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B.E/B.TECH (Full Time)DEGREE END SEMESTER EXAMINATIONS,NOV/DEC 2013

CIVIL ENGINEERING

VII Semester

CE 9050: AIR POLLUTION CONTROL

(Regulation 2008)

Time :3 Hours

Answer all questions

Max.marks:100

PART-A(10x2=20 Marks)

- 1.What are all the impact of air pollution on materials?
- 2.Mention the different global issue.
- 3.Give the applications of air pollution dispersion model.
- 4.Define inversion condition.
- 5.Enumerate the limitations of gravitational settling chamber?
- 6.What is the principle mechanism of adsorption technique?
- 7.Define sick building syndrome.
8. Air fuel ratio for complete combustion process is _____.
- 9.What are all the indicators of noise pollution?
- 10.What is the permissible limit of noise level at day time in the sensitive zone.

PART-B(5x16=80 Marks)

- 11.(i)Write the ambient air quality standards as per CPCB. (10 Marks)
(ii)Indoor air pollution is greater than outdoor air pollution –Justify. (6 Marks)
- 12.(a)Explain about the meteorological conditions influence on climate change. (16 Marks)

(Or)

(b) A coal fired boiler burns 8 tons of coal/hour (containing 5% sulphur) and discharges through stack, the effluent gases containing sulphur dioxide. The effective stack height is 175m while the wind speed at the top of the stack is 5m/s. When the atmosphere is unstable (category-C), estimate (a) maximum ground level concentrations at the cross-section of the stack (b) at 4km downwind distance (c) GLC at 0.5km crosswind distance.

(16 Marks)

13. (a) what are all the factors to be considered while selecting the air pollution control equipment. With the help of neat sketch explain the working principles of Biofiltration techniques.

(16 Marks)

(Or)

(b) With the help of neat sketch, explain the working condition of cyclone separator.

(16 Marks)

14.(a) What is meant by 'Ultraviolet Photolysis'. Explain the removal mechanism of gaseous pollutant from chemical industry.

(16 Marks)

(Or)

(b) What are the causes of radioactive pollution? Discuss the various effects of radioactive pollution on human health.

(16 Marks)

15.(a) In an industry emits a noise level of 90dB(A) for 10 min followed by another machine emits a noise of 60dB(A) for 50 min every hour. A hospital is located at 350m away from the industry with the background noise level of 30dB(A). Predict the equivalent noise level at the industry and at the hospital.

(16 Marks)

(Or)

(b) Define sound pressure level. Explain the working mechanism of sound level meter.

(16 Marks)