

2E2004

Roll No. \_\_\_\_\_

Total No of Pages: **3**

**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  $\text{CaCO}_3$  per liter = 19.9 ml

Calculate temporary, permanent and total hardness in ppm. [8]



## **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**

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

[4×4=16]

- (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
-