Survey - II
BEG259CI

YEAR-II **SEMESTER-II**

Teaching Schedule Hours/ Week			Examination Scheme						Total Marks
			Final				Internal Assessments		
			Theory		Practical		Theory Marks	Practical Marks	
L	P	T	Duration	Marks	Duration	Marks			
3	4	1	3	80	-	25	20	25	150

Course Objectives:

After the completion of this course the students will be able to:

- Apply the basic principle of surveying for land characterization,
- Gain general and theoretical knowledge on plane and topographical surveying of small area,
- Carry out mapping works by both digital and graphical means.

Course Contents:

1.0 Traversing (6hrs)

1.1 Principles and importance of traversing, types of traverse
1.2 Field works for traversing and booking of field notes
1.3 Reduction of reading to angle and bearing
1.4 Angular misclosure and Closing Error
1.5 Traverse adjustment and computation for closed and link traverse -Gale's Table
1.6 Plotting of traverse survey
1.7 Omitted measurements in traversing
1.8 Instructions to field applications

2. Tacheometry(5 hrs)

2.1 Definitions
2.2 Principle of optical distance measurements
2.3 Systems of tacheometric measurements-Stadia method and tangential method using vertical staff
2.4 Subtense bar
2.5 Booking and plotting of details
2.6 Sources of errors and precision of tacheometric survey
2.7 Instruction on field work

3. Trigonometric Leveling (4 hrs)

3.1 Problems of heights and distances
3.2 Plane and geodetic trigonometric leveling
3.3 Significance and error ratio
3.4 Instruction on field applications

4. Contouring (4hrs)

4.1 Introduction
4.2 Contour interval and characteristics of contours
4.3 Methods of contouring (direct and indirect)
4.4 Interpolation of contours
4.5 Use of contour map
4.6 Instruction on field works

5. Orientation (3hrs)

5.1 Introduction
5.2 Analytical intersection and resection
5.3 Two point and three point problems and their significance
5.4 Use of geodetic control points
5.5 Instruction on field applications

6. Curves (10 hrs)

6.1 Classification of curves and their common uses
6.2 Elements of simple circular curves
6.3 Setting out of simple circular curves by ordinate from long chord, by offset from tangents and by deflection angle methods
6.4 Geometry of transition curves and their elements
6.5 Elements of vertical curves and computation of reduced levels of points on curve
6.6 Instruction on field applications

7. Triangulation and Trilateration (4hrs)

7.1 Introduction
7.2 Principal of triangulation
7.3 Purpose of triangulation
7.4 Classification of triangulation
7.5 Layout of triangulation
7.6 Fieldwork of triangulation

8. Photogrammetry and Remote Sensing (3 hrs)

8.1 Introduction to Photogrammetric as a branch of surveying
8.2 Types of aerial photographs
8.3 Scale of vertical photograph
8.4 Relief displacement
8.5 Merits and limitations of Photogrammetric
8.6 Introduction to remote sensing

9. Field Astronomy and GPS System (2 hrs)

9.1 Celestial sphere and spherical triangle
9.2 Characters of spherical triangles
9.3 Merits of field astronomy and GPS system for horizontal control in civil engineering problems

10. EDM (2 hrs)

10.1 Basic definition
10.2 Classification of EDM instruments
10.3Principle of Electronic Distance Measurement

11. Total Station (2 hrs)

11.1 Introduction
11.2 Features of total station
11.3 Electronic data recording
11.4 Summary of total station characteristics
11.5 field procedures for total station in topographical surveying

Laboratories:
There shall be eight laboratory exercises in this course:

(i) Traverse survey, computation and plotting
(ii) Application of tachometry to measure distance and elevation by the stadia system including detailing, computation, plotting and contouring
(iii) Intersection and resection using theodolite.
(iv) Establishing of control points by triangulation andTrilateration.
(v) Trigonometric leveling.
(vi) Setting out of simple circular curve, transition curve.
(vii) Demonstration and application of total station.
(viii) Demonstration and application of GPS.

Requirements:
The number of students in each group should not be more than five. A facilitator should not response more than three groups.

References:

- Banister, A. & Raymond, S., "Surveying", ELBS Publication
- Punima, B. C., "Surveying", Khanna Publishers
- Agor, R., "A Text Book of Surveying and Leveling", Khanna Publishers
  Dr.Arrora K. R. , "Surveying", Standard Book House, Delhi

Of course, it doesn't need to necessarily be materialized into an actual collection. It's just a sequence. You can iterate over it to stream the data, without needing to pull the entire data set into memory.Â You can't traverse a data structure in the shape of a tree without using recursion - if you don't use the stack frames and function calls provided by your language, you basically have to program your own stack and function calls, and it is unlikely that you manage to do it within the language in more efficient manner way than the compiler.Â You can most certainly traverse a tree without ever doing that, as I have demonstrated in my answer. â€“ Servy Jan 30 '14 at 21:53. 2. Course components are objects within units that contain your actual course content. 6.1.2. Creating New Course Content Â¶. Once you understand the way edX courses are structured, you can start organizing your content and entering it into Studio. You create sections, subsections, and units in the course outline. For graded subsections, you also set the assignment type and due date. You create components in the unit page.Â When you create your content, you also specify if and when learners will be able to see it. Content visibility depends on several factors. The course start date. The release dates of the section and subsection. The prerequisite subsections that you configure. The publishing status of the unit. Traversing an array with an indexed for loop or while loop requires elements to be accessed using their indices. Since the index for an array starts at 0 and end at the number of elements âˆ’ 1, â€œoff by oneâ€ errors are easy to make when traversing an array, resulting in an ArrayIndexOutOfBoundsException being thrown. 6.2.8. Arrays GameÂ¶. Try the game below to practice loops with arrays. Contents. 1 Types. 1.1 Data structures for tree traversal. 1.2 Depth-first search of binary tree.Â Traversing a tree involves iterating over all nodes in some manner. Because from a given node there is more than one possible next node (it is not a linear data structure), then, assuming sequential computation (not parallel), some nodes must be deferredâ€”stored in some way for later visiting. This is often done via a stack (LIFO) or queue (FIFO). The course coordinator will maintain and consolidate attendance record for the course (lectures, tutorials and practicals together, as applicable). Evaluation system: 1. Semester Grade Point Average (SGPA) = âˆ‘ (course credits in passed courses X earned grade points) -. -âˆ‘ (Course credits in registered courses). 2. Cumulative Grade Point Average (CGPA) = âˆ‘ (course credits in passed courses X earned grade points) of all SemestersÂ 6 hrs. Partial differential equations: Four standard forms of partial differential equations of first order. UNIT 4.Â Traverse table. Omitted Measurements. d) Tacheometric Surveying.