

**7E4038**

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

Total Printed Pages : **2****7E4038**

B. Tech. (Sem. VII) (Main/Back) Examination, December-2012

Civil Engg.

**7CE6.3 Rural Water Supply & Sanitation**

Time : 3 Hours]

[Maximum Marks : 80

[Min. Passing Marks : 24

*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 may be  
suitably 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

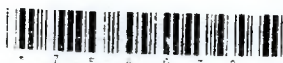
- 1 (a) Explain the traditional sources of water in rural areas. 8  
(b) Give a detail account of various water harvesting techniques prevalent in rural areas. 8

**OR**

- 1 (a) Discuss the working, of India Mark 11 hand pump with the help of a neat sketch. 8  
(b) Describe the construction of a sanitary well with the help of a neat sketch. 8
- 2 (a) How will you estimate the total water requirement of a place in rural area? 8  
(b) What is the importance of personal hygiene with respect to control the disease transmission? 8

**OR**

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[Contd...

- 2 (a) Discuss the quality standards of water needed for a village community. How does this differ from urban community? 8
- (b) What are communicable diseases and how can these be controlled? 8
- 3 (a) Explain the mechanism of de-flouridation by Nalgonda technique. Give some salient features of this technique. 8
- (b) Discuss the various programs of rural water supply and sanitation launched by the government. 8

## OR

- 3 (a) Explain the utility and design of slow sand filters with respect to rural water supplies. 8
- (b) Discuss and compare the different schemes for implementing drinking water systems in rural areas. 8
- 4 (a) Explain the process of pasteurization of milk and discuss dairy farm sanitation. 8
- (b) Discuss life cycle of mosquitoes and list the remedial measures for the control of mosquito nuisance. 8

## OR

- 4 (a) What do you understand by food sanitation? How do the diseases spread through infected food? 8
- (b) Explain some preventive measures to control food poisoning. 8
- 5 (a) Explain the design of septic tank and soak-pit with the help of a neat sketch. 8
- (b) What is bio-gas technology? What are the parameters responsible for optimum production of bio-gas? 8

## OR

- 5 (a) Describe with the help of neat sketches the various sewage disposal systems used for rural areas. 8
- (b) Describe VIP latrines and state its advantages over other conventional latrines used in villages. 8

