LECTURE # 1

In this lecture you will learn about:

Classification of Surveying:

- Classification Based on Instruments
- Classification Based on methods.
- Classification based on Purpose
- Classification based on Nature of field

Course Name:

"Surveying I"

Course Code: CT-123

Credit Hours: 2

Semester: Summer 2020

Prepared By: Engr. Khurshid Alam

Classification of Surveying

Survey can be classified into various categories depending on methods used and nature of the field.

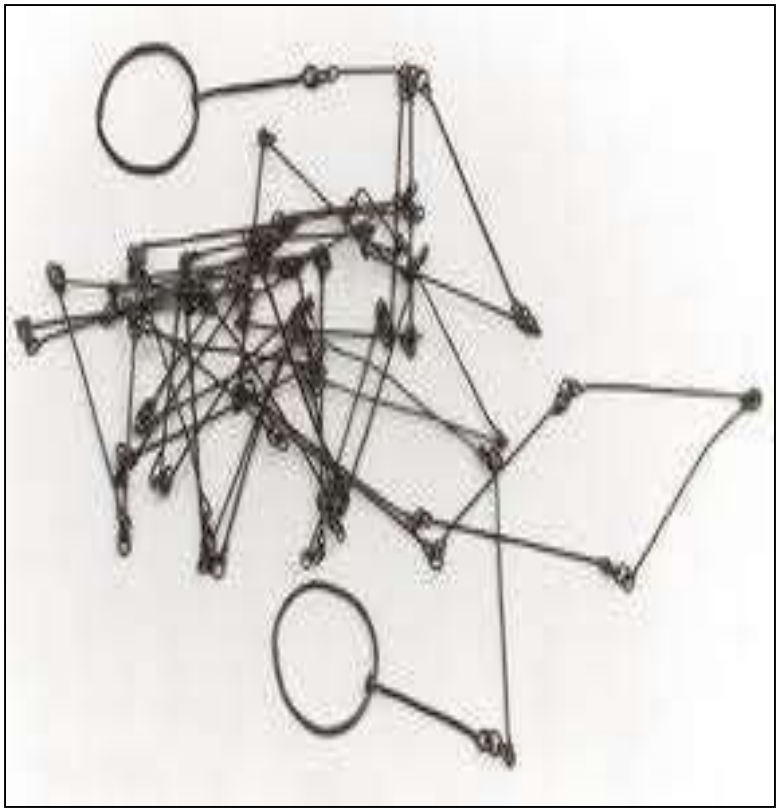
Classification Based on Instruments.

Chain Survey:

This is the simplest type of surveying in which only linear measurements are made with a chain or a tape. Angular measurements are not

taken.

Chain Survey



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Classification of Surveying

Compass Survey:

In Compass Survey, the angles are measured with the help of a magnetic compass.

Chain and compass survey:

In this survey linear measurements are made with a chain or a tape and angular measurements with a compass.

Compass Survey

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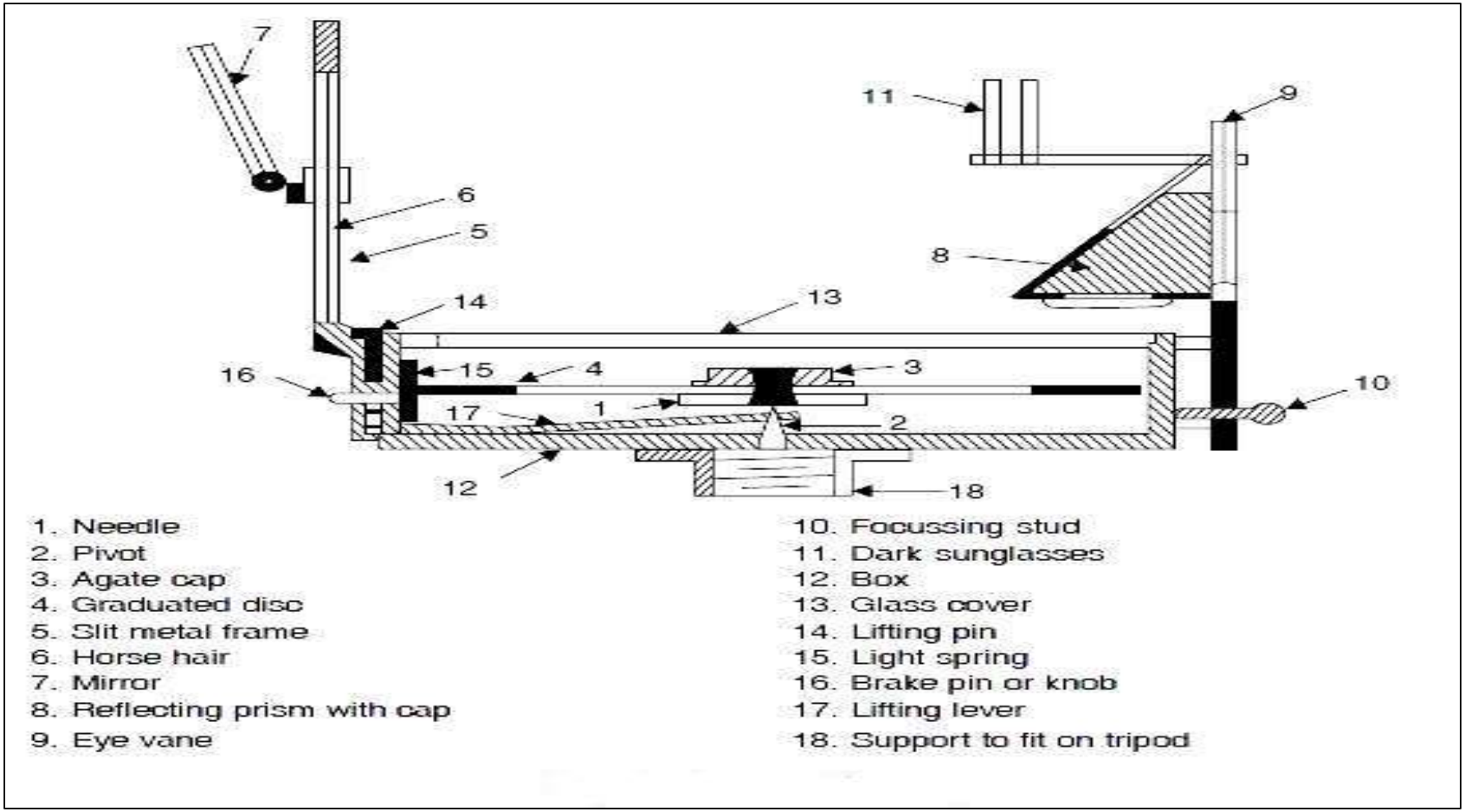
Compass Survey



Prismatic Compass

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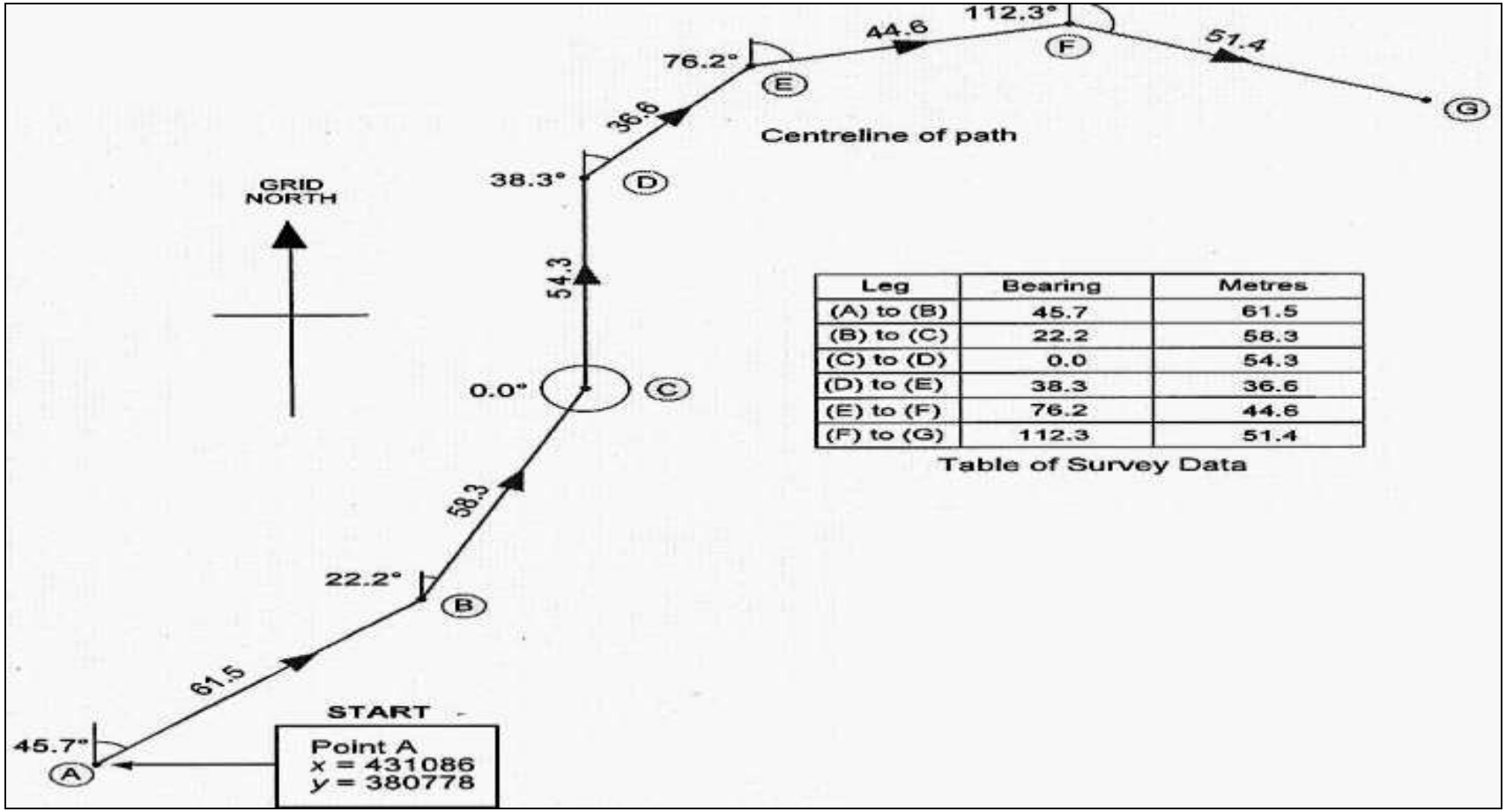
Compass Survey



