

Exam No: _____

GANPAT UNIVERSITY
B. TECH SEM-VIIITH CIVIL ENGINEERING
CBCS REGULAR- APRIL-JUNE 2017
2CI815 ENVIRONMENT POLLUTION & CONTROL - II

TIME: 3 HRS

TOTAL MARKS: 70

Instructions: (1) This Question paper has two sections. Attempt each section in separate answer book.

(2) Figures on right indicate marks.

(3) Be precise and to the point in answering the descriptive questions.

SECTION: I

Q.1(A) Explain microbial growth pattern with a neat sketch. (06)

Q.1(B) List out and explain the meteorological factors influencing air pollution. (06)

OR

Q.1(A) Describe the endogenous decay rate. What is deoxygenation and reoxygenation coefficient? (06)

Q.1(B) Explain in details, the effects of different air pollutants on human being. (06)

Q.2(A) Explain the working of trickling filter. (06)

Q.2(B) What is attached growth and suspended growth treatment? (05)

OR

Q.2(A) A factory uses 10,00,000 liters of furnace oil (specific density 0.97) per 6 months. If for one million liters of oil used per year, the PM emitted is 2.5 tonnes per year, NO_x emitted is 8.2 tonne per year, SO₂ emitted 68.56 tonne per year, hydrocarbons emitted are 0.37 tonne per year and carbon monoxide emitted is 0.50 tonne per year, calculate height of chimney required to be provided for safe dispersion of pollutants. As per emission regulation 1984 by CPCB the height of chimney is to be calculated according to the following formula:

$$H = 74(Q)^{0.27} \quad \text{for PM}$$

$$H = 14(Q)^{0.3} \quad \text{for SO}_2$$

Q.2(B) What are fabric filters? Explain its working. (05)

Q.3(A) Draw the neat sketch of a typical cyclone separator and label the parts. Also give the proportions of various parts with respect to cyclone diameter. (06)

Q.3(B) Write a short note on: (Any Three) (06)

- I. Baffle type separator
- II. Inversion
- III. Specific Growth Rate
- IV. F/M ratio

SECTION: II

Q.4(A) Explain with neat sketch the principle, construction and working of electrostatic precipitator. (06)

Q.4(B) Define "Noise" and explain why it should be regarded as an environmental pollutant? How much area is considered in the silence zone as per CPCB? (06)

OR

Q.4(A) Differentiate between Water act & Water Cess act. (06)

Q.4(B) Define: Adiabatic, Lapse Rate, DLAR, ELR, NALR & RSPM. (06)

Q.5(B) Explain the history of environmental legislation in India. (06)

Q.5(A) What is umbrella act? What is the main reason for its enactment? (05)

OR

Q.5(A) Explain the role & function of CPCB. (06)

Q.5(B) According to the CPCB, what is the Role and Power of an Environmental Engineer? (05)

Q.6 Write a short note on: (Any Three) (12)

- I. Carbon credit.
- II. Bhopal Gas Tragedy.
- III. Montreal Protocol.
- IV. IS 14000 & IS 14001
- V. Air act.

*****XXXXXXXXXX*****

END OF PAPER