

III B. Tech II Semester Supplementary Examinations, February-2022
ENVIRONMENTAL ENGINEERING – I

(Civil Engineering)

Time: 3 hours

Max. Marks: 70

- Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B**)
 2. Answer **ALL** the question in **Part-A**
 3. Answer any **FOUR** Questions from **Part-B**
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PART –A

(14 Marks)

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| 1. a) | List the water borne diseases. | [2M] |
| b) | What do you meant by springs? | [2M] |
| c) | Give the IS drinking water quality standards for chlorides and fluorides. | [2M] |
| d) | Discuss the mechanism of filtration. | [3M] |
| e) | How to remove colour and odour from water? | [3M] |
| f) | Write short note on water meters. | [2M] |

PART –B

(56 Marks)

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| 2. a) | Explain the role of Environmental Engineer. | [7M] |
| b) | Explain the methods for forecasting of population. | [7M] |
| 3. a) | Compare and contrast the sources of water with reference to its quantity and quality. | [7M] |
| b) | Explain the reservoir intake structure with neat sketch. | [7M] |
| 4. a) | Describe the physical and chemical characteristics of water. | [7M] |
| b) | Write the IS drinking water quality standards. | [7M] |
| 5. a) | Derive Stokes Equation for calculating settling velocity of a discrete particle. | [7M] |
| b) | Explain the construction and working of slow sand filters. | [7M] |
| 6. a) | What is disinfection? Explain the major method of disinfection. | [7M] |
| b) | Write short note on (i) Ion exchange (ii) Ultra filtration | [7M] |
| 7. a) | Explain the analysis of complex water distribution networks, using Hardy-Cross method. Derive relevant equation. | [7M] |
| b) | What are the types of valves used in distribution system? Explain any two valves with a neat sketch. | [7M] |