Leg	Bearing	Metres
(A) to (B)	45.7	61.5
(B) to (C)	22.2	58.3
(C) to (D)	0.0	54.3
(D) to (E)	38.3	36.6
(E) to (F)	76.2	44.6
(F) to (G)	112.3	51.4

Table of Survey Data

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Classification of Surveying

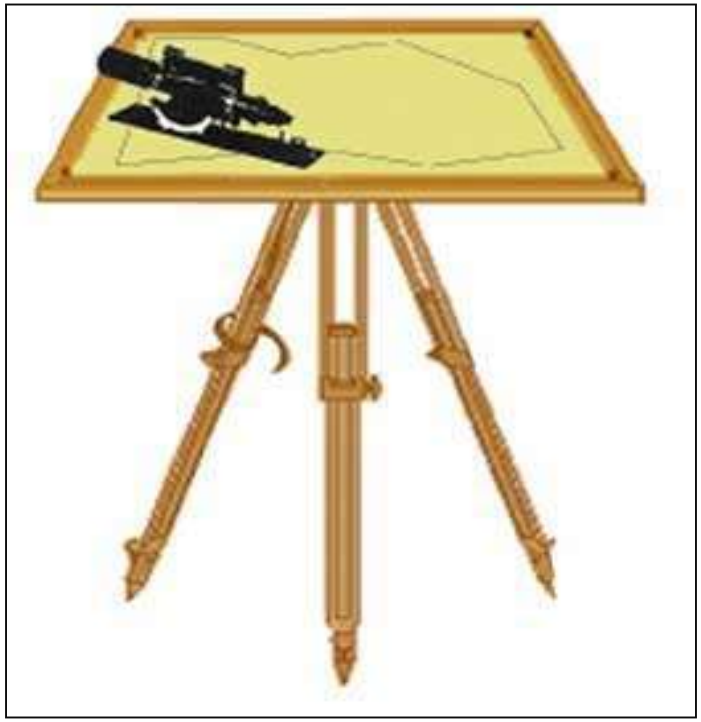
Plane Table Surveying

It is a graphical method of surveying in which field works and plotting both are done simultaneously.

Theodolite Survey:

In theodolite survey the horizontal angles are measured with the theodolite more precisely than compass and the linear measurements are made with a chain or tape.

Plane Table Surveying



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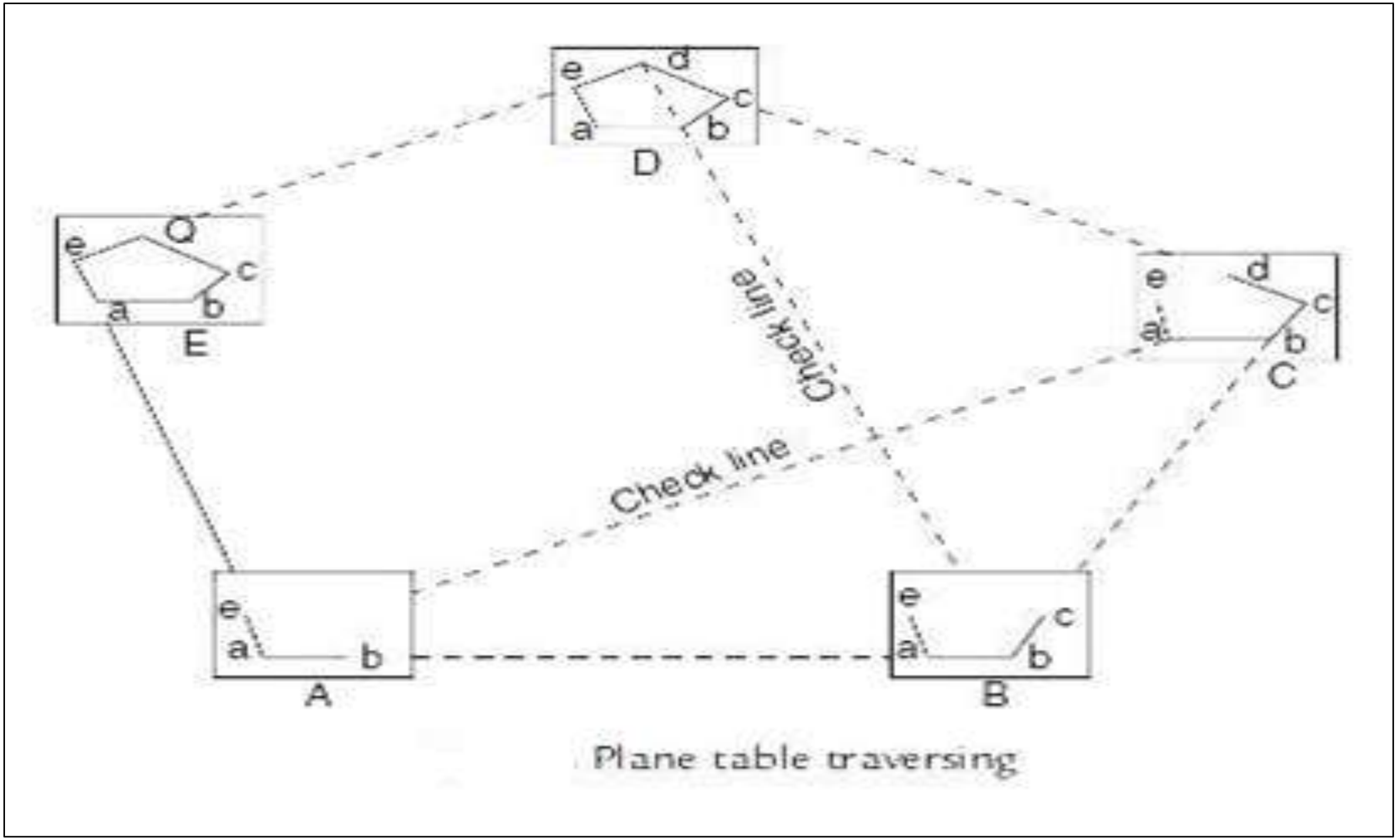
Plane Table Surveying



Plane table traversing

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Classification of Surveying

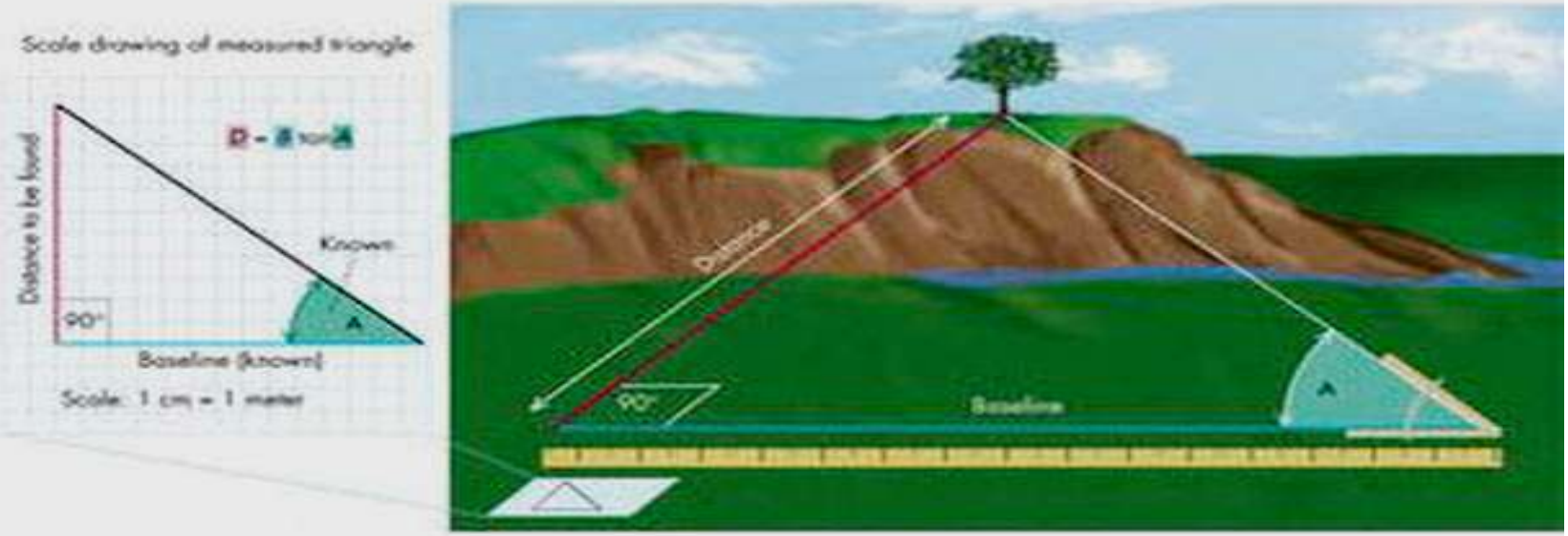
Tachometry Survey:

A special type of theodolite known as tachometer is used to determine horizontal and vertical distances indirectly.

