

J 1079

B.E./B.Tech. DEGREE EXAMINATION, MAY/JUNE 2006.

Seventh Semester

(Common to all branches)

CE 071 — PRINCIPLES OF ENVIRONMENTAL SCIENCE AND ENGINEERING

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Define Ecosystem.
2. What do you mean by ecological pyramids?
3. State the components of the lithosphere and the characteristics of crust.
4. Enumerate the reactions in the process of chemical weathering of natural rocks to form matured soil.
5. Draw the flow chart showing the functional elements of solid waste management.
6. Mention any four compounds that are responsible for ozone layer depletion.
7. Name any four states having botanical hot spots in India.
8. Distinguish between insitu and exsitu conservation.
9. State any four goals of waste audit.
10. State the precautionary principle as per Rio Declaration.

PART B — (5 × 16 = 80 marks)

11. (i) Describe the various components of Ecosystem structure. (8)
- (ii) Describe the energy flow in ecosystem and the factors controlling it. (8)

12. (a) (i) Describe about the composition in different layers of atmosphere. (12)

(ii) What do you mean by lapse rate and temperature inversion. (4)

Or

(b) Describe any four environmental stress on environmental components. (16)

13. (a) Describe the unit processes involved in the treatment of municipal water.

Or

(b) Draw a flow sheet and explain the process of municipal wastewater treatment by activated sludge process.

14. (a) Describe the steps involved in EIA with the help of a flow sheet.

Or

(b) (i) Write a note on Polluters pay principle. (6)

(ii) Enumerate the role of Non Governmental Organisation and explain the importance of community participation in environmental management. (6 + 4)

15. (a) Explain the various functions of pollution control boards, in detail. (16)

Or

(b) (i) Describe about the constitutional provisions for environmental management in India.

(ii) Describe any four pollution control acts in India. (8 + 8)