

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) For removal of oil and grease _____ method is used. $\frac{1}{2}$
(ii) Gravitational settling chamber is used to collect _____. $\frac{1}{2}$
(iii) Long form of VOCs is _____. $\frac{1}{2}$
(iv) Pyrolysis is process which decomposes organic waste by exposing it to _____. $\frac{1}{2}$

(B) Choose correct alternatives :

- (i) Hazardous wastes are those wastes that are :
(a) Hazardous to Human health (b) Hazardous to Environment
(c) Hazardous to Plants (d) All the above $\frac{1}{2}$
- (ii) Long form of UASB is :
(a) Up flow anaerobic sludge blanket (b) Upper flow aerobic sludge blanket
(c) Upper stand flow (d) Volatile organic flow $\frac{1}{2}$
- (iii) RPPE stands for :
(a) Respiratory personal protective equipment
(b) Rest personal protection equipment
(c) Respiration personal protection efficiency
(d) All the above $\frac{1}{2}$
- (iv) Screening is used to remove :
(a) Floatable matter (b) Grit
(c) Sludge (d) Oil $\frac{1}{2}$

(C) Answer in **one** sentence each :

- (i) Define Radioactive waste. 1
(ii) What is Coagulation ? 1
(iii) Define Incineration. 1
(iv) What is Adsorption ? 1

2. What is ambient and indoor sampling ? Describe any one sampling technique. 12

OR

Describe the National and International steps to control greenhouse gases. 12

3. Describe in brief :
- (a) Gravitational settling chambers 4
 - (b) Fabric filters 4
 - (c) Electrostatic precipitators 4
- OR**
- (d) Catalytic converters 4
 - (e) Importance of good maintenance 4
 - (f) Use of after burners. 4
4. Describe in brief :
- (g) Sedimentation 4
 - (h) Activated sludge process 4
 - (i) Trickling filter. 4
- OR**
- (j) Nature and characteristics of sludge 4
 - (k) Oil and grease removal 4
 - (l) Aeration. 4
5. Describe in brief :
- (m) Pyrolysis 4
 - (n) Gasification 4
 - (o) Health and safety aspects of Radioactive waste. 4
- OR**
- (p) Safe storage of Hazardous wastes 4
 - (q) Concept of Biomedical waste 4
 - (r) Classification of radioactive waste. 4
6. Describe in detail concept, classification and treatment of biomedical waste. 12
- OR**
- Describe in detail handling, storage of Radioactive waste. 12
7. Describe in brief :
- (s) Precautions in the handling and operation of explosive substances 4
 - (t) Maintenance of non-respiratory protective equipment 4
 - (u) Head and face protection. 4
- OR**
- (v) Precautions required during handling of flammable substances 4
 - (w) Hand and Foot protection 4
 - (x) Selection of non-respiratory protective equipment. 4