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**BOARD DIPLOMA EXAMINATION, (C-09)**  
**OCT/NOV—2015**  
**DCE—SIXTH SEMESTER EXAMINATION**  
**ENVIRONMENTAL ENGINEERING—II**

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. What do you understand by 'self cleaning velocity'?
2. Give any two merits and two demerits of 'horse shoe type sewer'. 1½+1½
3. What is the meaning of 'sewage neutralization'? How do you achieve it? 2+1
4. List three types of screens based on the 'size of opening'.
5. List any six characteristics of sewage.
6. Give the classification of solid waste based on origin.
7. List any six methods of solid waste disposal.
8. List the three-stages of bio-gas production.
9. List any three effects of air pollution on human health.
10. List any six equipments used to control air pollution.

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**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.** What is combined system of sewerage? Where is it suitable?  
Give any three merits and demerits. 2+2+3+3
- 12.** (a) List different shapes of surface drains. 3  
(b) Design a sewer running half-full which receives sewage of 1200 lit/sec. The coefficient of rugosity for pipe material is 0.015 and slope of sewer is 1 in 100. Use Manning's formula. 7
- 13.** (a) List any six sewer appurtenances. 3  
(b) With the help of a sketch explain the construction of a drop manhole. 7
- 14.** (a) List any five objectives of sewage treatment. 5  
(b) Briefly explain about the principle and operation of a primary clarifier. 5
- 15.** With a neat sketch explain the construction and working of a trickling filter. 4+3+3
- 16.** (a) Give the classification of traps. 4  
(b) List any six requirements of good drainage system. 6
- 17.** (a) Sketch the layout of drainage in multi-storeyed building. 5  
(b) Explain Bangalore method of composting. 5
- 18.** (a) Explain briefly about 'Aqua-privy' with a neat sketch. 5  
(b) Explain how air pollution is controlled 'by stacks' and 'by vegetation'. 5

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