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**B. TECH.**  
**(SEM VI) THEORY EXAMINATION 2018-19**  
**RURAL WATER SUPPLY AND SANITATION**

**Time: 3 Hours****Total Marks: 100****Note: 1.** Attempt all Sections. If you require any missing data, choose suitably.**SECTION A**

- 1. Attempt all questions in brief. 2 x 10 = 20**
- a. What is environment?
  - b. Explain how population affects per capita demand.
  - c. What is sanitation?
  - d. Which is the best method of refuse disposal for a small organized community?
  - e. What is meant by mechanical imhoff tank?
  - f. Write short note on composting method.
  - g. Define design population.
  - h. Mention any four resources for collecting raw water.
  - i. State the advantages of septic tank.
  - j. What do mean by rural community?

**SECTION B**

- 2. Attempt any three of the following: 10 x 3 = 30**
- a. Discuss the methods of disposal of septic tank effluent.
  - b. Enumerates the various methods for the treatment of industrial wastes.
  - c. What are the important points to be considered for proposed water supply scheme?
  - d. Discuss the design aspects of an imhoff tank in detail.
  - e. Explain logistic curve method.

**SECTION C**

- 3. Attempt any one part of the following: 10 x 1 = 10**
- (a) Explain industrial plant sanitation.
  - (b) Explain in details about incineration with a neat diagram.
- 4. Attempt any one part of the following: 10 x 1 = 10**
- (a) Explain in details about occupational hazards in various public buildings.
  - (b) Explain the National Rural Drinking Water program.
- 5. Attempt any one part of the following: 10 x 1 = 10**
- (a) Briefly explain the planning of wastewater collection system in rural areas.
  - (b) What is solid waste? Explain the causes and effects of solid waste. Also give any two treatment methods of disposal of solid waste.
- 6. Attempt any one part of the following: 10 x 1 = 10**
- (a) Explain the treatment of solid waste by using bio-gas plant.
  - (b) Write any TWO of the following disposal methods with advantages and disadvantages;
    - (i) Dumping

(ii) Incineration

(iii) Salvaging

7. Attempt any *one* part of the following:

10 x 1 = 10

- (a) What are the specific issues and problem encountered with rural sanitation?  
Explain in detail.
- (b) Write detailed note on;
  - (i) Storm water and sewage disposal
  - (ii) Rain water harvesting