

M.Sc. Part-I Semester-I (CBCS Scheme) Examination
ENVIRONMENTAL SCIENCE
ENVIRONMENTAL CHEMISTRY
Paper-III

Time : Three Hours]

[Maximum Marks : 80

N.B.:—All questions are compulsory and carry equal marks.

1. (a) Explain what is stoichiometry with suitable example. 6
- (b) Explain Gibb's energy with deviation. 5
- (c) Discuss the concept of solubility product. 5

OR

- (d) Discuss with example Acid-Base reaction. 6
- (e) Describe Chemical Equilibria. 5
- (f) Describe Chemical Potential. 5
2. Describe the chemistry of Green House gases explaining their impacts as Global Warming. 16

OR

Describe the Thermochemical and Photochemical reactions in the atmosphere. Discuss impacts on Environment. 16

3. (g) Classify the industrial pollutant with example. 6
- (h) What do you mean by Heavy Metals ? Explain their properties. 5
- (i) Describe the chemical characteristics of asbestos. 5

OR

- (j) Explain insecticides, fungicides and herbicides with suitable example. 6
- (k) In what way sugar and starch industries are important pollution industries ? 5
- (l) What type of pollutants are generated from cement industries ? 5
4. Define error. Give detail classification of Error. Discuss methods for minimizing errors with suitable example. 16

OR

Explain the basic concept and definition of true result. Discuss the concept of standard deviation. 16

5. Discuss :
 - (m) Principle and Working of spectrophotometry. 6
 - (n) Merits and Demerits of Flame photometry. 5
 - (o) Principles of high performance liquid chromatography. 5

OR

- (p) Working and principles of Ion exchange chromatography. 6
- (q) Working and principles of high volume sampler. 5
- (r) Merits and demerits of colorimetry. 5