Leveling Survey:

This type of survey is used to determine the vertical distances (elevations) and relative heights of points with the help of an instrument known as level.

Tachometry Survey



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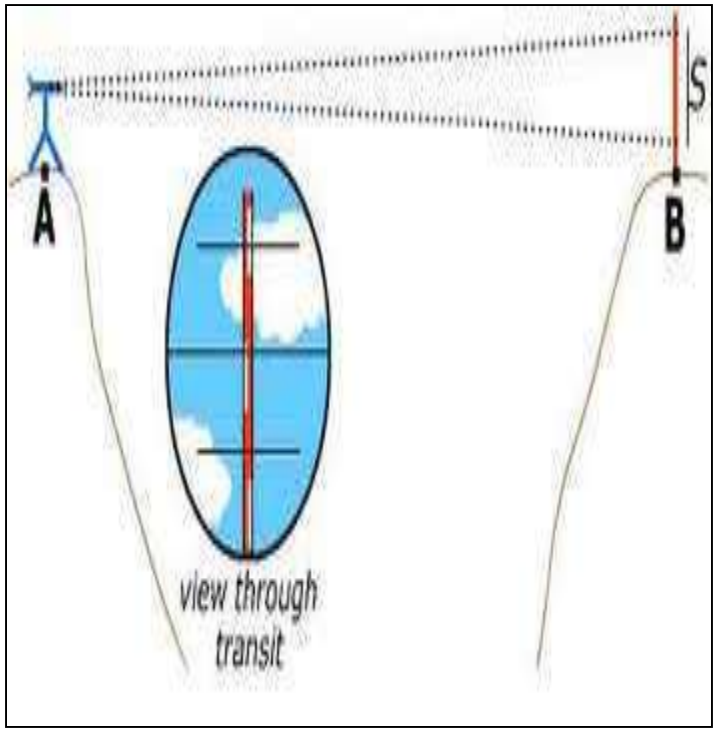
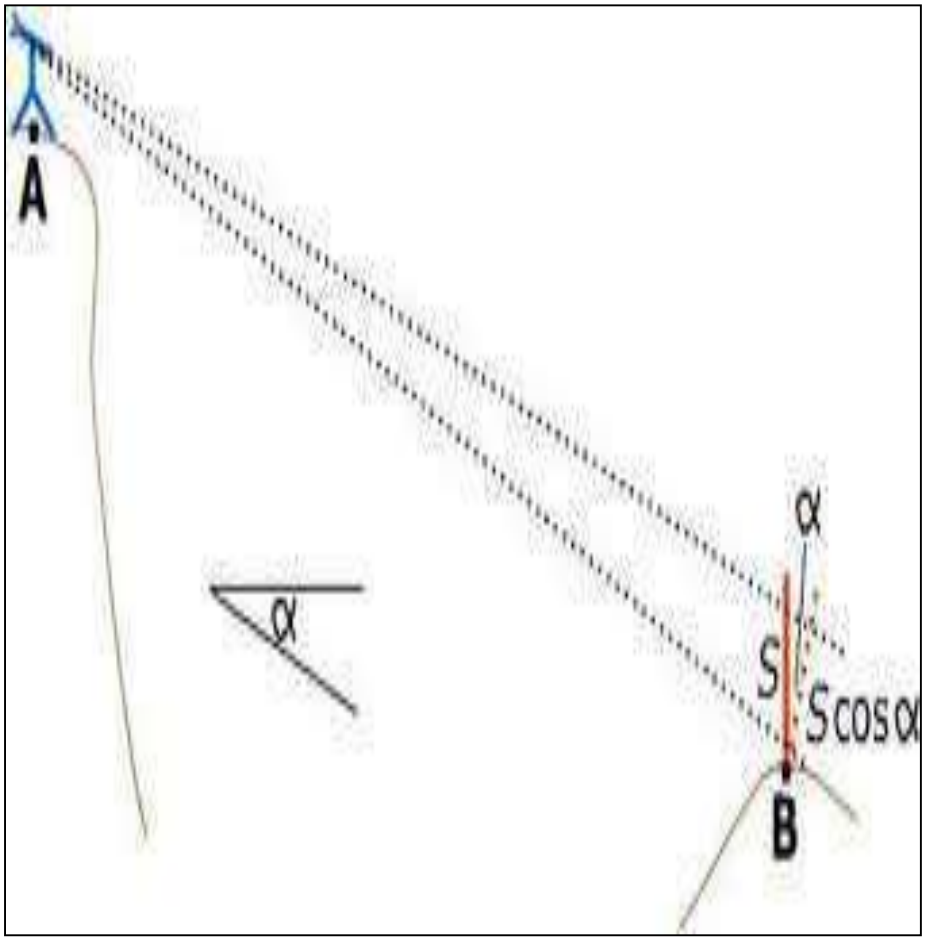
Tachometry Survey





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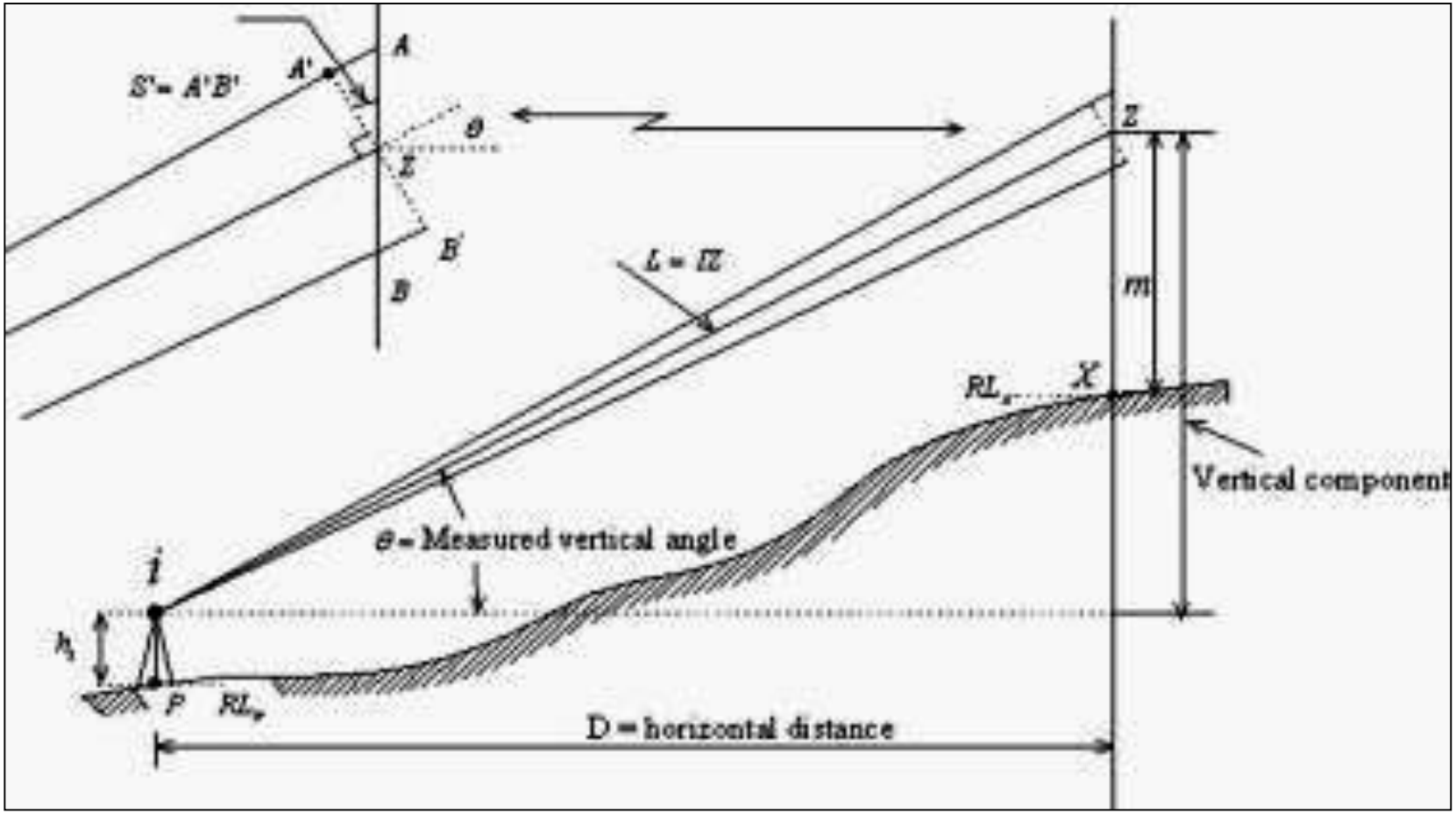
Tachometry Survey



