**14CE803(C)**

**Hall Ticket Number:**

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| **IV/IV B.Tech (Regular/Supplementary) DEGREE EXAMINATION** | | | |
| **July, 2021** | **Civil Engineering** | | |
| **Eighth Semester** | **Advanced Environmental Engineering** | | |
| **Time:** Three Hours | | **Maximum:** 60 Marks | |
| *Answer ALL Questions from PART-A.* | | | (12X1 = 12 Marks) |
| *Answer* ***ANY FOUR*** *questions from PART-B.* | | | (4X12=48 Marks) |
| **Part – A** | | | |

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| --- | --- | --- | --- | --- |
| 1. | Answer all questions | | (12X1=12 Marks) | |
|  | a) | What is de-oxygenation? | |  |
|  | b) | Define detention time? | |  |
|  | c) | What is aeration process? | |  |
|  | d) | Define liquid waste? | |  |
|  | e) | Write typical values of BOD, COD and SS of pulp and paper? | |  |
|  | f) | What is suspended growth process? | |  |
|  | g) | Define effluent? | |  |
|  | h) | What is looping plume? | |  |
|  | i) | Define activated sludge? | |  |
|  | j) | What is indoor noise? | |  |
|  | k) | What is spray tower? | |  |
|  | l) | Define air pollution? | |  |
| **Part - B** | | | | |
| 2. | a) | Explain the self purification of streams and indicate how sunlight helps in such purification? | | 6M |
|  | b) | Explain the impacts of pollutants on stream water? | | 6M |
|  | | | | |
| 3. | a) | Explain with neat sketch the working of an oxidation ditch? | | 6M |
|  | b) | Discuss briefly the working of aerated lagoons? | | 6M |
|  | | | | |
| 4. | a) | Explain the characteristics of sugar industrial waste? | | 6M |
|  | b) | Discuss in briefly the methods of treating sewage from diary industry? | | 6M |
|  | | | | |
| 5. | a) | Discuss in brief the methods of treating sewage from paper and pulp industry? | | 6M |
|  | b) | Explain the characteristics of diary industrial effluents? | | 6M |
|  | | | | |
| 6. | a) | Explain the biological de-nitrification process for removal of nitrogen from sewage? | | 6M |
|  | b) | Write a detailed note on the effects of air pollution? | | 6M |
|  | | | | |
| 7. | a) | Explain about the rotating disc biological contractor? | | 6M |
|  | b) | What do you understand by ‘aerosols’? Describe various types of aerosols? | | 6M |
|  | | | | |
| 8. | a) | Explain the causes and effects of inversion of atmosphere? | | 6M |
|  | b) | Write a note on   1. Settling chambers ii) Scrubbers | | 6M |
|  | | | | |
| 9. | a) | Explain about the wind direction and speed? | | 6M |
|  | b) | Explain the sources of noise and their noise levels? | | 6M |

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**14CE803/C**

**Hall Ticket Number:**

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| **IV/IV B.Tech (Regular) DEGREE EXAMINATION** | | | |
|  | **CIVIL ENGINEERING** | | |
| **Eighth Semester** | **Advanced Environmental Engineering** | | |
| **Time:** Three Hours | | **Maximum :** 60 Marks | |
| *Answer Question No.1 compulsorily.* | | | (1X12 = 12 Marks) |
| *Answer ONE question from each unit.* | | | (4X12=48 Marks) |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 1 | Answer all questions | | (1X12=12 Marks) | |
|  | a) | What is de-oxygenation? | |  |
|  | b) | Define detention time? | |  |
|  | c) | What is aeration process? | |  |
|  | d) | Define liquid waste? | |  |
|  | e) | Write typical values of BOD, COD and SS of pulp and paper? | |  |
|  | f) | What is suspended growth process? | |  |
|  | g) | Define effluent? | |  |
|  | h) | What is looping plume? | |  |
|  | i) | Define activated sludge? | |  |
|  | j) | What is indoor noise? | |  |
|  | k) | What is spray tower? | |  |
|  | l) | Define air pollution? | |  |
| **UNIT I** | | | | |
| 2 | a) | Explain the self purification of streams and indicate how sunlight helps in such purification? | | 6M |
|  | b) | Explain the impacts of pollutants on stream water? | | 6M |
| **(OR)** | | | | |
| 3 | a) | Explain with neat sketch the working of an oxidation ditch? | | 6M |
|  | b) | Discuss briefly the working of aerated lagoons? | | 6M |
| **UNIT II** | | | | |
| 4 | a) | Explain the characteristics of sugar industrial waste? | | 6M |
|  | b) | Discuss in briefly the methods of treating sewage from diary industry? | | 6M |
| **(OR)** | | | | |
| 5 | a) | Discuss in brief the methods of treating sewage from sugar industry? | | 6M |
|  | b) | Explain the characteristics of diary industrial effluents? | | 6M |
| **UNIT III** | | | | |
| 6 | a) | Explain the biological de-nitrification process for removal of nitrogen from sewage? | | 6M |
|  | b) | Write a detailed note on the effects of air pollution? | | 6M |
| **(OR)** | | | | |
| 7 | a) | Explain about the rotating disc biological contractor? | | 6M |
|  | b) | What do you understand by ‘aerosols’? Describe various types of aerosols? | | 6M |
| **UNIT IV** | | | | |
| 8 | a) | Explain the causes and effects of inversion of atmosphere? | | 6M |
|  | b) | Write a note on   1. Settling chambers ii) Scrubbers | | 6M |
| **(OR)** | | | | |
| 9 | a) | Explain about the wind direction and speed? | | 6M |
|  | b) | Explain the sources of noise and their noise levels? | | 6M |