**17CE32P2 -ENVIRONMENTAL ENGINEERING LABORATORY**

|  |  |  |  |
| --- | --- | --- | --- |
| **Course Category**  | Program Core | **Credits**  | 2 |
| **Course Type**  | Laboratory | **Lecture - Tutorial - Practical**  | 0 - 0 - 3 |
| **Prerequisite**  | Environmental Engineering – I | **Sessional Evaluation**  | 40 |
| **Semester End Exam Evaluation**  | 60 |
| **Total Marks**  | 100 |

|  |  |
| --- | --- |
| **Course Objectives** | 1. To introduce students how the common environmental experiments related to water and waste water quality are performed.
2. This course will help students know which tests are appropriate for given environmental problems and write technically reports and apply the laboratorial results to problem identification, quantification and basic environment design and technical solutions.
 |
| **Course Outcomes** | CO1 | Perform common environmental experiments relating to water and waste water availability and know which tests are appropriate for given environmental problems. |
| CO2 | Apply the laboratorial results to problem identification quantification and basic environment design and technical solutions. |
| CO3 | Understand and use the water and waste water sampling procedures and sample preservations. |
| CO4 | Demonstrate the ability to write clear technical laboratorial reports. |
| CO5 | Understand the impact of water and waste water treatment on people and environment. |
| **Course Content** | **LIST OF EXPERIMENTS**1. Determination of Colour2. Determination of Turbidity3. Determination of total and dissolved solids4. Determination of Settleable solids5. Determination of pH 6. Determination of Acidity7. Determination of Alkalinity8. Determination of Hardness9. Determination of Chlorides10. Determination of Sulphates11. Determination of BOD12. Determination of Chlorine Demand13. Determination of Optimum Coagulant Dose |
| **Textbooks and****References** | **TEXTBOOKS:**1. Environmental Laboratory Manual by Dr. Kotaiah and Dr. N. Kumara Swamy
2. Standards Methods for Analysis of water and Wastewater-APHA

**REFERENCE BOOKS:**1. Manual on Water Supply and Treatment, CPHEEO, Ministry of Urban Development, Government of India, New Delhi, 1999
2. Manual on Sewerage and Sewage Treatment, CPHEEO, Ministry of Urban Development, Government of India, New Delhi, 1993.
 |