

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 diagrams wherever necessary.

1. (A) Fill in the blanks :

- (i) High volume sampler is used to collect _____ particulate matter. ½
- (ii) Long form of UASB is _____. ½
- (iii) _____ and _____ are the popular disposal methods of solid waste. ½
- (iv) Long form of NRPPE is _____. ½

(B) Choose correct alternatives :

- (i) West and Gaeke method is used for analysis of _____.
 (a) CO₂ (b) NO₂
 (c) SO₂ (d) CO ½
- (ii) Screening is used to remove _____ from waste water.
 (a) Floatable matter (b) Grit
 (c) Sludge (d) Oil ½
- (iii) Activated sludge process is _____ process of waste water treatment.
 (a) Physical (b) Chemical
 (c) Biological (d) Inorganic ½
- (iv) VOC stands for _____.
 (a) Volatile Organic Compound (b) Inorganic Compounds
 (c) Toxic substances (d) Chemical matter ½

(C) Answer in one sentence :

- (i) What is application of aeration process ? 1
- (ii) Define demineralization. 1
- (iii) Define Incineration. 1
- (iv) Define Biomedical waste. 1

2. Describe in detail city planning and source correction method. 12

OR

Describe in detail national and international steps to control green house gases. Add a comment on zoning. 12

3. Describe in brief :

- (a) Wet collectors 4
- (b) Electrostatic precipitators 4
- (c) Cyclone separators. 4

OR

- (d) Use of after burners 4
- (e) Engine modification 4
- (f) Alternative fuel. 4

4. Describe in brief :

- (g) Grit chamber 4
- (h) Aeration 4
- (i) Sedimentation. 4

OR

- (j) Neutralization 4
- (k) Demineralization 4
- (l) Origin and characteristics of sludge. 4

5. Describe in brief :

- (m) Physical composition of municipal solid waste 4
- (n) Open dumping 4
- (o) Incineration. 4

OR

- (p) Sources of Hazardous waste 4
- (q) Classification of biomedical waste 4
- (r) Sources of Radioactive waste. 4
- 6. Describe in detail treatment and disposal of biomedical waste. 12

OR

- Describe in detail storage and disposal of radioactive waste. 12
- 7. Describe in brief :
 - (s) Precautions in the handling and operation of flammable substances. 4
 - (t) Definition and concept of indoor safety. 4
 - (u) Non-respiratory personal protective equipment. 4

OR

- (v) Precautions required during handling of toxic substances. 4
- (w) Head and ear protection. 4
- (x) Face and eye protection. 4