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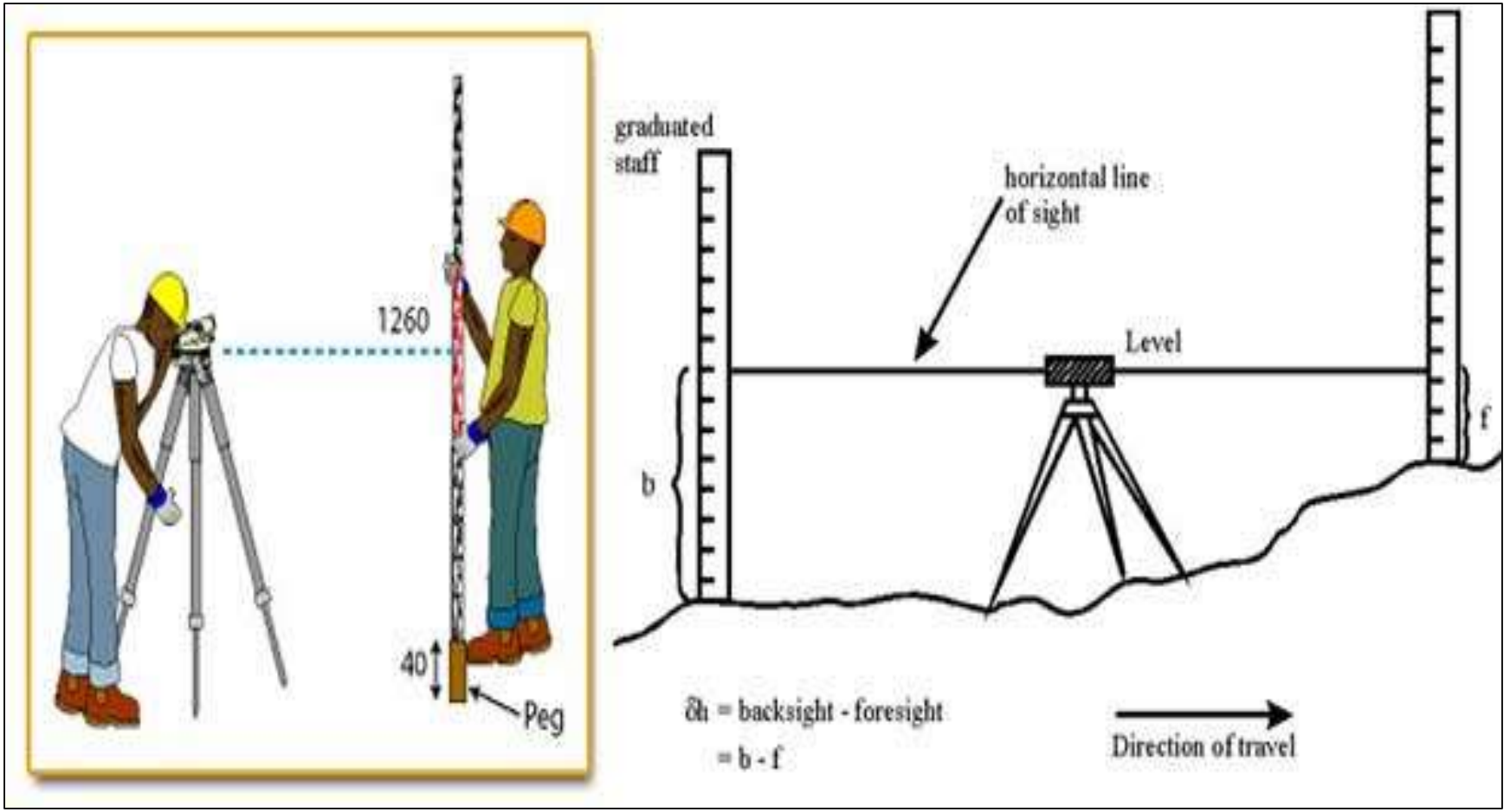
Leveling Survey



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Leveling Survey

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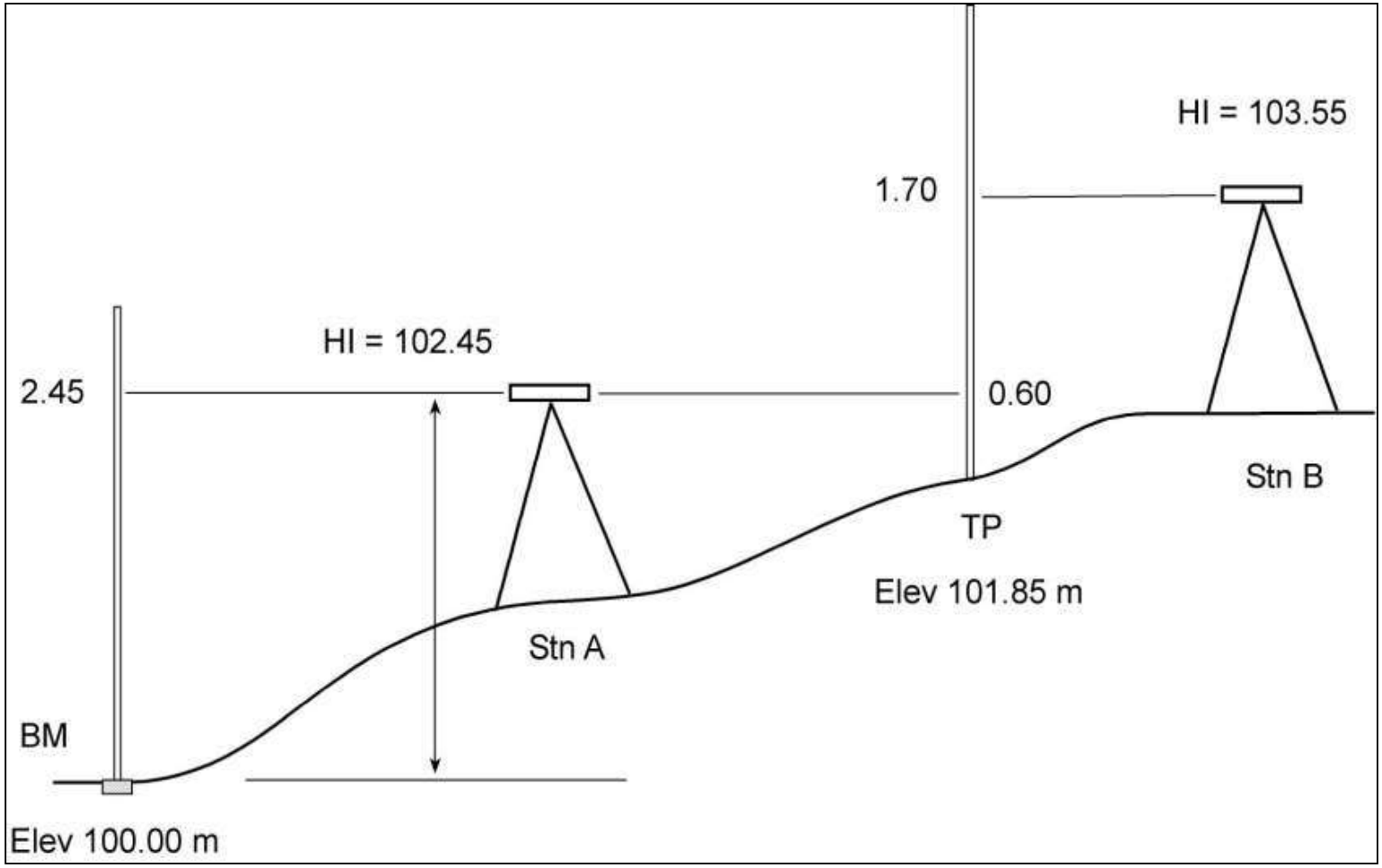
Leveling Survey



