



c09-c-405

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**BOARD DIPLOMA EXAMINATION, (C-09)  
MARCH/APRIL—2017  
DCE—FOURTH SEMESTER EXAMINATION  
ENVIRONMENTAL ENGINEERING—I**

Time : 3 hours ]

[ Total Marks : 80

**PART—A**

3×10=30

- Instructions** : (1) Answer **all** questions.  
(2) Each question carries **three** marks.  
(3) Answers should be brief and straight to the point and shall not exceed *five* simple sentences.

1. List the causes and effects of greenhouse effect and global warming.
2. Write any two empirical formulae to estimate fire demand and expand the notations.
3. List out various demands or requirements of water.
4. State the classification of sources of water.
5. Give any three merits and demerits of galvanized iron pipes.
6. Define coagulation and name any two coagulants.
7. Define temporary hardness in water. How can you remove it?
8. Mention any six objectives of storage reservoirs.

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1

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9. What is the use of air-relief valve? Draw the sketch.
10. List out three advantages and disadvantages of continuous system.

**PART—B**

10×5=50

- Instructions :** (1) Answer *any five* questions.  
(2) Each question carries **ten** marks.  
(3) Answers should be comprehensive and the criterion for valuation is the content but not the length of the answer.

11. Population of a town as obtained from the census reports is as follows :

<i>Year</i>	1951	1961	1971	1981	1991	2001
<i>Population</i>	60000	68100	72500	86400	98800	115700

Estimate the population by (a) geometric increase method and (b) incremental increase method in the year 2011, 2021 AD.

12. Explain with sketches of different joints used for connecting pipes.
13. How is removal of hardness effected in lime soda process and zeolite process?
14. Compare and contrast between slow sand filters and rapid sand filters.
15. Explain different biological tests for analyzing quality of water.
16. (a) With the help of a sketch, explain the working of (i) gate valve, (ii) check valve and (iii) air valve.  
(b) State the function and location of fire hydrants.
17. Explain dead end system with a sketch and list out the advantages and disadvantages of it. When is it adopted?
18. Compare and contrast between continuous system and intermittent system.

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