

SUBJECT CODE NO: E-114
FACULTY OF ENGINEERING AND TECHNOLOGY
B.E.(Civil) Examination Nov/Dec 2017
Elective-II: Industrial Waste Treatment
(REVISED)

[Time: Three Hours]

[Max.Marks:80]

Please check whether you have got the right question paper.

- N.B
- i. Q.No.1 of Section A and Q.No.6 of Section B are compulsory.
 - ii. 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
 - iii. Assume suitable data. Mention it clearly.

Section A

- Q.1 Answer the following questions. 10
- a) Name various physical pollutants
 - b) Explain in brief envative approach for waste minimization.
 - c) Define EIA.
 - d) Explain with example, term “Waste Exchanges”.
 - e) Name common recyclables in industries
- Q.2 08
- a) Explain functions of state pollution control boards.
 - b) Explain oxygen sag curve. 07
- Q.3 07
- a) Differentiate between equalization and neutralization.
 - b) Explain in detail various ways of strength reduction of waste. 08
- Q.4 07
- a) Explain term “Economics of Eco-Development”
 - b) How is Environmental Audit of industries carried out? 08
- Q.5 Write short notes on: (**any three**) 15
- a) Biological pollutant associated with stream pollution
 - b) Natural system of stream purification
 - c) Responsibilities of central pollution control board
 - d) Zoning of industries

Section B

- Q.6 Answer the following questions. 10
- a) Define –sugar
 - b) What is cathode and anode in electroplating
 - c) Influent BOD of waste water entering into specific treatment is 1000mg /L and effluent BOD of waste water coming out is 50 mg/L. what is efficiencies of that specific treatment.
 - d) What is distillation?
 - e) Give full form of following abbreviations
 - i) HRT
 - ii) OLR
- Q.7 08
- a) Explain manufacturing process of sugar industry.
 - b) Draw and explain schematic flow diagram for treatment of waste in paper and pulp industry. 07
- Q.8 07
- a) Enlist and explain design parameters for High Rate Anaerobic filters.
 - b) Design a conventional ASP for following data 08
Population = 1 lakh, per capita contribution = 150 LPCD, BODS of raw sewage = 300 mg/L
efficiency of primary treatment. BODS removal = 35%. Also determine effluent BODS,
assuming treatment efficiency of conventional ASP.
- Q.9 08
- a) What are various treatment and disposal methods of industrial waste water?
 - b) What is advance waste water treatment system? Explain with its various types. 07
- Q.10 Write short notes on: (any three) 15
- a) Chemical precipitation
 - b) Ion-exchange
 - c) UASBR
 - d) Tannery industry