

B.E. Civil Engineering (Model Curriculum) Semester - VIII  
**PEC-1-CE801 - Air Pollution and Solid Waste Management**

P. Pages : 2

Time : Three Hours



**GUG/S/23/14334**

Max. Marks : 80

- Notes :
1. All questions carry equal marks.
  2. Due credit will be given to neatness and adequate dimensions.
  3. Assume suitable data wherever necessary.
  4. Illustrate your answers wherever necessary with the help of neat sketches.

1. a) Write about major air pollution episodes and explain any two detail. 8
- b) Explain with neat sketch all zones of atmosphere in detail. 8

**OR**

2. a) Explain in detail effect of various pollutants on human health. 8
- b) Distinguish between primary & secondary air pollutants. 8
3. a) Describe with neat sketches, how different atmospheric conditions give rise to kind of plume. 8
- b) An Industry utilizes 0.3 ML of oil fuel per month. It has also been estimated that for every 1 ML of fuel oil burnt in the industry per year, the quantities of various pollutants emitted are given as :
- Particulate Matter : 2.9 t/year  
 $SO_2 = 60$  t/year  
 $NO_x = 08$  t/year  
 $HC = 0.4$  t/year  
 $CO = 0.5$  t/year
- Calculate the height of the stack required to be provided for safe dispersion of the pollutant. 8

**OR**

4. a) Explain meteorological factor affecting air pollution. 8
- b) Write down in detail about high volume sampler with neat sketch to measure pollution level in ambient air. 8
5. a) What are the various types of equipment used to control particulate matter and explain any one in detail. 8
- b) Explain in detail effect of sound pollution on health and how to control it. 8

**OR**

6. a) Explain working of gravity settler for controlling air pollution. 8  
b) Write about pollution due to petrol and diesel engine. 8
7. a) What is solid waste ? Give the composition of solid waste and its percentage in developing countries. 8  
b) Explain with neat sketch “Transfer Station”. 8

**OR**

8. a) Discuss the solid waste collection equipments with neat sketch. 8  
b) What are the different type of collection systems of solid waste ? Explain ‘House to House’ collection system in detail. 8
9. a) Explain how to control leachates and gas from sanitary landfilling. 8  
b) Explain in detail method of sanitary land filling. 8

**OR**

10. a) Write down and explain composting methods adopted in India. 8  
b) Draw and explain 3-component diagram of incineration. 8

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