

RURAL WATER SUPPLY & SANITATION

Time : 3 Hours

Min. Passing Marks : 24

Maximum Marks : 80

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 may suitably be assumed and stated clearly. Units of quantities used / calculated must be stated clearly.

Unit-I**OR**

1. (a) Explain the working of India Mark II hand pump with a neat sketch. What are the problems of hand pump maintenance in rural areas? [8]
- (b) Describe with a neat sketch the construction of sanitary well. [8]
3. (a) What is the importance of fluoride in water? Explain the method of determination of fluoride in water. [8]
- (b) Discuss about various programmes of rural water supply and sanitation launched by the government. [8]

OR**Unit-IV**

1. (a) Discuss the condition of Indian villages with regard to economic, health and social aspects. [8]
- (b) Discuss the traditional sources of water in rural areas. Explain their significances in present scenario. [8]
4. (a) What do you understand by pasteurization of milk? Write the essentials of dairy farm sanitation. [8]
- (b) Give a sketch of life cycle of mosquitoes. What are the remedial measures to control the mosquito nuisance? [8]

OR**Unit-II**

2. (a) Write a note on quality standards of water needed for village community? In what way this differs from urban community? [8]
- (b) What is the importance of personal Hygiene with respect to control of disease transmission? [8]
4. (a) Describe the diseases that can be transmitted by cattle to humans and the preventive measures for the same. [8]
- (b) What do you understand by Food-Poisoning? Explain the term Botulism and discuss its ill effects. [8]

OR**Unit-V**

2. What do you understand by communicable diseases? How can these diseases be transferred and Controlled? [16]
5. (a) Design a septic tank and soak pit for a small community housing 500 residents. Draw a neat sketch of the septic tank and soak pit. [8]
- (b) What is Bio-gas? Explain the working of a biogas plant. What are the reasons of failure of biogas plant? [8]

Unit-III**OR**

3. (a) Differentiate between slow sand filters and horizontal roughing filter. Give neat sketches of both the filters. What are the advantages of horizontal roughing filter? [8]
- (b) Explain the importance of disinfection and the common methods used for it in rural areas. [8]
5. (a) Describe with sketches various types of latrines used for rural sanitation. [8]
- (b) Draw a flow diagram for the planning procedure adopted in community water supply and sanitation projects. [8]