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Classification of Surveying

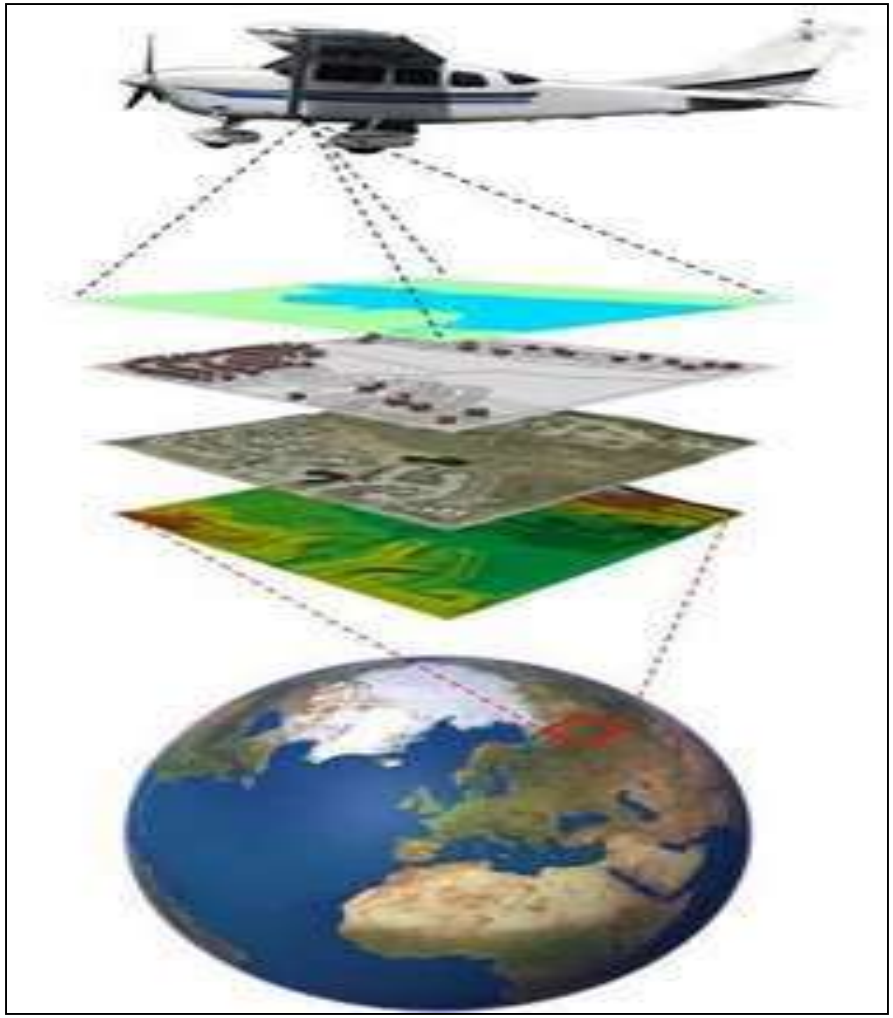
Photogrammetric Survey:

Photogrammetry is the science of taking measurements with the help of photographs taken by aerial camera from the air craft.

EDM Survey:

In this type of survey all measurements (length, angles, co-ordinates) are made with the help of EDM instrument (i.e.. Total Station).

Photogrammetric Survey



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EDM Survey

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Classification of Surveying

Classification Based on methods.

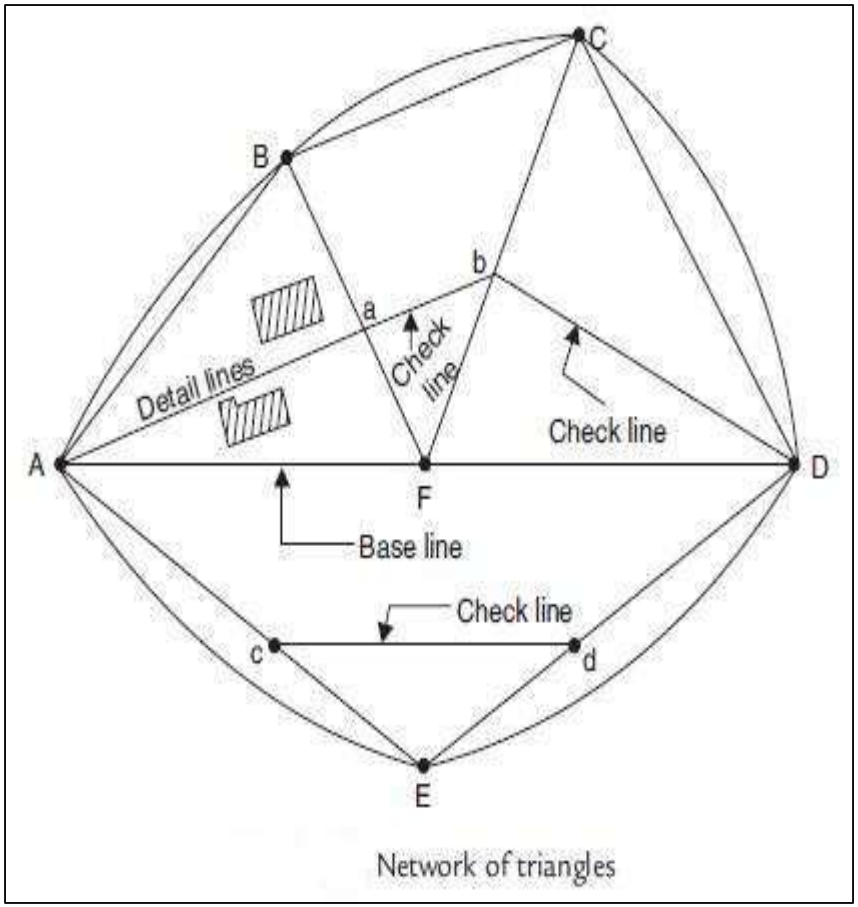
Triangulation:

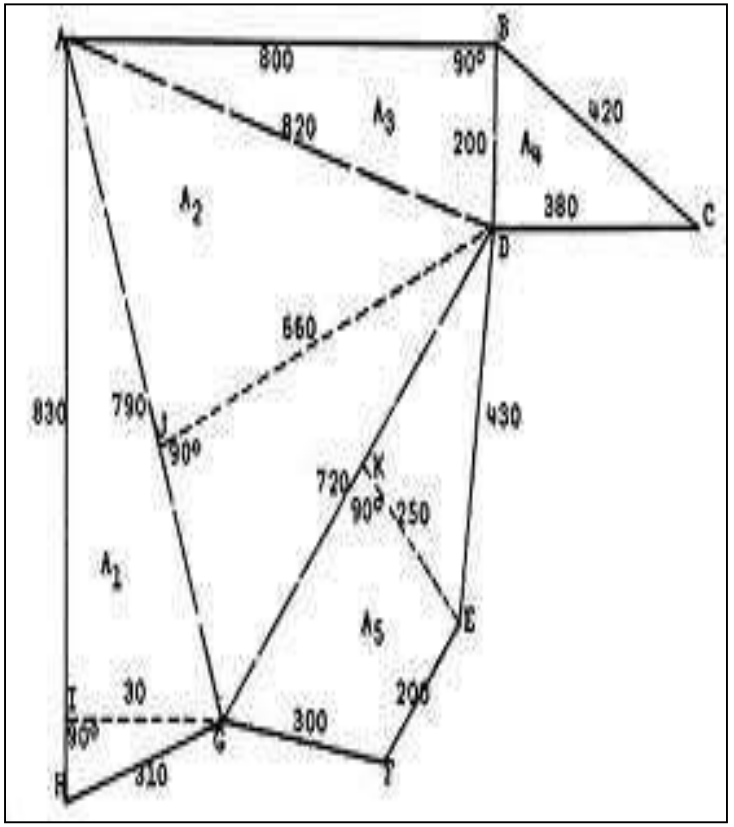
Triangulation is basic method of surveying, when the area to be surveyed is large, triangulation is adopted. The entire area is divided into network of triangles.

Traversing:

A Traversing is circuit of survey lines. It may be open or closed. When the linear measurements are done with a chain and a tape and the directions or horizontal angles are measured with a compass or a theodolite respectively the survey is called traversing.

Triangulation





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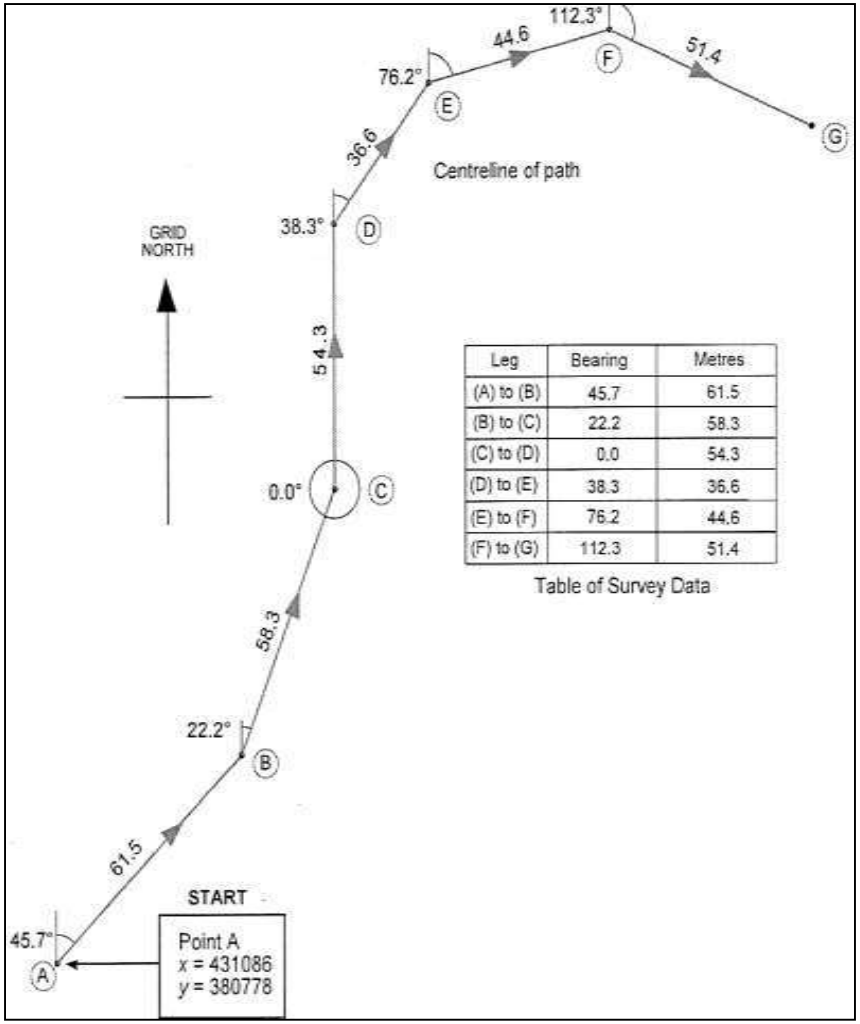
Traversing



