

9/11/13.

DEPARTMENT OF CIVIL ENGG., ANNA UNIVERSITY, CHENNAI -600 025
B.E. Degree Examinations, November/December 2013

Register No.

Degree:B.E **Branch :** Civil Engineering **Semester:** VI (Arrears)
Course Code:CE 9050 **Course Name:** Air Pollution Control
Max.Time : 3 hours **Max. Marks :** 100 **Regulation:** 2008

Instructions

- Answer all Questions in Part A
- Answer Question 11 and (a) OR (b) of Questions 12 to 15 in Part B
- Assume suitable data wherever necessary.
- Each Question in Part A carry 2 marks and that in Part B carry 16 marks

Part A (10 x 2 = 20 marks)

- 1 What are the major sources and impacts of SPM in air?
- 2 Distinguish between "Ambient Air Quality Standards" and "Emission Standards".
- 3 What is a wind rose diagram?
- 4 How to calculate effective stack height?
- 5 When to use bio filtration for air pollution control.
- 6 List the factors to be considered while selecting a particular technology for air pollution control
- 7 What are the air pollutants in automobile exhaust.
- 8 Suggest two important steps to control indoor air quality.
- 9 What are the effects of noise pollution
- 10 What is meant by Equivalent Noise (Leq)

Part B (5 x 16 = 80 mark)

- 11 (i) Distinguish between "Air Quality Indicator " and " Air Quality Index" [4]
(ii) List the types of Indoor air pollutants, their sources and associated impacts. [6]
(iii) Describe the operation of High Volume Sampler for air quality monitoring [6]

 - 12 (a) (i) Explain the Gaussian Dispersion model and state its application [8]
(ii) Compare the plume behaviours under different conditions of atmospheric stability. [8]
- (OR)**
- 12 (b) (i) Explain the importance of meteorology on atmospheric diffusion [12]
(ii) What are the conditions that determine atmospheric stability [4]

- 13 (a) (i) Describe the principles and equipments associated with different methods to control particulate emissions. [12]
(ii) How to control emission of VOC and CFCs [4]

(OR)

- 13 (b) (i) Compare the operation and performance of Bag Filters and Electrostatic Precipitator [8]
(ii) Compare the principles and applications of absorption, adsorption, condensation and incineration in Air Pollution Control. [8]

- 14 (a) (i) List the pollutants likely to present in the emissions from a coal fired Thermal Power Plant. Explain their impacts and different measures to prevent and control such emissions. [16]

(OR)

- 14 (b) (i) Briefly describe the principle and application of UV Photolysis and High Efficiency Particulate Air Filters in Air pollution control. [8]
(ii) Explain the initiatives in India to control emissions from automobiles [8]

- 15 (a) (i) Explain the causes and impacts of Ozone Layer depletion along with associated control efforts. [8]
(ii) Detail the ambient noise standards in India [8]

(OR)

- 15 (b) (i) Explain the causes and impacts of Climate Change along with associated control efforts. [8]
(ii) What are the different approaches to prevent and control noise pollution. [8]