

**B.Tech. CIVIL ENGINEERING (BTCLEVI)**

**Term-End Examination**

**June, 2016**

00676

**BICE-014 : ENVIRONMENTAL ENGINEERING – I**

*Time : 3 hours*

*Maximum Marks : 70*

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**Note :** Answer any *five* questions. All questions carry equal marks. Assume suitable data, if missing. Use of scientific calculators is allowed.

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1. (a) Explain the operation of a slow sand filter, with the help of a neat sketch. 7  
(b) Write in detail about various distribution systems of water supply. 7
2. Describe the various intake structures with the help of neat sketches. 14
3. (a) What are the various methods of leak detection in water supply systems ? Explain. 8  
(b) Differentiate between temporary and permanent hardness. 6

4. Describe the various valves and appurtenances used in water distribution network. 14
5. (a) Explain how the treatment of water is done to remove the odour and taste. 7
- (b) Describe the defluoridation process of treatment of water. 7
6. Write notes on the following :
- (a) Pipe fittings 7
- (b) Trouble-shooting of conveyance system 7
7. (a) Determine the fire demand of a city of 50,000 residents, using Kuichling's formula. 5
- (b) Describe the various water-borne diseases that can impact human beings. 9
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