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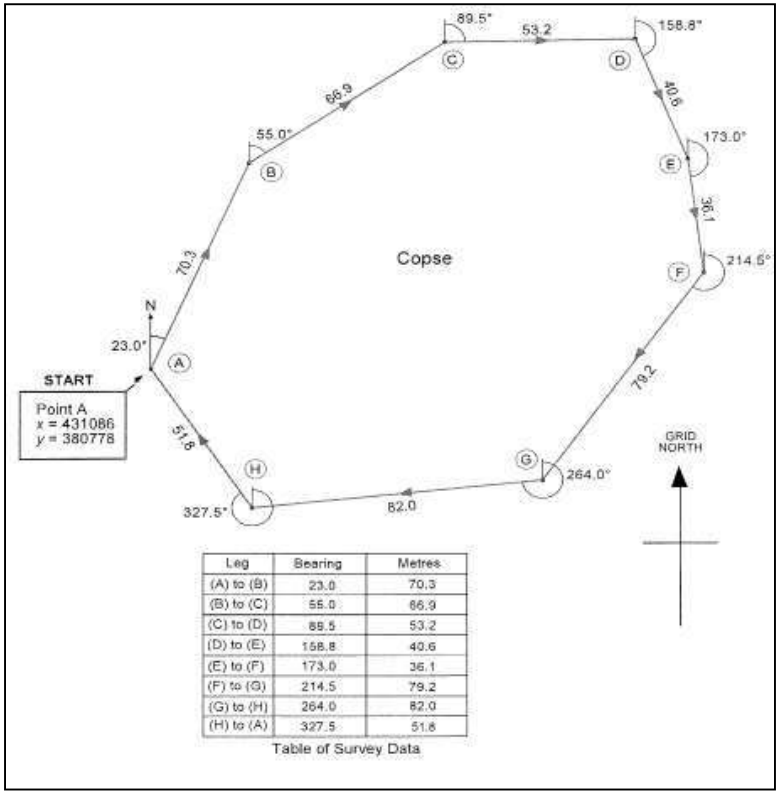
(F) to (G)	112.3	51.4

Table of Survey Data



Leg	Bearing	Metres
(A) to (B)	23.0	70.3
(B) to (C)	55.0	66.9
(C) to (D)	89.5	53.2
(D) to (E)	158.8	40.6
(E) to (F)	173.0	36.1
(F) to (G)	214.5	79.2
(G) to (H)	264.0	82.0
(H) to (A)	327.5	51.6

Table of Survey Data

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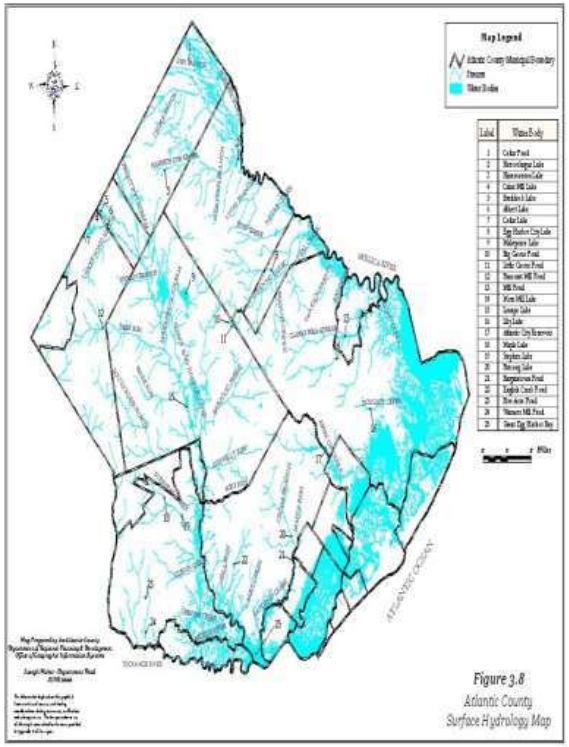
Classification of Surveying

Classification based on Purpose

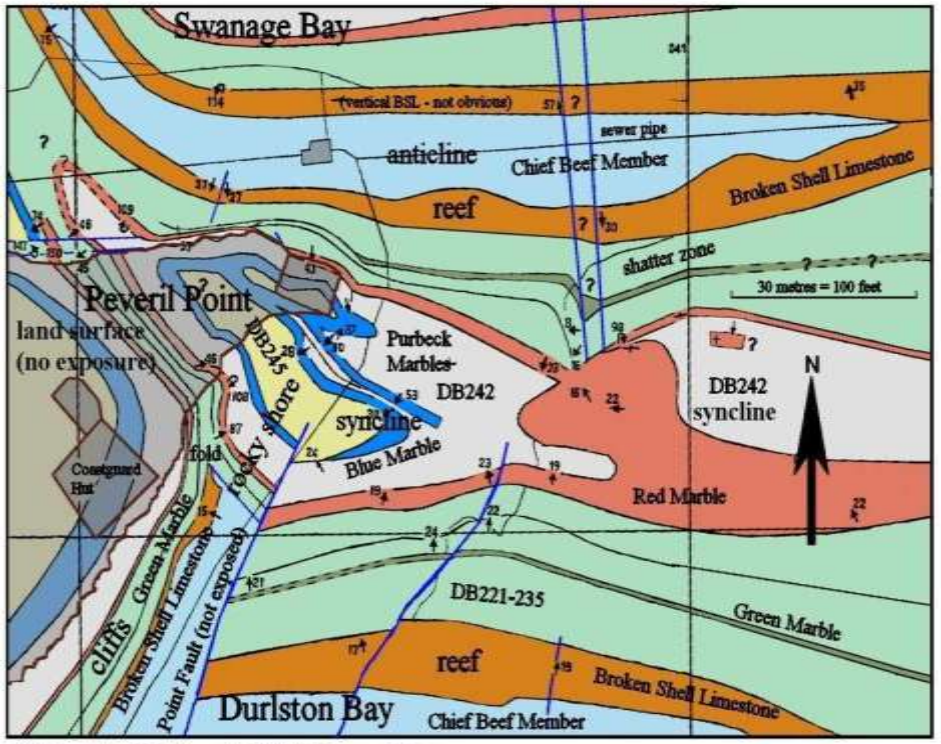
Geological Survey:

In this both surface and subsurface surveying are conducted to locate different minerals and rocks. In addition, geological features of the terrain such as folds and faults are located.

Geological Survey



Hydrological Maps



Geological map of Peveril Point, Swanage. Simplified and with some generalisations.
Based mainly on Cosgrove and Hearn (1966) and with some personal observations. Refer to Cosgrove and Hearn for details.
Ian West & Tonya West (c) 2007.

Geological Maps

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Classification of Surveying

Mine Survey:

Mine Survey includes include both surface and underground surveys. It is conducted for the exploration of mineral deposits and to guide tunneling and other operations associated with mining.

