

Total No. of Printed Pages:2

SUBJECT CODE NO:- H-219
FACULTY OF SCIENCE AND TECHNOLOGY
B.E. (Civil)
Elective-II: Industrial Waste Treatment
(REVISED)

[Time: Three Hours]

[Max. Marks: 80]

Please check whether you have got the right question paper.

- N.B
1. Q.no.1 of section A and Q.no.6 of section B are compulsory
 2. Answer any two questions among the remaining questions (i. e 2 to 5) of section A and any two questions (i. e 7 to 10) of section B
 3. Assume suitable data mention it clearly

Section A

- Q.1 Answer the following questions 10
- a) Name various chemical pollutant
 - b) Complete the following reactions Acid + Base \longrightarrow ----- + -----.
 - c) Explain preventive Approach of waste Minimization.
 - d) Define $\in IA$
 - e) What are 3R's waste Hierarchy
- Q.2 07
- a) State and explain various needs of water pollution control Acts
 - b) What are responsibilities of state and central pollution content Board? 08
- Q.3 07
- a) Explain any five ways of reducing strength of waste.
 - b) What is equalization and neutralization with reference to its necessity and suitability? 08
- Q.4 08
- a) Explain importance and scope of $\in IA$ in detail.
 - b) Explain EIS 07
- Q.5 Write short note on (any 3) 15
- a) Streeter and Phelps DO model
 - b) ISI standards for disposal of industrial waste
 - c) By-product recovery
 - d) Energy Audit of industries

Section B

- Q.6 Answer the following questions 10
- How is granulated sugar classified
 - What is Bagasse where is it used
 - Define electroplating process
 - Influent BOD of a waste water entering into specific treatment is 800mg/L and effluent BOD of waste water coming out is 40mg/L what is efficiency of that specific treatment
 - Give full form of following abbreviations
 - UASBR
 - SRT
- Q.7
- Draw and explain flow diagram of treatment of waste in sugar industry 07
 - Draw and explain flow diagram for manufacturing process in textile industry. 08
- Q.8
- Explain various design parameter of High rate anaerobic filter. 07
 - Compare the volume required for ASP and oxidation pond for the following data 08
Population = 20,000; per capita sewage contribution = 150 LPCD; BODS of raw sewage = 500mg/L; Efficiency of primary treatment – BOD5 removal = 35% conditions prevailing- cold climatic conditions
- Q.9
- What is Nitrification and Denitrification 08
 - What are various treatment methods for industrial waste water 07
- Q.10 Write short notes on (any 3) 15
- Reverse osmosis
 - Activated sludge process
 - Radio – Active waste
 - Electroplating industry