**20SH11P2-APPLIED CHEMISTRY LABORATORY**

(Common to ECE, ME & CE)

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| **Course Category:** | Basic science | | **Credits:** | 1.5 |
| **Course Type:** | Practical | | **Lecture-Tutorial-Practical:** | 0-0-3 |
| **Pre-requisite:** | Fundamental concepts of Chemistry | | **Sessional Evaluation:**  **External Exam Evaluation:**  **Total Marks:** | 40  60  100 |
| **Course**  **Objectives** | Students undergoing this course are expected to learn : | | | |
| 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** | At the end of the course, the student will be able to | | | |
| **CO1** | Determine the cell constant and conductance of solutions | | |
| **CO2** | Prepare advanced polymer materials | | |
| **Course Content** | Minimum of 8 experiments to be completed out of the following:  **LIST OF EXPERIMENTS**   1. Determination of cell constant and conductance of solutions 2. Conductometric titration of strong acid Vs strong base 3. Conductometric titration of weak acid Vs strong base 4. Determination of pH of unknown solution 5. Potentiometry - determination of redox potentials and emfs 6. Determination of Strength of an acid in Pb-Acid battery 7. Preparation of a polymer-Bakelite 8. Estimation of ferrous iron by Dichrometry 9. Estimation of Mangneous by Colorimetry 10. Determination of viscosity of oils with Redwood viscometer 1&2 11. Determination of Flash and Fire point 12. Preparation of Nano materials by precipitation method | | | |
| **Text Books** | **TEXT BOOKS:**   1. Mendham J et al, Vogel’s text books of quantitative chemical analysis, 5 Ed., Pearson publications, 2012. 2. KN Jayaveera, Subbareddy& Chandra sekhar , Chemistry lab manual, 1 Ed., SM Enterprises, Hyderabad, 2014 3. Chatwal & Anand , Instrumental methods of chemical analysis, 2 Ed., Himalaya publications, 2006. | | | |

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| Contribution of Course Outcomes towards achievement of Program Outcomes (3-High, 2-Medium, 1-Low) | | | | | | | | | | | | | | |
|  | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 |
| CO1 | 3 | 3 | 3 | - | - | - | 2 | 3 | - | - | 3 | 3 | - | - |
| CO2 | 3 | 3 | 2 | - | - | - | 3 | 3 | - | - | 2 | 3 | - | - |
| CO3 | 3 | 3 | 3 | - | - | - | 2 | 2 | - | - | 3 | 2 | - | - |
| CO4 | 3 | 3 | 2 | - | - | - | 2 | 3 | - | - | 3 | 2 | - | - |
| CO5 | 3 | 3 | 2 | - | - | - | 3 | 2 | - | - | 2 | 2 | - | - |
| CO6 | 3 | 3 | 2 | - | - | - | 2 | 2 | - | - | 2 | 2 | - | - |