



c16-c-405

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**BOARD DIPLOMA EXAMINATION, (C-16)**  
**MARCH/APRIL—2018**  
**DCE—FOURTH 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. Define the terms (a) sewage, (b) sullage and (c) sewer.
2. State various shapes of sewer. ½×6=3
3. List any six sewer appurtenances on a sewer line. ½×6=3
4. Under what circumstances do you prefer a drop manhole?
5. Define the terms (a) BOD and (b) COD.
6. State the functions of (a) grit chamber and (b) skimming tank.
7. What is meant by composting? State different methods of composting. 1½+1½=3
8. State any three requirements of a good drainage system in buildings.

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9. Explain briefly the process of disinfection of wells by two-pot method.
10. List the advantages of vermicompost.

**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. (a) Compare between conservancy system and water carriage system in any five aspects. 5
- (b) Design a sewer which receives combined sewage from a town at the rate of 800 lit/sec. The sewer runs half full. Assume the value of coefficient of rugosity as 0.013 and bed slope as 1 in 100. 5
12. Explain various components of sewage pumping station with the help of neat sketch. 6+4=10
13. State physical, chemical and biological characteristics of sewage. 4+4+2=10
14. Explain the construction and working of tricking filter with the help of sketch. 3+3+4=10
15. Explain the construction and operation of septic tank with a neat sketch. 3+3+4=10
16. (a) Give the classification of solid waste with four types under each head.  $2 \times (\frac{1}{2} \times 4) = 4$
- (b) List any six equipments required for preparation of compost by mechanical composting. 6
17. Explain, with sketches, different types of plumbing system. 3+4+3=10
18. Draw the sketch of KVIC model biogas plant and explain its construction and working. 4+3+3=10

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