



(Following Paper ID and Roll No. to be filled in your Answer Book)

PAPER ID : 100658

Roll No.

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B. Tech.

(SEM. VI) THEORY EXAMINATION, 2014-15

RURAL WATER SUPPLY & SANITATION

Time : 3 Hours]

[Total Marks : 100

Answer all questions

1 Attempt any four parts of the following : 5×4=20

- (a) Mention and discuss the factors that influence per capita demand.
- (b) Define and briefly explain aquifers and their types.
- (c) What are the various types of springs ? Discuss in brief.
- (d) Derive them's formulae for unconfined aquifer.
- (e) What do you understand by filtration ? Give design guidelines for slow sand filtration.
- (f) What are the methods available for collection of night soil ?

2 Attempt any two parts of the following : 2×10=20

- (a) How will you estimate the requirement of a village, while planning a water supply scheme for the same ? Also discuss as assess the necessary treatment which should be given to the available water source in the area.

- (b) Explain the relation between public health and water supply.
- (c) What are the advantages of a successful water supply project ?

3 Attempt any two parts of following : 2×10=20

- (a) Name different types of pumps used generally in water supply scheme. What are the factors on which their selection depends ?
- (b) Explain briefly the general methods of distribution of water in municipal water supply schemes.
- (c) Explain the working of imhoff tank. How is it comparable to a septic tank ?

4 Attempt any two parts of the following : 2×10=20

- (a) Discuss the mechanism of working of a stabilization pond.
- (b) What do you understand by the "sanitary land filling". Discuss the physical tests of solid waste.
- (c) What are conditions which are considered to be favorable for the disposal of solid waste by land filling ?

5 Attempt any two parts of the following : 2×10=20

- (a) Differentiate between the hazardous and non-hazardous industrial solid wastes, giving approximate quantities of generation of various types of industrial solid wastes in India.

- (b) Differentiate between composting and vermi composting and explain their utilization in disposal of solid waste in rural areas.
 - (c) What are various operational problems of biogas plants in rural areas ?
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