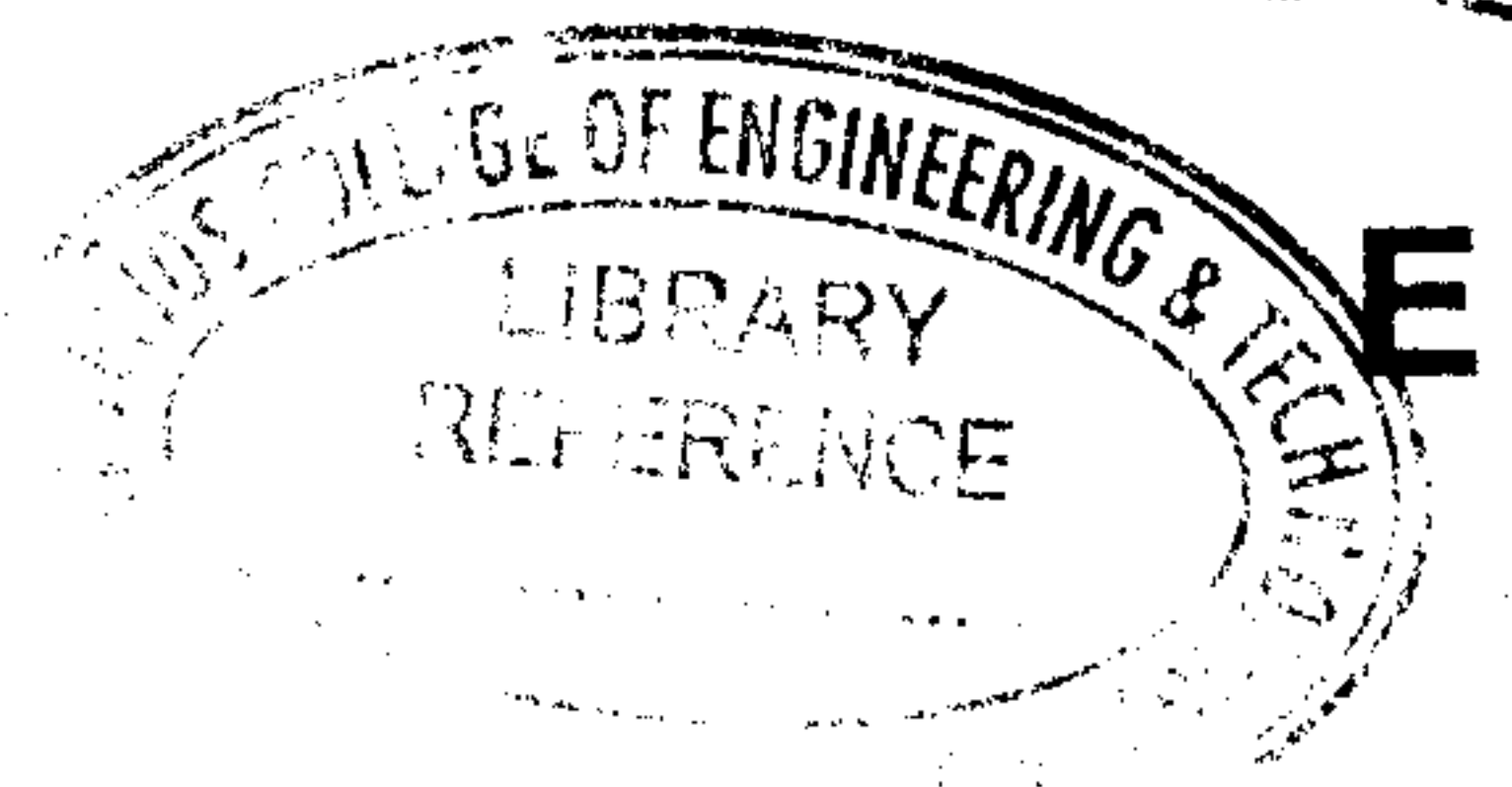




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E – 5256

Reg. No. :

Name :

**Seventh Semester B.Tech. Degree Examination, October 2018
(2013 Scheme)**

13.704.7 : AIR QUALITY MANAGEMENT (C) (Elective – I)

Time : 3 Hours

Max. Marks : 100

PART – A

Answer **all** questions. **Each** question carries **4** marks.

1. Write a short note on effect of air pollution on vegetation.
2. Describe the types of inversions.
3. Explain its salient features of high volume sampler.
4. Describe the principle behind absorption.
5. Write a short note on wind rose diagram.

PART – B

Missing data may be assumed suitably. Answer **any one full** question from **each** Module. **Each** question carries **20** marks.

Module – I

6. a) Explain the salient features of Air (Prevention and Control of Pollution) Act, 1981 of Government of India. 10
- b) Write the harmful effects of sulphur dioxide, carbon monoxide and hydro-carbon on human beings. 10

OR

7. a) Explain the any three industrial processes causing air pollution. 10
- b) Describe how air quality criteria help in defining the requirements in regulations. 10

P.T.O.

**Module – II**

8. a) Explain Lagrangian dispersion model with its assumptions. 10
b) Discuss how atmospheric stability and inversions affect on air pollutant dispersion. 10

OR

9. a) A power plant burns 5.5 t/h of coal that contains 4% sulphur and discharge the combustion products through a stack of 75 m high and 1 m inside diameter. Anemometer located 10 m above the ground measures the wind speed at 3 m/s. Air temperature = 15°C, barometer pressure = 1000 m bar, stack gas velocity = 10 m/s. Stack gas temperature is 150°C. Atmospheric conditions are moderate to slightly stable. Determine the ground level concentration of SO₂ at a distance 2 km downward from stack along the plume axis. 15
b) Explain the importance of wind rose in air pollution studies. 5

Module – III

10. a) With neat sketch explain the working principle, advantages and disadvantages of an electrostatic precipitator. 10
b) What is stack sampling ? Explain the significance of stack sampling. 10

OR

11. a) Enumerate the factors to be considered while selecting the air pollution control equipment. 10
b) Write the difficulties in particulate and gas sampling. 10

Module – IV

12. a) With neat sketch explain incineration with its advantages and disadvantages. 15
b) Write a short note on automobile pollutants. 5

OR

13. a) Explain three methods for control of gaseous pollutants. 15
b) Write the principle involved in condensation. 5
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