



**c20-c-502**

**7619**

**BOARD DIPLOMA EXAMINATION, (C-20)**

**OCTOBER / NOVEMBER—2023**

**DCE – FIFTH SEMESTER EXAMINATION**

**ENVIRONMENTAL ENGINEERING**

*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 ecosystem and list the components of ecosystem.
  2. State the need for coagulation and list any four coagulants.
  3. List the methods of chlorination.
  4. State the functions and location of the following :
    - (a) Air valve
    - (b) Scour valve
    - (c) Water meter
  5. List any three factors affecting dry weather flow.
  6. List any six sewer appurtenances.
  7. List any six methods of sludge disposal.
  8. Define (a) Soil pipe, (b) Waste pipe and (c) Vent pipe.
  9. State various types of rural latrines.
  10. List any two effects on human health and two effects on physical properties of atmosphere due to air pollution.

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[ Contd...

**PART—B**

8×5=40

- Instructions :** (1) Answer either (a) or (b) from each question.  
(2) Each question carries **eight** marks.  
(3) Answers should be comprehensive and criterion for valuation is the content but not the length of the answer.

**11.** (a) Explain any six factors which influence the per capita consumption of water. 8

**(OR)**

(b) What is an intake structure? With a neat sketch, explain reservoir intake. 8

**12.** (a) Explain with sketches the different layouts of distribution system. 8

**(OR)**

(b) With the help of a sketch, explain gravity method, pressure system and combined system of distribution. 2+3+3=8

**13.** (a) What is meant by conservancy system and what are the merits and demerits of the system? 8

**(OR)**

(b) Explain the importance of rational method and give any one empirical formula for determination of storm water flow. 8

**14.** (a) Draw the flow chart of an activated sludge process. 8

**(OR)**

(b) Sketch and explain the construction and working of septic tank. 8

**15.** (a) Briefly explain about sanitary landfill method of solid waste disposal. 8

**(OR)**

(b) Explain the three types of plumbing system in detail. 8

**PART—C**

10×1=10

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

**16.** Explain the construction and working of trickling filter with a neat sketch.

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