**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. |