

Code No: 07A70103

R07**Set No. 2**

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

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

Answer any FIVE Questions
All Questions carry equal marks

1. What are the main problems we are facing from the chemical wastes? How to minimize the chemical wastes? [16]
2. How to recycle industrial waste waters? Give an example of an industrial process. [16]
3. (a) Discuss the various factors that cause air pollution and explain how air pollution can become a major health hazard.
(b) Discuss the effect of NO_x, Lead and Photochemical Oxidants on human beings and plants. [8+8]
4. Compare and contrast:
 - (a) Gravity and cyclone separators.
 - (b) Wet and dry electrostatic precipitators.
 - (c) Spray and packed towers.
 - (d) Absorbers and Adsorbers. [4×4=16]
5. Describe the water treatment processes of industrial waste waters to remove any of four heavy metals. [16]
6. What are the composition and properties of solid wastes? [16]
7. What are the main causes to create noise pollution? Explain control methods in detail. [16]
8. A city generates 50,000 tonnes of solid waste per year and a sanitary landfill is being contemplated to handle the waste on the city outskirts. It is expected that the waste will be delivered by a truck on a 5 d/week basis. The solid waste has a mean density of 250 kg/m³. It will be spread in 0.75 m layers and compacted to 0.25m. A daily soil cover of 0.15 m and an intermediate cover of 0.30m will be used. A final cover of 1.0m over the stack of 2 cells is recommended. Ignoring the soil volume between the stacks, determine the annual horizontal area covered by the solid waste. [16]

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Set No. 4

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Civil Engineering**

Time: 3 hours

Max Marks: 80

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

1. (a) How the Ultra Filtration is useful for Residential and Commercial activities.
(b) What are the advantages of Ultra Filtration over Reverse Osmosis. [8+8]
2. (a) Draw a sketch of the high volume air sampler and describe how it is used.
(b) Explain Tyco process used in the removal of Nitrogen oxides and sulphur oxides. [8+8]
3. (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]
4. (a) Differentiate the Nitrification and Denitrification.
(b) Write a note on simultaneous Nitrification and Denitrification. [8+8]
5. (a) Describe the industrial noise pollution scenario in India.
(b) What are the main sources of industrial noise? [8+8]
6. Explain the design, operation and maintenance of a typical landfill of municipal solid waste. [16]
7. Explain about collection systems of solid waste management:
(a) Hauled - Container Systems.
(b) Stationary - Container Systems. [8+8]
8. Explain the cradle to the grave concept of hazardous waste management. [16]

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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. How industrial waste waters differ from domestic waste waters in their characteristics? [16]
2. How the solid wastes from construction industry is disposed usefully to improve the landscape and to prevent water logging and floods? [16]
3. Explain the disposal methods for bio medical waste with any one examples. [16]
4. (a) What are the characteristics and requirements of Adsorbents?
(b) Name the different Adsorbents using in the waste water treatment and explain any one in detail. [8+8]
5. (a) Discuss in detail the various components of our environment.
(b) Define pollution, and explain the action of various pollutants. [8+8]
6. What are the processing techniques for solid waste management systems? [16]
7. Write about:
(a) Effluent standards.
(b) Air Emission standards. [8+8]
8. (a) Write a note on "Wind rose" diagram.
(b) Explain about collection and sampling methods for air pollutants. [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 is a plume? Draw and explain the various plumes?
(b) What are the advantages and disadvantages of electrostatic precipitator? [8+8]
2. Explain in detail solid waste disposal methods. [16]
3. Describe different forms of air pollution with suitable examples. [16]
4. (a) Discuss with details the Water Act 1974?
(b) How are the standards fixed for various pollutants? [8+8]
5. What do you understand by solid waste management? What are Precautions you have taken to minimize the solid waste? [16]
6. Explain control methods for Hazard waste management. [16]
7. (a) Write a note on the types of Reverse Osmosis membranes.
(b) Compare the different types of Reverse Osmosis membranes. [8+8]
8. Explain different chemical processes in waste water treatment. [16]
