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**c14-c-602**

**4717**

**BOARD DIPLOMA EXAMINATION, (C-14)**  
**MARCH/APRIL—2017**  
**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. Define the following terms :
  - (a) Self-cleansing velocity
  - (b) Scouring velocity
2. Draw a neat sketch of three types of surface drains.
3. Draw a neat sketch of ordinary manhole.
4. List any six sewer appurtenances.
5. Why is it necessary to provide sewer appurtenances on the sewer lines?
6. Differentiate between grab and composite samples.
7. Give the significance of BOD.
8. Briefly explain about two-bin system.
9. What is biogas plant? State the raw materials used in it.

- \* 10. Describe briefly about the pollution control by stacks.

### 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 conservancy and water carriage systems in any five aspects. 5  
(b) With the help of sketch, explain how a nomogram is used. 5
12. Explain the various operations to be conducted in laying of sewers. 10
13. (a) List the methods of sludge disposal and explain any three methods. 6  
(b) Draw a flow chart of activated sludge process. 4
14. Design a septic tank for a hostel of 200 students with a water supply of 100 Lpcd by using detention method. 10
15. (a) Explain Bangalore and Indore method of composting. 6  
(b) With the help of neat sketch, explain briefly about single-stack system and one-pipe system. 4
16. (a) Sketch the layout of drainage in single-storey building and name the components. 6  
(b) Write different types of pipes used in drainage arrangements in building. 4
- \* 17. Explain the working of Janata model biogas plant with the help of neat sketch. 10
18. What is air pollution? Explain briefly the various sources of air pollution. 10

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