to handle and dispose off the radioactive waste ? **10**

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B.Tech. EXAMINATION, May 2017

(Seventh Semester)

(Old Scheme) (Re-appear Only)

(CE)

CE-461

INDUSTRIAL WASTE MANAGEMENT

Time : 3 Hours]

[Maximum Marks : 100

Before answering the question-paper candidates should ensure that they have been supplied to correct and complete question-paper. No complaint, in this regard, will be entertained after the examination.

Note : Attempt any *Five* questions. All questions carry equal marks.

1. (a) Calculate the population equivalent of a city, given :
 - (i) Average waste from the Industry is 95×10^6 l/d
 - (ii) The average 5 day BOD is 300 mg/l. **5**
- (b) What the effects of disposing IWW on land, stream and air ? **5,5,5**
2. How are these operations useful for pretreatment wastewater, discuss with example : **10,10**
 - (a) Reduction of waste discharge
 - (b) Recovery of by-products within treatment plant.
3. (a) Discuss in brief various treatment process adopted for treating Industrial wastewater. **10**
- (b) Explain the mechanism involved in Oil separation from industrial wastewater ? **10**

4. Write short notes on the following : **10,10**
 - (a) Ozonation
 - (b) Ion-exchange.
5. (a) Why dewatering of sludge is necessary ? Why elutriation is necessary before chemical conditioning ? **10**
- (b) Explain briefly various methods of final disposal of sludge. **10**
6. Describe the following for Textile Industry :
 - (a) Manufacturing Process
 - (b) Flowchart
 - (c) Wastewater characteristics. **20**
7. (a) Outline the process available for treating liquid waste from a chemical industry. **10**
- (b) Give the composition of petroleum refining waste. Explain, with the help of flow diagram how its wastewater is treated ? **10**