

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**Diploma Engineering - SEMESTER-VIII • EXAMINATION – SUMMER 2013**

**Subject Code: 360607****Date: 14/05/2013****Subject Name: Environment Engineering****Time: 2:30 pm TO 5:00 pm****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. English version is considered to be Authentic.

- Q.1** Explain following terms: **14**
- (1) Requirement of wholesome water,
  - (2) Impurities of water,
  - (3) Characteristics of water,
  - (4) Standard of potable water quality,
  - (5) Reverse osmosis process for desalination of water,
  - (6) Collection and Handling of Bio-chemical waste,
  - (7) Detention Period
- Q.2**
- (a) State the purpose of screenings & list various types of screens **07**
  - (b) State types of sedimentation tanks. Explain Hopper bottom tank with neat sketch. **07**
- OR**
- (b) List types of clarifiers. Draw neat sketch of any one **07**
- Q.3**
- (a) Explain the method of jar test for determining the optimum dosage of coagulant in raw water. **07**
  - (b) State various methods of sludge disposal. Explain any one method with neat sketch. **07**
- OR**
- Q.3**
- (a) Explain principal and purpose of coagulant in purification of water. **07**
  - (b) Write short note on the factors affecting sludge digestion. **07**
- Q.4**
- (a) Write Short note on sources of sludge. **07**
  - (b) State methods of disinfection and explain any one method in details. **07**
- OR**
- Q.4**
- (a) State various methods of dewatering and gives suitability of them. **07**
  - (b) Differentiate: **07**
    - (1) General waste and Hazardous waste
    - (2) Batch process and Continuous process
- Q.5**
- (a) Write short note on slow sand filters **07**
  - (b) State the advantages and disadvantages of Lime-soda method. **07**
- OR**
- Q.5**
- (a) Explain back wash in rapid sand filters **07**
  - (b) State classification of solid waste. **07**

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