# SURVEY CAMP

**ENCE 256**

**Duration: 10 days** **Year: II** **Part: II**

**Course Objectives:**

The primary objective of the survey camp is to equip students with the practical experience and skills needed to apply their theoretical knowledge of Engineering Surveying in real-world conditions. Through hands-on fieldwork, students will gain exposure to various surveying methods, modern instruments, computational techniques, and best practices for presenting their findings in a professional report. By the end of the course, students will be able to effectively implement surveying techniques to address practical challenges in the field.

**1 Establishment of Horizontal Control for Major Traverse (2 days)**

1.1 Reconnaissance, stations selection and pegging of major traverse: Closed traverse at least 1.5 km perimeter (15-20 stations) controlled with reference to national grid system
1.2 Measurement of major traverse angles and distances by Total Station/DGPS
1.3 Level transfer using Auto level/DGPS
1.4 Computation of coordinates (NEZ)

**2 Minor Traverse and Topographic Survey (5 days)**

2.1 Reconnaissance, stations selection and pegging of minor traverse: Link traverse (5-7 stations) controlled with reference to major traverse
2.2 Measurement of minor traverse angles and distances by Total Station/DGPS
2.3 Level transfer using Auto level/DGPS
2.4 Computation of coordinates (NEZ)
2.5 Plotting of major and minor traverse
2.6 Detailed topographic survey from major and minor control points: Semi built up area around 4 to 6 hectares of land using Total Station/Drone
2.7 Digital data recording and plotting by CAD software

**3 Bridge Site Survey (1.5 days)**

3.1 Detailed topographic survey of suitable bridge site area (At least 200m x 120m)
3.2 Detailing by using total station; Vertical control for control points using auto level/DGPS
3.3 Preparation of topographic map, L-section and X-section to standard scale

**4 Road Alignment Survey (1.5 days)**

4.1 Topographic survey of road alignment (Corridor at least 650m x 30m)
4.2 Preparation of topographic map of the corridor
4.3 Preparation of Plan, L-section and X-section (Right of Way 20 m) to standard scale including selection of grades and formation levels

**Evaluation Criteria**

**Internal Assessment (50 marks)**

Attendance of 10 days weighted 10 marks but if anybody absent more than 3 days' camp should be repeated. Regular evaluation throughout the 10 days as well as viva for computation and plotting of major traverse, minor traverse, viva for road and bridge site survey and traverse orientation check should be taken

**Final Exam**

Standard reports shall be prepared group wise. During compilation of the report, data shall be submitted content wise and all the reference sketches and standard drawings shall be compiled in A3 size and all the original data and drawings shall be presented during final exam. In the final examination there will be viva and instrumentation as per following weightage.

The evaluation scheme will be as indicated in the table below:

| Evaluation Method | Marks distribution* | Remarks |
|---|---|---|
| Viva / Report Presentation | 30 | |
| Instrumentation | 20 | Should pass individually |
| **Total** | **50** | |

* There may be minor deviation in marks distribution.