**D.Y. PATIL COLLEGE OF ENGINEERING & TECHNOLOGY**

**Set-: I**

**Q. Paper Code:**

**22CE302502**

**KASABA BAWADA KOLHAPUR-416006**

**(An Autonomous Institute)**

T. Y. B. Tech (Civil), Sem-V

**END SEMESTER EXAMINATION (ESE), Nov. – 2022**

Course Name: Environmental Engineering Course Code: 201CEL302

Seat No:

**Day and Date: Thursday, 08.12.2022**

**Time: 2.00 pm to 4.00 pm Max. Marks- 50**

***Instructions:***

1. *All Questions are compulsory.*
2. *Figure to the right indicate full marks.*
3. *Use of non-programmable calculator is allowed.*
4. *Assume suitable data for design wherever necessary and mention the same.*

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| **BT** | **CO’s** | **Q. No.** |  | **Marks** |
|  |  | **Q.1** | **All Questions are compulsory** | **20** |
| **2** | **CO1** | **a** | Necessity of population forecasting-----------------------------2 marks  Explanation of any one method in detail with formula------ 4 marks | **6M** |
| **2** | **CO2** | **b** | Rapid sand filter:  Construction------- 2 marks  Operation----------- 2 marks  Diagram------------- 2 marks | **6 M** |
| **2** | **CO3** | c | Layout patterns of water distribution system with neat sketches:  Dead end-----------2 marks  Grid iron------------2 marks  Circular------------- 2 marks  Ring----------------- 2 marks | **8 M** |
|  | | | | |
|  |  | **Q.2** | **All Questions are compulsory** | **10** |
| **1,2** | **CO1** | **a** | Distinguish between the combined and separate sewerage system-  (6 points. 1 mark for each comparison point) | **6** |
| **1,2** | **CO1** | **b** | Lo = 454.545 mg/L----------------2 marks  t = 3.9925 days---------------------2 marks | **4** |
|  | | | | |
|  |  | **Q.3** | **All Questions are compulsory** | **10** |
| **1,2** | **CO2** | **a** | Trickling Filter:  Constructional features----------------2 marks  Operation and mechanism------------2 marks  Neat sketch-----------------------------2 marks | **6** |
| **1,2** | **CO2** | **b** | Methods of disposal of wastewater in detail.  By dilution----------------2 marks  Land Treatment----------2 marks | **4** |
|  | | | | |
|  |  | **Q.4** | **Attempt any two out of three questions** | **10** |
| **1,2** | **CO4** | **a** | Explain the different MSW collection method.  Hauling ------------3 marks  Stationary------------2 marks | **5** |
| **1,2** | **CO4** | **b** | Explain the procedure for EIA------------5 marks | **5** |
| **1,2** | **CO4** | **C** | One-pipe system in building sanitation  Explanation------------3 marks  Sketch------------2 marks | **5** |

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