Mine Survey

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Classification of Surveying

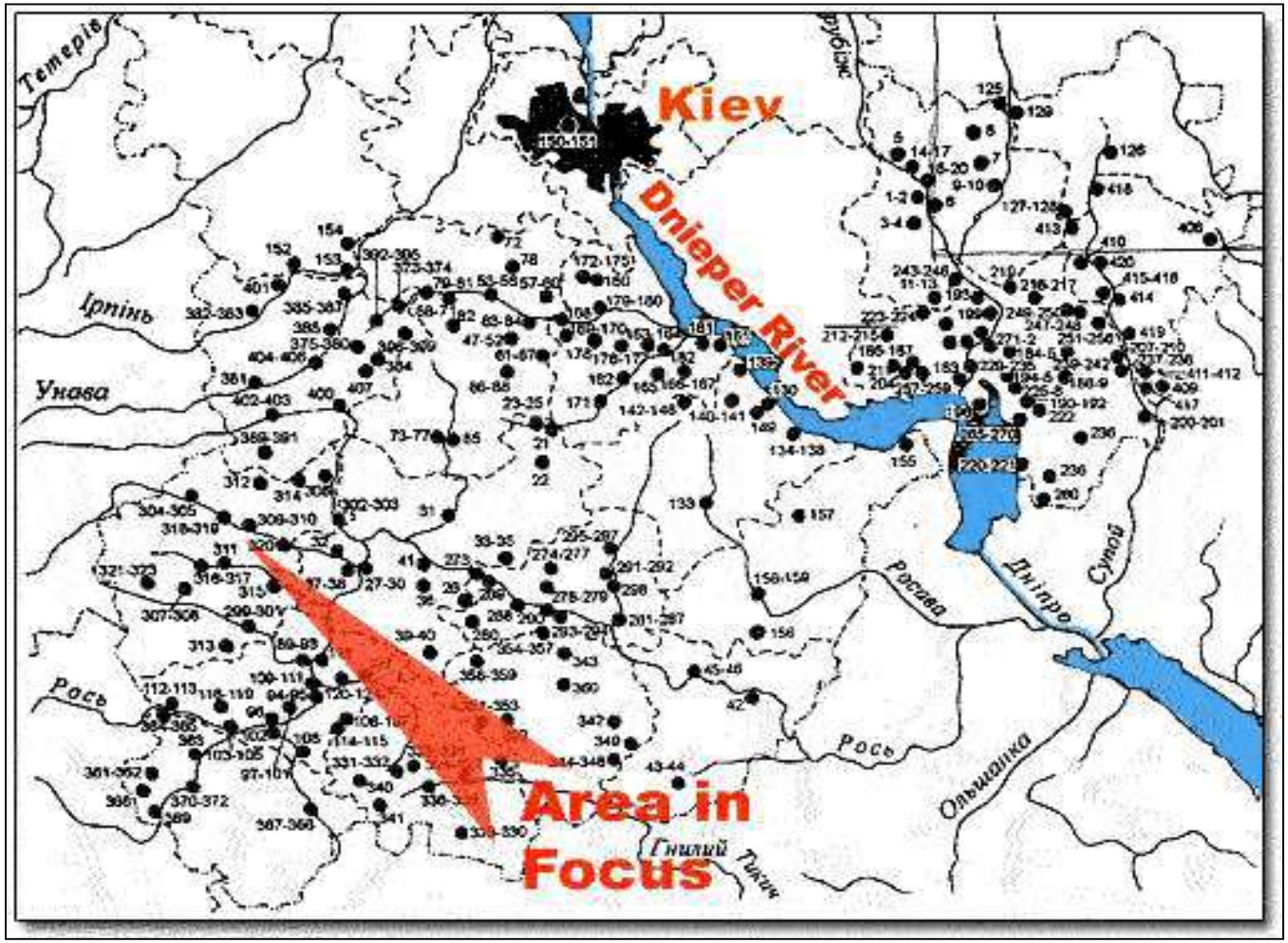
Archaeological Survey:

It is conducted to locate relics of antiquity, civilization, kingdoms, forts, temples, etc.

Military Survey:

It has a very important and critical applications in the military. Aerial surveys are conducted for this purpose. It is conducted to locate strategic positions for the purpose of army operations.

Archaeological Survey



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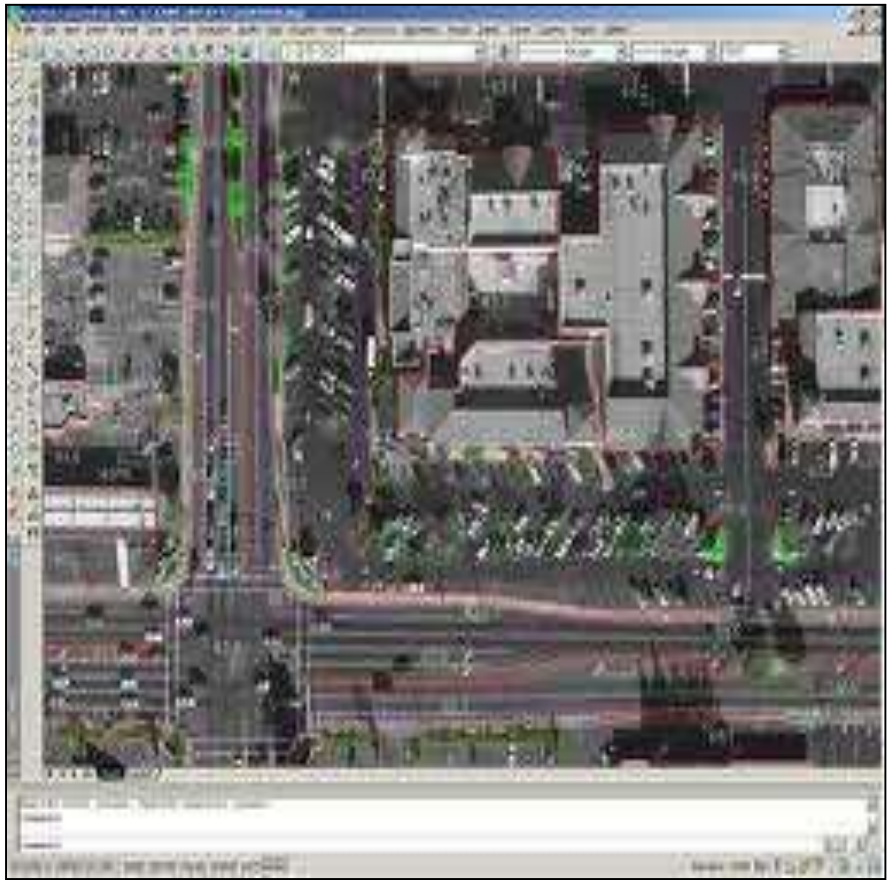
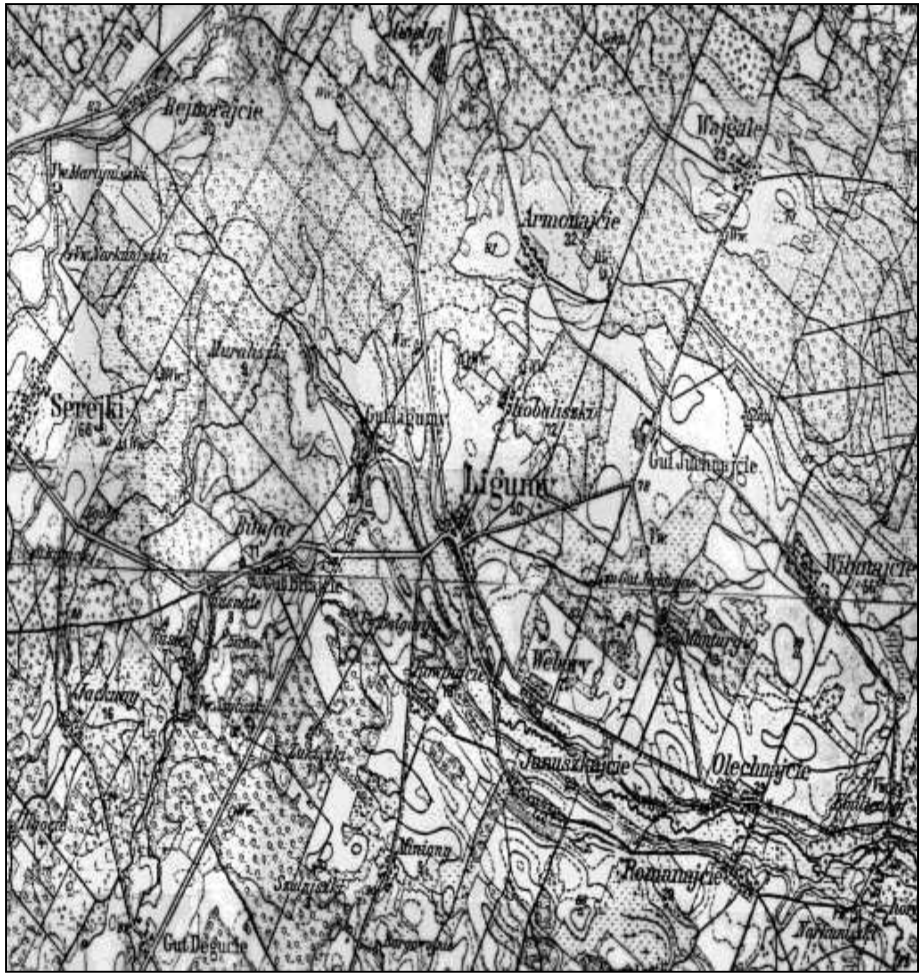
Military Survey





