

T.E. Civil VI CBGS  
Env. Engg - I  
( 3 Hours)

01.6.2016  
QP Code : 577700

[ Total Marks : 80

- N.B. :**
- 1) Question **number one** is **compulsory**.
  - 2) Attempt **any three** of remaining **five** questions.
  - 3) Assume **suitable** data if **required**.
  - 4) Draw **neat sketches** wherever **necessary**.

1. Solve **any four** of the following:

- A) Enlist & explain factors affecting design periods.
- B) What are the characteristics of hazardous wastes?
- C) Explain Break point of chlorination.
- D) State the factors affecting location of Intake Structure.
- E) Explain Dead End & Radial systems for water distribution with neat sketches.

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2. A) Design a rectangular sedimentation tank to treat 2 MLD of water. Assume detention time of 3Hrs. & flow through velocity of 7.5 cm/min. If the depth of tank is 3m, find the overflow rate & dimensions of the tank.

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- B) Differentiate between Rapid sand gravity filter & Slow sand filters.
- C) Describe with neat sketch the working of pressure filter.

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3. A) What is leachate? How leachate is controlled in the landfill site? Explain with neat sketch.

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B) Explain different methods of disinfection & its suitability.

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4. A) Design a Rapid sand filter for a population of 1,00,000 which is to be Served by a 200 lit/head/day water supply.

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B) Explain the physical, chemical & biological characteristics of water. Write the standards for potable water.

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5. A) Define water softening. Explain zeolite process with neat sketch.

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B) Enlist various methods of population forecasting. Explain any one in detail.

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C) Shortly explain the mechanism of flocculation & coagulation.

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6. Write short note on following (**Any four**)

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- I) Sources of solid waste.
- II) Removal of Iron & Maganese.
- III) Tube settler
- IV) Water borne diseases.
- V) Appurtenances in distribution system.