

No. of Printed Pages : 03

Roll No.

AA-604

M. Tech. EXAMINATION, Dec. 2017

(First Semester)

(B. Scheme) (Main & Re-appear)

ESEM-107-B

ANALYTICAL CHEMISTRY OF
ENVIRONMENT

Time : 3 Hours]

[Maximum Marks : 75

Before answering the question-paper candidates should ensure that they have been supplied to correct and complete question-paper. No complaint, in this regard, will be entertained after the examination.

Note : Attempt *Five* questions in all, selecting at least *one* question from each Unit. All questions carry equal marks.

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P.T.O.

Unit I

1. Define the following :
 - (i) pH
 - (ii) Ionisation
 - (iii) Solubility
 - (iv) Normality
 - (v) First Order reaction
 - (vi) Molecular weight and equivalent weight
 - (vii) Alkalinity. **15**
2. (a) Define bond. Explain various types of bond. **10**
 - (b) Explain common ion effect **3**
 - (c) What are buffer solution. **2**

Unit II

3. Comment on acid rain and its ecological effects. **15**
4. What are CFCs and how they attacks on ozone ? Enumerate the harmful effects of CFCs. What efforts have been taken for safe disposal of CFCs ? **15**

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Unit III

5. Discuss formation of soil horizons and their characteristics. **15**
6. Explain how the following soil characteristics vary with depth : **15**
 - (i) Structure
 - (ii) Texture
 - (iii) Clour
 - (iv) Porosity
 - (v) Bulk density.

Unit IV

7. (a) Write note on ion-chromatography. **5**
 - (b) Show a schematic diagram of a gas chromatography. Explain the functions of its components. **10**
8. Explain the principle and working of HPLC with figure. **15**

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