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Classification of Surveying

Classification based on Nature of field

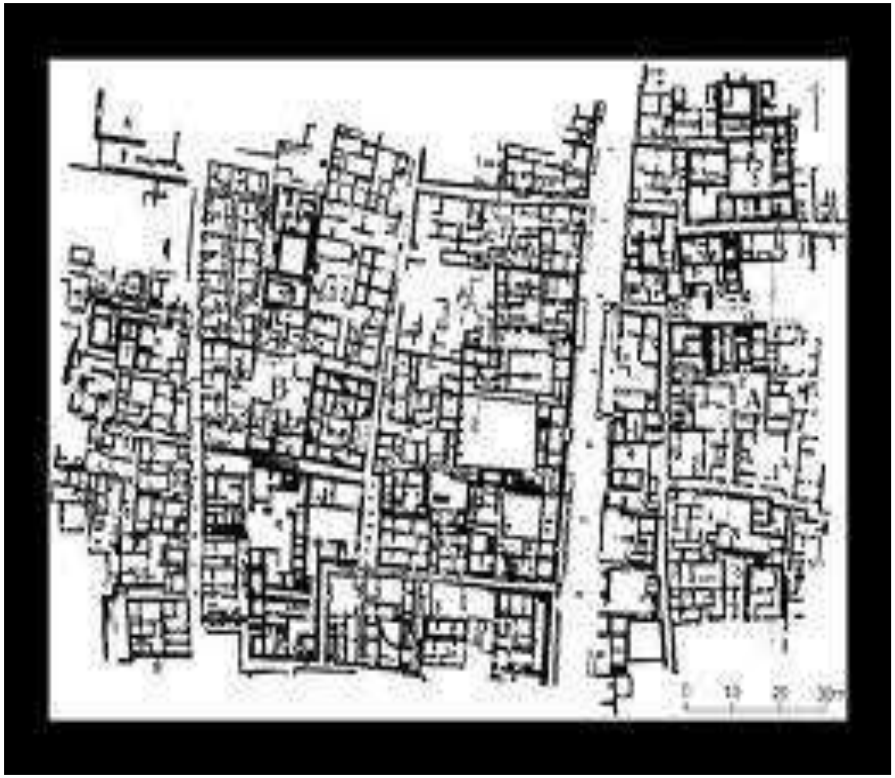
Land Survey

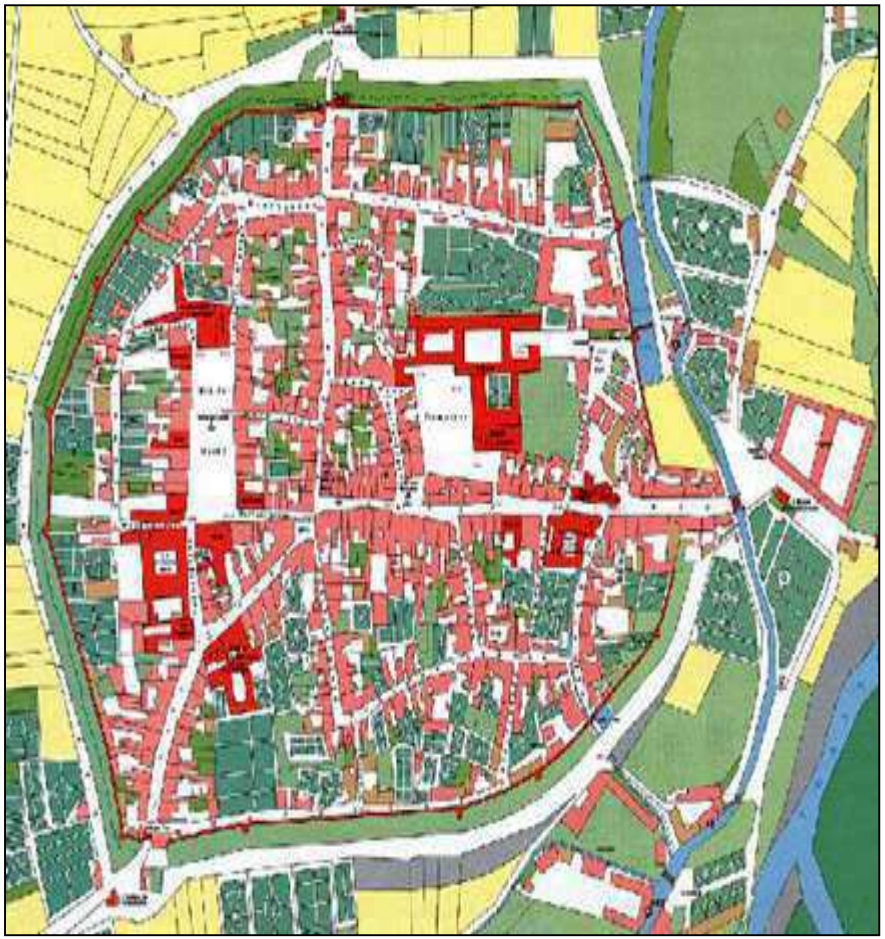
Land Survey is done on land to prepare plan and maps of a given area. Topographical, city and cadastral surveys are some of the examples of land surveying.

Hydrological Surveying

This survey is conducted on or near the body of water such as lake, river, coastal area. This Survey consists of locating shore lines of water bodies.

Land Survey





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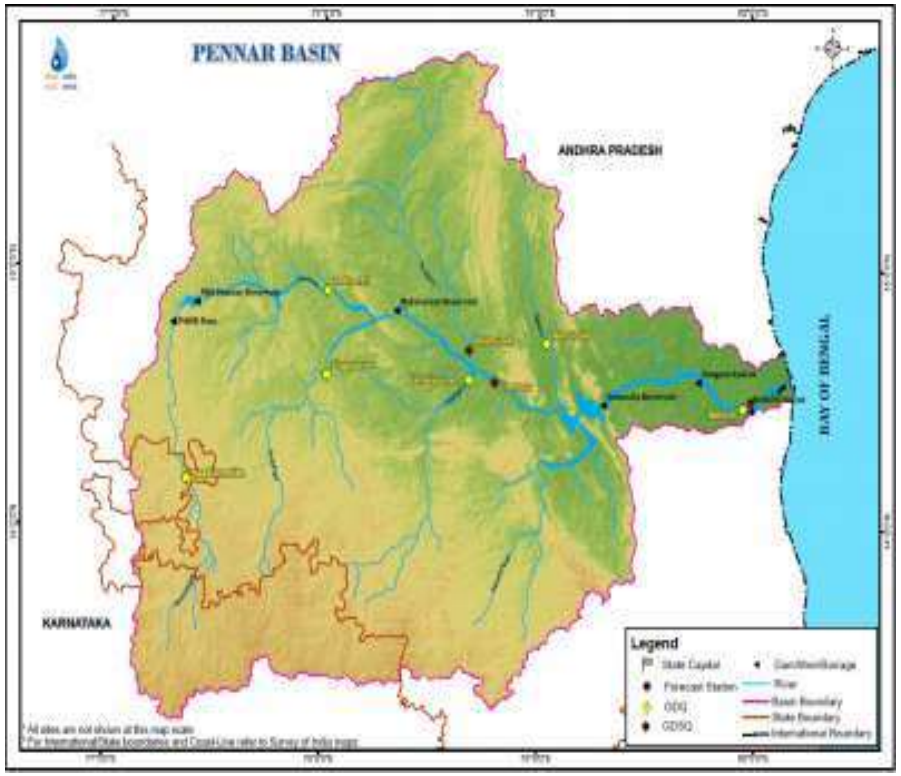
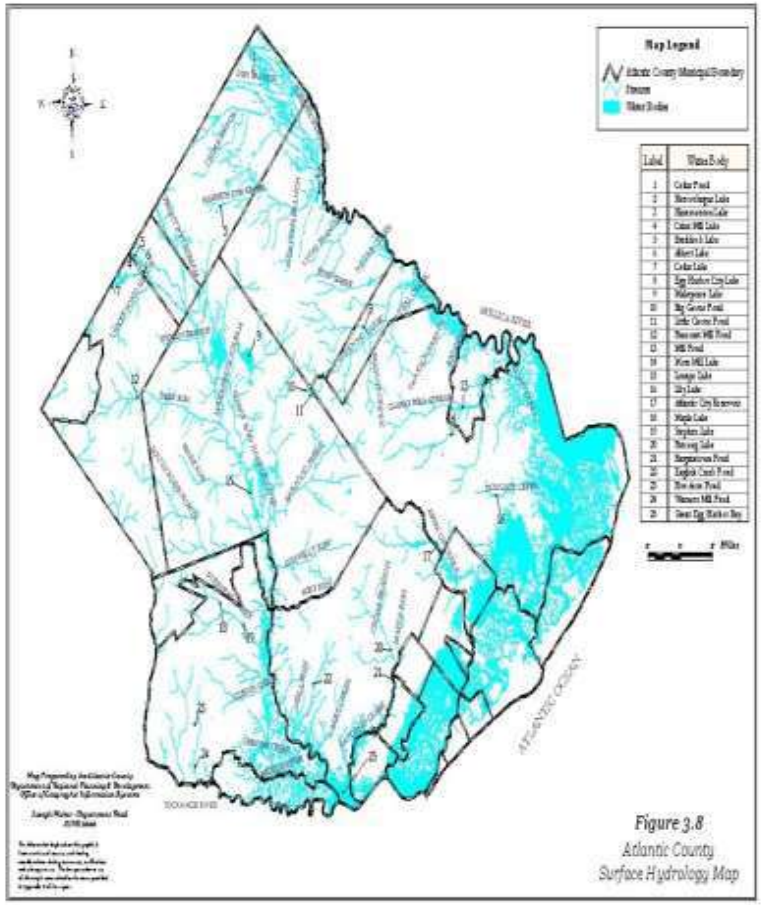
Hydrological Surveying



Hydrological Maps



Hydrological Maps

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THANK
YOU
GRACIAS
BOLZÏN
MERCI
BÏYAN
SHUKRIA
TINGKI
DANKSCHEEN
YAQHANYELAY
TASHAKKUR
ATU
SUKSAMA
EKHMET
ARIGATO
SHUKURIA
GOZAIMASHITA
EFCHARISTO
JUSPAXAR
KOMAPSUMINDA
MAAKE
GRAZIE
MEHRBANI
PALDIES