

2E2004

Roll No. _____

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2E2004

B. Tech. II Sem. (Main / Back) Exam., May - 2017
204 Chemistry & Environmental Engineering

Time: 3 Hours

Maximum Marks: 80

Min. Passing Marks Main: 26

Min. Passing Marks Back: 24

Instructions to Candidates:

Attempt any five questions, selecting one question from each unit. All questions carry equal marks. Schematic diagrams must be shown wherever necessary. Any data you feel missing suitably be assumed and stated clearly.

Units of quantities used/calculated must be stated clearly.

*Use of following supporting material is permitted during examination.
(Mentioned in form No. 205)*

1. NIL

2. NIL

UNIT - I

Q.1 What are the requisites of potable water? Explain various steps involved in municipal water supply. [4+12=16]

OR

Q.1 (a) Explain determination of hardness by Clark's method. [8]

(b) 50 ml of water sample on titration with soap solution gave following results -

(i) Lather factor = 0.4 ml

(ii) Total hardness volume = 8.2 ml

(iii) Permanent hardness volume = 2.5 ml

(iv) Standard hard water containing 0.2gm of CaCO₃ per liter = 19.9 ml

Calculate temporary, permanent and total hardness in ppm.

[8]

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[29800]

UNIT - II

Q.2 Explain De-ionization method of water softening with suitable diagram. [16]

OR

Q.2 Write short notes on the following:

- (a) Caustic embrittlement [4]
- (b) Formation of scales and its prevention in boilers [4]
- (c) Priming in boilers [4]
- (d) Corrosion in boilers [4]

UNIT - III

- Q.3 (a) What is bio-diversity? Describe the ecological importance of bio-diversity. [10]
- (b) Describe renewable sources of energy. [6]

OR

Q.3 What is Environmental Impact Assessment (EIA)? Discuss the detailed methodology of implementing EIA. [16]

UNIT - IV

Q.4 What is solid waste management? Describe various steps involved in disposal of solid waste. [16]

OR

[4×4=16]

Q.4 Write short notes on any four of the following:

- (a) Sanitary landfill
- (b) Acid rain and its effect
- (c) Consequences of global warming
- (d) Noise pollution and its control
- (e) Importance of prevention of ozone depletion
- (f) Control of air pollution

UNIT - V

Q.5 (a) What is corrosion? Explain the mechanism of dry corrosion. [8]

(b) Discuss waste water management in the disposal of waste water. [8]

OR

Q.5 Explain any two of the following:

[8+8=16]

- (a) Prevention and control of corrosion
- (b) Water pollution, its harmful effects and control
- (c) Pilling Bedworth's Rule
