**17SH11P3-ENGINEERING CHEMISTRY LABORATORY**

**(Common to CE& ME)**

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| **Course Category** | Basic Science | **Credits** | 2 |
| **Course Type** | Practical | **Lecture-Tutorial-Practical** | 0 - 0 - 3 |
| **Prerequisite** | Fundamental concepts of Chemistry | **Sessional Evaluation** | 40 |
| **Semester End Exam Evaluation** | 60 |
| **Total Marks** | 100 |

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| **Course**  **Objective(s)** | The main objective is to provide students to learn about experimental techniques in chemistry with knowledge in theoretical aspects so that they can excel in that particular field. |
| **Course**  **Outcomes** | 1. These experiments in the laboratory are helpful in understanding key concepts of chemistry through involvement in the experiments by applying theoretical knowledge. 2. It helps to recognize where the ideas of the student agree with those accepted by chemistry and where they do not. |
| **Course Content** | Minimum of 8 experiments to be completed out of the following:  **LIST OF EXPERIMENTS**   1. Determination of total hardness of water by EDTA method. 2. Determination of copper by EDTA method. 3. Estimation of dissolved oxygen by Winkler’s method. 4. Determination of acidity of water. 5. Determination of total alkalinity of water. 6. Estimation of chlorides using potassium chromate indicator. 7. Conduct metric titration of strong acid vs. strong base. 8. Determination of pH of unknown solution. 9. Preparation of bakelite. 10. Determination of viscosity of oils with redwood viscometer.   **TEXTBOOKS AND REFERENCE BOOKS:**   1. Vogel’s Textbooks of quantitative chemical analysis, Mendham   et all, person publications.   1. Chemistry lab manual – KN Jayaveera, SubbaReddy & Chandra Sekher.   Instrumental methods of chemical analysis – Chatwal and Anand Himalaya publications. |