**17CE21P1 - SURVEYING LABORATORY – I**

**(Civil Engineering)**

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| **Course Category** | Professional Core | **Credits** | 2 |
| **Course Type** | Theory | **Lecture - Tutorial - Practical** | 0-0-3 |
| **Prerequisite** | None | **Sessional Evaluation** | 40 |
| **Semester End Exam Evaluation** | 60 |
| **Total Marks** | 100 |

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| **Course Objective(s)** | To understand handling and operation of various surveying equipment and gain basic proficiency in surveying techniques. | |
| **Course Outcomes** | CO1 | Measure the horizontal distances and offsets. |
| CO2 | Locate topographical features by conducting chain traversing. |
| CO3 | Calculate the area of given field. |
| CO4 | Determine the directions of various objects. |
| CO5 | Determine the elevations of various points & to operate various minor instruments. |
| CO6 | Prepare Contour maps. |
| **Course Content** | **EXERCISE-1:**   1. To measure horizontal distance between two points. 2. To measure area of given field using cross staff and tape.   **EXERCISE-2:**  To locate topographic features using chain, cross-staff and tape.  **EXERCISE-3:**  To determine the distance between two inaccessible points using chain, tape / compass, tape.  **EXERCISE-4:**  To conduct a closed traverse &open traverse and adjustment of closing error by Bowditch’s method.  **EXERCISE-5:**   1. To locate points using radiation method of plane table surveying. 2. To locate points using intersection method of plane table surveying.   **EXERCISE-6:**  To determine the elevation of a given points by simple levelling.  **EXERCISE-7:**  To determine difference in elevation between two points use Differential levelling and Fly levelling.  **EXERCISE-8:**  To conduct profile levelling for water supply/sewage line and to draw the longitudinal section to determine the depth of cut and depth of filling for a given formation level.  **EXERCISE-9:**  To locate contours in the given field and plot the contour map. | |