

Register Number:

Name of the Candidate:

**M.E. DEGREE EXAMINATION, 2016****(ENVIRONMENTAL ENGINEERING)****(FIRST SEMESTER)****ENVC: 102- ENVIRONMENTAL CHEMISTRY AND MICROBIOLOGY**

May]

[Time: 3 Hours

Maximum: 75 Marks

*Answer any FIVE and not less than TWO in each part***PART - A**  
**ENVIRONMENTAL CHEMISTRY**

1. Explain the stratification of atmosphere with the species present in each sphere. (15)
2. Write in detail on global warming and Acid rain. (15)
3. Describe the principle of Gas chromatograph with a schematic diagram and its application in environmental analysis. (15)
4. Write in detail the oxidation and reduction with examples. (15)

**PART - B**  
**ENVIRONMENTAL MICROBIOLOGY**

5. Explain the following briefly: (5)
  - a) Algae in water supplies. (5)
  - b) Koebs cycle (5)
  - c) Identification of microorganisms. (5)
6. What is metabolism? Discuss in detail Aerobic respiration and fermentation. (15)
7. Describe the pentose phosphate path way of bacterial metabolism. (15)
8. Discuss in detail: (8)
  - a) Nitrification and Denitrification. (8)
  - b) Eutrotrophicaiton. (7)

\*\*\*\*\*

Register Number:

0820

Name of the Candidate:

**M.E. DEGREE EXAMINATION, 2016**

**(ENVIRONMENTAL ENGINEERING)**

**(FIRST SEMESTER)**

**ENVC – 103: AIR POLLUTION METROLOGY AND DISPERSION MODELLING**

May]

[Time : 3 Hours

Maximum : 75 Marks

*Answer any FIVE questions*

(5 × 15 = 75)

1. Discuss in detail the various sources of air pollution. ✓ 8+1
2. Briefly explain Gaussian model for air pollution and its limitations.
3. ✓ Write short notes on pollution transport modeling, meso scale and micro scale systems. 10
4. Explain in detail the non reactive pollutant modeling.
5. Explain with neat sketch working of high volume sampler and procedure adopted for sampling particulate matter in air. 8

---

6. Explain in detail wind rose diagram and its uses in industries.
7. ✓ Compare plume behavior under different conditions of atmospheric stability. ✓ 9
8. ✓ Write short notes on
  - a) Metrological models for urban areas. (72) 2
  - b) Sources of metrological data. (72) 2

\$\$\$\$\$\$