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C09-C-405

**3426**

**BOARD DIPLOMA EXAMINATION, (C-09)  
OCTOBER/NOVEMBER-2018  
DCE - FOURTH SEMESTER EXAMINATION**

**ENVIRONMENTAL ENGINEERING – I**

Time : 3 Hours ]

[ Total Marks: 80

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**PART-A**

3X10=30

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

1. What is CFCS? How do they deplete ozone layer?
2. State any four objectives of protected water supply scheme
3. What is fire demand? Give the pressure and time of which fire reserve is to be maintained to satisfy fire demand.
4. Draw the sketch of a spigot and socket joint and label the parts.
5. Give the classification of surface water sources.
6. Sketch the longitudinal section of a slow sand filter and label the parts.
7. Define hardness of water. Write any two causes for hardness of water.
8. Compare grid iron system and circular system in any three aspects.
9. State the function and location of the following :  
(a) Ferrule (b) Coupling (c) Dummy
10. State the function and location of : (a) Sluice valve (b) Check valve (c) Air valve

**PART-B**

10X5=50

**Instructions** :

- 1. Answer any **Five** questions.
- 2. Each question carries **ten** marks.

11. Estimate the population for the years 2021 and 2031 from the following census data of a town by arithmetical, geometrical and incremental increase methods:

Year	1951	1961	1971	1981	1991	2001	2011
Population	60,000	68,100	75,200	86,400	98,800	1,15,700	1,30,500

- 12. (a) Define an intake and list various components of intake  
(b) Describe the construction and working of a river intake with the help of a neat sketch
- 13. (a) List any four points to be considered while collecting samples  
(b) State any three physical tests to be conducted on water and give the Indian Standards limitations of the same for domestic water supply  
(c) Briefly explain the confirmed test stage of E-Coil test.
- 14. (a) State any six requirements of a good disinfectant  
(b) Explain about the chlorination method of disinfection of water  
(c) List any four factors affecting disinfection
- 15. (a) What is the need for coagulation?  
(b) List any six requirements of good coagulant.  
(c) Explain the process sedimentation by coagulation
- 16. (a) With the help of a sketch explain gravity method of distribution  
(b) What do you understand by continuous and intermittent supply system of water?  
(c) Write any four merits and demerits of continuous system
- 17. (a) List any ten principles to be observed while laying pipes in a building premises  
(b) Draw a neat sketch of water supply arrangements in a two storied building and name various components
- 18. (a) Define (a) Service pipe (b) Communication pipe  
(c) Distribution pipe (d) Air gap  
(b) How the leakages are detected in distribution system using a waste detecting meter?  
(c) List any six preventive measures to eliminate the leakages.

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