

B.Tech IV Year I Semester (R13) Supplementary Examinations June 2017

AIR POLLUTION & QUALITY CONTROL

(Civil Engineering)

Time: 3 hours

Max. Marks: 70

PART – A

(Compulsory Question)

- 1 Answer the following: (10 X 02 = 20 Marks)
- List out merits and demerits of electrostatic precipitator.
 - List the air pollutants affecting plants.
 - Write short notes on smog.
 - List out the various sources of atmospheric dust.
 - Distinguish between stationary and mobile sources of air pollutants.
 - List out any five major disasters all over the world.
 - Explain the effect of carbon monoxide on humans.
 - List out various forms of damage to leaves.
 - What do you mean by mixing height?
 - What are the meteorological parameters that influence air pollution?

PART – B

(Answer all five units, 5 X 10 = 50 Marks)

UNIT – I

- 2 (a) Explain briefly the various methods adopted for determining the health effects of air pollutants on people.
 (b) What are the harmful effects of the following on human beings:
 (i) Sulphurdioxide. (ii) Carbon monoxide. (iii) Hydrocarbons.

OR

- 3 Write a short note on the following:
- Ozone holes.
 - Heat islands.

UNIT – II

- 4 (a) Explain the role of metrological elements in the dispersion of air pollutants in the atmosphere.
 (b) Explain the terms briefly: (i) Wind rose. (ii) Atmospheric dispersion.

OR

- 5 Describe various types of plume behavior with neat sketches.

UNIT – III

- 6 List out any two control equipment and briefly describe their working principles with neat sketches.

OR

- 7 Write short notes on the following:
- Lapse rates.
 - Gaussian model for plume dispersion.

UNIT – IV

- 8 Describe briefly the dry methods of removal of gaseous pollutant particles.

OR

- 9 When do you recommend absorption as a control method for gaseous contaminants? List out the absorbants commonly used for SO₂ and NO_x.

UNIT – V

- 10 List out various methods of sampling and describe any one in detail.

OR

- 11 (a) Explain what do you understand by stack sampling.
 (b) Describe the functioning of High Volume Air Sampler with a neat sketch.
