

**B.Sc. Part—III (Semester—V) Examination**  
**ENVIRONMENTAL SCIENCE**  
**(Pollution Control Technology)**

Time : Three Hours]

[Maximum Marks : 80

**Note** :—(1) All questions are compulsory.  
(2) Draw well labelled diagram wherever necessary.

1. (A) Fill in the blanks :—
- (i) \_\_\_\_\_ method is used for the removal of Oil and Grease. ½
  - (ii) UASB stands for \_\_\_\_\_. ½
  - (iii) AQI stands for \_\_\_\_\_. ½
  - (iv) Reduction, \_\_\_\_\_ and \_\_\_\_\_ are the three processes of Solid Waste Management. ½
- (B) Choose correct alternatives :—
- (i) Absorption is the \_\_\_\_\_ Process of waste water treatment. ½
    - (a) Biological
    - (b) Chemical
    - (c) Physical
    - (d) Bacteriological
  - (ii) MSW stands for \_\_\_\_\_. ½
    - (a) Municipal Solid Waste
    - (b) Municipal Solid Water
    - (c) Municipal Solid Wet
    - (d) Municipal Solid Work
  - (iii) Pit, composting and \_\_\_\_\_ are the methods employed for treatment of solid waste. ½
    - (a) Neutralisation
    - (b) Chemical Precipitation
    - (c) Incineration
    - (d) Flocculation
  - (iv) The sampling of air is classified into \_\_\_\_\_ and \_\_\_\_\_ types. ½
    - (a) Ambient and stack
    - (b) Cyclone and Scrubber
    - (c) Sedimentation and screening
    - (d) NO<sub>x</sub> and SO<sub>x</sub>
- (C) Answer in One Sentence :—
- (a) Define Sludge. 1
  - (b) Mention any four control devices for Air Pollution management. 1
  - (c) What is the long form of NRPPE ? 1
  - (d) Define Incineration. 1
2. Describe in detail about National and International steps to control the Greenhouse Gases. 12
- OR**
- Write a note on source correction method and Zoning need of city planning. 12
3. Discuss in brief :—
- (a) Electrostatic Precipitators. 4
  - (b) Fabric Filter 4
  - (c) Wet Collector 4

**OR**

- (d) Catalytic Converter. 4
  - (e) Need of good maintenance and driving habits. 4
  - (f) Control method of nitrogen emission. 4
4. Draw a well labelled Flow diagram for Waste Water treatment. Discuss Physical Process with respect to Screening, Grit Removal, Skimming and Primary Sedimentation. 12

**OR**

Discuss in detail about Aerobic biological treatment as Trickle Filters and Activated Sludge. 12

5. Discuss :—
- (g) Characteristics of Municipal Solid Waste. 4
  - (h) Characteristics of Hazardous Waste. 4
  - (i) Management of Radioactive Waste. 4

**OR**

- (j) Care for storage of hazardous waste. 4
  - (k) Incineration as treatment method for solid waste disposal. 4
  - (l) Stabilization as a treatment to Hazardous Waste. 4
6. Explain :—
- (m) Care for handling Radioactive Waste. 4
  - (n) Need of Biomedical Waste Treatment. 4
  - (o) Chernobyl Nuclear Disaster 4

**OR**

- (p) Classification of Biomedical waste. 4
  - (q) Disposal of Biomedical Waste. 4
  - (r) Storage of Radioactive Waste. 4
7. (s) Mention the operating precautions for Flammable material. 4
- (t) Maintenance of non-respiratory protective equipment. 4
  - (u) Use of Respiratory personal protective equipment. 4

**OR**

- (v) Discuss the Care for operating toxic Substances. 4
- (w) Need of Respiratory Personal Protective equipment. 4
- (x) Use of equipment for head and body protection. 4