

**DIPLOMA IN CIVIL ENGINEERING (DCLE(G))  
DCLEVI**

**Term-End Examination**

**June, 2014**

00780

**BCE-033 : ENVIRONMENTAL ENGINEERING**

*Time : 2 hours*

*Maximum Marks : 70*

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**Note :** Answer any *five* questions, including Question no. 1 which is *compulsory*.

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1. (a) What are the different types of sources of water for public water supply ?
- (b) What are the precautions to be taken while collecting water sample ?
- (c) What are the chemical characteristics of water ?
- (d) What is meant by softening of water ? What is the purpose of it ? List the types of softening.
- (e) What are the different pipe joints used in water pipe ?
- (f) What are the effects of untreated sewage disposed in water bodies ?
- (g) How is storm water disposed in a town ?

*7×2=14*

2. (a) What is meant by design period ? Mention the factors governing the design period in a water supply scheme. 7
- (b) Differentiate shallow well, deep well and artesian well. 7
3. (a) What is BOD ? Explain the laboratory procedure to determine it for a given sample of water. 7
- (b) Explain the Indian water quality standards. 7
4. (a) Explain the design concepts in plain sedimentation tank. 7
- (b) What are the different chemicals used as coagulants ? Mention their merits and demerits also. 7
5. (a) Compare Slow sand filter with Rapid sand filter. 7
- (b) Differentiate pre-chlorination, post-chlorination and super chlorination. 7
6. Write short notes on the following :  $2 \times 7 = 14$
- (a) Appurtenances for house water connection
- (b) Parameters of waste water quality
7. (a) What is meant by maximum and minimum permissible velocities in sewers ? 7
- (b) What are the precautions to be taken while entering sewers ? 7

8. (a) State and describe two important tests to be carried out to know the characteristics of sanitary sewage. 7
- (b) Explain the management of waste water treatment plant for Sludge and Treated effluent. 7
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