C09–C–**605**

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BOARD DIPLOMA EXAMINATION, (C–09)
APRIL/MAY—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. Define the following terms :

(a) Sewage

(b) Sewer

(c) Refuse

2. List any six shapes of sewers.

3. What is meant by strength of sewage? State any three ways of comparing strengths of sewage. 1½+1½=3

4. List any three objects of treatment of sewage.

5. State three advantages of trickling filter.

6. Define soil pipe, waste pipe and vent pipe.

7. Distinguish between Composting and Incineration.

8. List six components of KVIC model biogas plant.

9. Name any three natural sources of air pollution.

10. List any three methods adopted for the control of air pollution.

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PART—B   10×5=50

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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 meant by combined sewerage system and list any four merits and four demerits.   2+4+4=10

12. *(a)* Explain the following terms :   2+2=4

     (i) DWF

     (ii) Time of concentration

   (b) Design a sewer which receives combined sewage from a small district at the rate of 600 lit/sec. The sewer runs half full. Assume the value of coefficient rugosity as 0·013 and bed slope of 1 in 200.   6

13. Explain the various components of sewage pumping station with the help of a sketch.   6+4=10

14. *(a)* List any five characteristics of industrial sewage and mention the effect of each.   5

   (b) Draw the flow diagram of conventional sewage treatment plant involving various units.   5

15. *(a)* Draw the sketch of a filled-in type soakpit and label the parts.   3+1=4

    (b) Design a spetic tank for a hostel of 250 students with a rate of water supply is 100 lpcd. Use detention period method.   6

16. *(a)* Explain the six components of refuse.   6

    (b) List any eight factors that affect the collection of refuse.   4

17. *(a)* Draw the sketches and label parts for *(i)* floor trap and *(ii)* intercepting trap.   3+3=6

    (b) List any two merits and two demerits of single-stack system.   4

18. *(a)* List any five precautions to be observed for maintaining rural sanitation.   4

    (b) Explain the working of a louver collector with a sketch.   3+3=6

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