

**Seventh Semester B. E. Civil Engg. Eighth
Semester B. E. (PT) Examination**

**AIR POLLUTION AND SOLID WASTE
MANAGEMENT**

Elective - I

Time : Three Hours]

[Max. Marks : 80

- N. B. :** (1) Answer **Three** questions from Section A and **Three** questions from Section B.
(2) Due credit will be given to neatness and adequate dimensions.
(3) Assume suitable data wherever necessary.
(4) Illustrate your answers wherever necessary with the help of neat sketches.

SECTION A

1. (a) Define air pollution. Explain various sources of air pollution. 7
(b) Explain meteorological factors affecting air pollution. 6
2. Explain the effect of air pollution on human, animals, plants and property. 13
3. (a) What is ambient air sampling ? 7
(b) With neat sketch explain different types of plume behavior. 6

4. (a) Explain procedure of collection of SPM by High Volume dust sampler. 7

(b) A factory uses 4.0 million litres of fuel oil per month. The exhaust gases from the factory contains the following quantities of pollutants per million litre per year.

Particular matter	7 t
SO ₂	26 t
NO _x	10 t
HC	1.2 t
CO	0.6 t

Determine the safe height of the chimney for the safe dispersion of the pollutants. 6

5. Write short notes (any two) :—

(i) Automobile exhaust.

(ii) Noise pollution.

(iii) Electrostatic precipitators. 14

SECTION B

6. (a) What is solid waste ? Explain the various sources of municipal solid waste. 7

(b) State the general composition of solid waste in Indian cities. 3

(c) How sampling of solid waste is done ? 3

7. (a) What are the various methods of solid waste collection ? Explain with sketches. 7
- (b) Describe various types of transportation vehicles used for collection and transportation of solid waste. 6
8. (a) What is sanitary land filling ? State various site requirements for sanitary land filling. 7
- (b) Explain in brief various methods of sanitary land filling. 6
9. (a) Explain three component diagram of incineration. 7
- (b) Explain mechanical composting. 6
10. Write short notes (any two) :—
- (i) Factors affecting composting.
- (ii) Pyrolysis process.
- (iii) Transfer station and its types. 14