

Code No: 07A70103

R07**Set No. 2**

IV B.Tech I Semester Examinations, May 2011
ENVIRONMENTAL ENGINEERING-II
Civil Engineering

Time: 3 hours**Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

1. What is volume reduction? List and explain any four methods of the volume reduction in industrial wastewater. [16]
2. What are the main problems we are facing with noise pollution? How to reduce the noise pollution? [16]
3. (a) Write a note on ultra filtration.
 (b) Write a note on Reverse osmosis Chemicals. [8+8]
4. (a) Explain the terms particulates and gaseous emission. What are different dust collections devices?
 (b) An industry utilizes 0.3 million liters of oil fuel per month. It is estimated that for every 1 million liter of fuel oil burnt in the factory per year, the quantity of various pollutants emitted are given as:
 Particulate matter = 2.9 tonnes/yr
 SO₂ = 60 tonnes/yr
 Calculate the height of the chimney required to be provided for safe dispersion of the pollutants. [8+8]
5. Discuss the various health and hygiene factors involved in the MSW management. [16]
6. Agricultural solid waste has got high calorific value and how it can be properly used to add value to the national economy. [16]
7. What do you understand by Hazardous waste management? What are precautions you have taken to minimize the hazardous waste? [16]
8. (a) Write a note on effects of air pollution
 (b) Differentiate between super-adiabatic and sub-adiabatic? [8+8]

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R07**Set No. 4**

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ENVIRONMENTAL ENGINEERING-II
Civil Engineering

Time: 3 hours**Max Marks: 80**

Answer any FIVE Questions
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1. (a) What are the different sources of gases than can lead to air pollution? Discuss them.
 (b) What are the various air pollutants believed to be harmful to human health. [8+8]
2. Write a detailed note on proportioning. [16]
3. How to manage agricultural solid waste and aquatic weeds and describe their end uses? [16]
4. (a) A particle stream has 33% particles of diameter 1μ , 33% of 5μ , 34% with diameter 10μ . We now pass this stream through a cyclone whose cut dia is $d_{cut} = 5\mu$. What fraction by weight of the particles will the cyclone collect?
 (b) Define adiabatic lapse rate and explain with neat sketches the plume behavior from a stack. [8+8]
5. Explain the control methods of hazardous wastes and Explain with any two Examples? [16]
6. Explain the principle and the chemical reactions taking place in Ionization process of water treatment. [16]
7. Explain the approaches generally followed in environment legislation & write a brief note on Water Act 1974 and Air Act 1981. [16]
8. Explain about:
 - (a) Necessity & Theory of aeration (composting) process?
 - (b) Incineration. [8+8]

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Set No. 1

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Civil Engineering**

Time: 3 hours

Max Marks: 80

**Answer any FIVE Questions
All Questions carry equal marks**

1. Describe the methods of removal of permanent and temporary hardness of water. [16]
2. What are the commonly used methods of collection of municipal solid waste and how to improve them? [16]
3. Write down the details of air (prevention and control of pollution) Act 1981? [16]
4. Every solid waste can be processed into a useful end product having commercial value - Justify the statement. [16]
5. Enumerate the basic theories of Industrial wastewater management and explain the Volume reduction. [16]
6. Explain control methods for Hazard waste management. [16]
7. Will air pollution lead to water and soil pollution? Explain the relation between air, water and soil pollution. [16]
8. (a) Draw and describe the working of Gravity Settling chambers.
(b) Define lapse rate ELR and ALR, also describe the three major relative positions of ELR line with referred to AIR line. [8+8]

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Set No. 3

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ENVIRONMENTAL ENGINEERING-II
Civil Engineering**

Time: 3 hours

Max Marks: 80

**Answer any FIVE Questions
All Questions carry equal marks**

1. (a) What kind of pollutants is removed by activated carbon column? How they are regenerated.
(b) How the Ultra Filtration is useful for Industrial Process. [8+8]
2. (a) Draw and describe the working of Gravity Settling chambers.
(b) Define lapse rate ELR and ALR, also describe the three major relative positions of ELR line with referred to AIR line. [8+8]
3. Discuss the economic value of MSW and its uses. [16]
4. Explain different methods of domestic solid waste disposal and their economic uses. [16]
5. (a) What are the primary natural and anthropogenic sources of the hydrocarbons found in the atmosphere? What is the major anthropogenic source?
(b) List the oxides of sulfur and indicate which are of primary concern in air pollution. [8+8]
6. (a) Discuss with details the Water Act 1974?
(b) How are the standards fixed for various pollutants? [8+8]
7. What are the biological processes used in industrial waste water treatment. [16]
8. Write about Nuclear waste? Explain any two control methods of Nuclear Waste. [16]
