

Roll No.

Total No. of Pages : 02

Total No. of Questions : 09

**B.Tech.(CE) (Sem.-6)**  
**ENVIRONMENT ENGINEERING-II**

Subject Code : BTCE-606

M.Code : 71087

Date of Examination : 14-07-22

Time : 3 Hrs.

Max. Marks : 60

**INSTRUCTIONS TO CANDIDATES :**

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

**SECTION-A**

**1. Answer briefly :**

- a) Explain the term 'Sewage'.
- b) What is meant by self-cleansing velocity and limiting velocity in sewers?
- c) Differentiate between soil pipe and waste pipe.
- d) What is meant by relative stability?
- e) What is ultimate BOD?
- f) List any four objectives of sludge digestion.
- g) What do you mean by sewer appurtenances?
- h) Why is it required to properly dispose 'of effluent from septic tank? List the methods.
- i) What is the soil pipe?
- j) Sketch a typical sewage flow fluctuation in 24 h period?

## SECTION-B

2. List the relative merits and demerits of separate and combined system of sewerage.
3. Define a drop manhole. What is its object? How is it constructed?
4. The BOD of a sewage incubated for one day at 30°C has been found to be 100mg. What will be the 5-day 20°C BOD? Assume  $K=0.12$  (Base 10) at 20°C.
5. Describe the design of trickling filters.
6. What are anti-siphonage pipes? Why are they used? Draw sketch.

## SECTION-C

7. Explain the constructional details and design considerations of Imhoff tank with sketches.
8. Explain with the help of diagrams, various systems of plumbing used for house drainage.
9. What is meant by activated sludge? Describe with sketches the treatment of sewage by activated sludge process. Mention the advantages and disadvantages of this system.

**NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.**