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Best Quality Classroom Topper Hand Written Notes to Crack GATE, IES, PSU's & Other Government Competitive/ Entrance Exams

MADE EASY CIVIL ENGINEERING Surveing BY-Asish Sir

- Theory
- Explanation
- Derivation
- Example
- Shortcuts
- Previous Years Question With Solution

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GATE \approx 6-7 marks

ESE \approx $\begin{cases} 20-30 \text{ marks (prelims)} \\ \approx 65 \text{ marks} \\ \text{max} \end{cases}$

Syllabus - [90%]

1] Introduction

2] Linear measurement

3] *Compass Survey

4] *Traverse Survey - (chain
Compass
both survey)

Horizontal Plane

5] *Levelling Work

6] Contours and Area Volume

7] Trigonometric Levelling

8] Tacheometry

Vertical plane

9] Curves

10] Accuracy and Errors

11] *photogrammetry

Remaining - 2% (Through made easy prime app.)

→ Extra: Plane Table Survey (only PDF)

→ Extra: Triangulation Survey (only PDF)

→ Extra: GPS / GIS / Remote Sensing / Time Concept

+ Instruments

Chapter - 1

Introduction

Survey - Data Collection & Data Establishment
(from Ground) (to Ground)

Survey is the art of determining relative point position of point through direct and indirect measurement of ~~dis~~ distance direction and elevation it also includes establishment of point ~~to~~ the ground which are pre-determined to paper.

Classification of Survey -

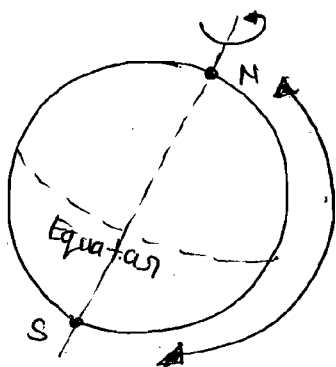
- 1] Land Survey - Survey to the surface of Earth.
 - a- Topographical Survey - To know about General Topography of Area such as - River, Pond, Valley building, Roads, Rail etc.
 - b- Cadastral Survey - To know about property lines such as state boundary District Boundary, Municipal Boundary etc.
 - c- City Survey - To provide any services in a city such as water supply sewer pipe line, Metro, Roads etc.

2] Hydrographic Survey — To know about under water features such as Bed level, Aquatic animals etc.

3] Astronomical Survey — To know about positions of stars planets moon sun etc.

Note — Archaeological Survey — To know about antique substance.

Earth —



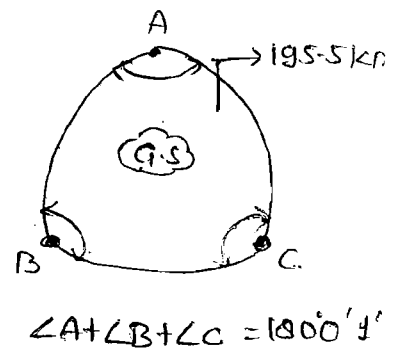
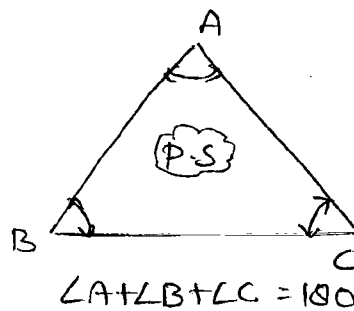
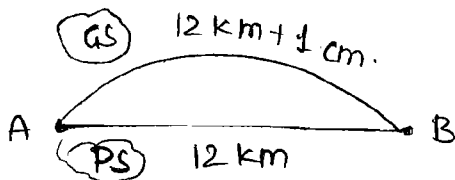
Curvature = Geoid —

- Geodetic Survey
 - When effect of earth curvature is considered
 - Suitable for Large Area
- Plane Survey
 - When effect of earth curvature is not considered.
 - Suitable for small Area

Note-1 — Generally Geoid survey is considered for an area more than 250 km^2 .

Note-2 Observations

- a- For a distance measurement of 12 km in plane survey. Geoidic distance will be just 1 cm extra
- b- For a triangle of size 195.5 km² in Geoidic Survey sum of internal angle will be just 1 sec extra.



↑
degree of accuracy ↓ after
↑ measurement

Principal of Survey

↓ - Working from whole to Part -

According to this principal larger measurement taken first with high degree precision and then smaller measurements are taken even with lesser degree of precision.

In this way error of smaller measurement will not be appear in larger measurement.

Reading me Compensation ko Accuracy kahate h.
Survey karne ko tanike me Precision kahate h.
↓
degree of ~~accuracy~~ ^{Precision} during the measurement.