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B.E/B.Tech(Full Time)DEGREE END SEMESTER EXAMINATIONS APRIL/MAY 2011

CIVIL ENGINEERING BRANCH

EIGHTH SEMESTER

ELECTIVE: CE527 INDUSTRIAL WASTE MANAGEMENT

(REGULATION 2004)

Time:3 hr

Max.Mark:100

Answer ALL Questions

PART-A (10x2=20 Marks)

- 1.What is the role of environmental engineer to prevent environmental pollution?
- 2.What are the different ways to address the environmental pollution?
- 3.How can a company benefit by a environmental audit?
- 4.Identify the key factors hindering the implementation of sustainability.
- 5.Why coagulants are used in sewage treatment. Name any four coagulants.
- 6.Differentiate between Unit operations and Unit processes.
7. Mention the problem involved in the disposal of solid waste.
- 8.What are the general characteristics of hazardous waste.
- 9.Listout the categories of industries according to pollution control board.
- 10.What is the need for MINAS?

PART-B(5x16=80)

11a)i) What are the effects of Industrial effluent on human health and receiving stream

(6 Marks)

ii) Discuss the salient aspects of the Indian policy on abatement of pollution.(10 Marks)

12.a) Explain about waste minimization techniques. (16 Marks)

(Or)

b) What is meant by LCA? Describe the concept of life cycle design. (16 Marks)

13.a) How to remove Dissolved Inorganic compounds from waste water. Explain any two methodologies. (16 Marks)

(Or)

b) Discuss the need for Advanced waste water treatment and explain the Chlorination process (16 Marks)

14.a) i) Discuss the methods being adopted in India for collection and disposal of solid waste. (16 Marks)

(Or)

(b) Explain the process of (i) UV disinfection and (ii) Ozonation. (16 Marks)

15.a) (i) With the help of examples, discuss the role of biotechnology in Environmental Engineering. (10 Marks)

(ii) Draw a Flow diagram for the effluent treatment of Chemical Fertilizer Plant. (4 Marks)

(Or)

b) Give a case study for Tannery industry and prepare a report highlighting the production process, effluent streams and steps taken by the industry to minimize its environmental impacts. (16 Marks)