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M 2079

B.E./B.Tech. DEGREE EXAMINATION, APRIL/MAY 2008.

Seventh Semester

Civil Engineering

CE 071 — PRINCIPLES OF ENVIRONMENTAL SCIENCE AND ENGINEERING

(Common to all branches of B.E./B.Tech.)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Define biosphere and lithosphere.
2. What is meant by water logging?
3. Mention some heavy metals causing water pollution.
4. Define BOD and mention its importance.
5. What is Biodiversity?
6. What is a hazardous waste?
7. What are the characteristics of grassland ecosystems?
8. What are the effects of global warming?
9. What is afforestation?
10. What is meant by polluter pay principle?

PART B — (5 × 16 = 80 marks)

11. (a) (i) Describe the carbon cycle in an ecosystem. (8)
(ii) Write a brief note on eutrophication. (8)

Or

- (b) (i) Discuss the energy flow in ecosystem. (10)
(ii) What is the concept of sustainable development? (6)

12. (a) (i) Elucidate the unusual physical properties of water essential for life in earth. (10)
(ii) Discuss the cause and effect of thermal pollution in water. (6)

Or

- (b) (i) Describe the options for meeting water demands. (8)
(ii) Explain the effect of oxygen demanding wastes in rivers. (8)

13. (a) Write a brief note on :
(i) Bio medical waste
(ii) Ozone layer depletion. (8 + 8)

Or

- (b) (i) Discuss the Air pollution due to vehicles and its control measures. (8)
(ii) Discuss the process of Recycling in the solid waste management. (8)

14. (a) (i) Briefly explain the on-site treatment and disposal of chemical wastes in industries. (9)
(ii) What is meant by Secure land fill? Write the factors contributing to the security of the landfill against leachate migration. (7)

Or

- (b) (i) Explain the waste minimizing techniques relevant to environmental protection. (8)
(ii) Give the flow chart for the sewage water treatment. (8)

15. (a) (i) Population, consumption and pollution are inter related — Give your comment. (8)
(ii) Write a short note on Kyoto Protocol. (8)

Or

- (b) (i) Discuss the role of Non-Government Organizations in environmental protection. (8)
(ii) Explain the basic concepts of Environmental Impact Assessment. (8)