

**S.Y.B.Sc. (Geography)**  
**Choice Based Credit System Syllabus**  
**To be implemented from Academic Year 2020-21**  
**Semester-III Paper III**

**Surveying -I**

**Course No. Gg. 233 No. of Credits: 02 No. of Practicals: 15**  
**(4 Hours each Practical)**

**Note:**

1. Each practical batch should have not more than 12 students.
2. A separate question paper should be set for each batch.
3. Four hours of one practical should be allocated.

**Objectives:**

- i. To acquaint the students with the principles of surveying, its importance, and its utility in the Geographical study.
- ii. To familiarize the students with the basic aspects of linear, vertical and angular measurements of surveying.
- iii. To understand the importance, basic principles and uses of GPS in surveying.
- iv. To acquire knowledge on the Satellite system required for GPS in detail.
- v. To identify sources and types of errors occurs during surveys.

**The batch of 12 students each**

Sr. No.	Name of the Topic	Learning Points	No. of Practicals 15 (4 Hours/Practical)
1	Introduction to Surveying	<ol style="list-style-type: none"> <li>1. Meaning and Definition of Surveying.</li> <li>2. Types of Surveying, Classification of Surveys.</li> <li>3. Methods of Surveying.</li> <li>4. Importance of Surveying in Geography</li> <li>5. Introduction to recent new surveying techniques: Drone, Total station, DGPS Survey etc.</li> </ol>	<b>04</b>
2	Plane Table Survey	<ol style="list-style-type: none"> <li>1. Introduction.</li> <li>2. Instruments used in Plane Table Survey.</li> <li>3. Methods of Plane Table Survey: Radiation and Intersection Method (one example of each method).</li> <li>4. Measurement and Conversion of Area in Different Units               <ol style="list-style-type: none"> <li>i. Sq. Meter to Guntha</li> <li>ii. Sq. Meter to Acre</li> <li>iii. Bigha to hectare</li> </ol> </li> </ol>	<b>04</b>
		<ol style="list-style-type: none"> <li>iv. Sq. Foot to Acre</li> <li>v. Sq. Mile to hectare</li> <li>5. Merits and Demerits of plane table Survey.</li> </ol>	

3	Prismatic Compass Survey	1. Introduction. 2. Functions and structure of prismatic compass with diagram 3. Method to use Prismatic Compass (Open and Close Traverse). 4. Correction of bearing and closing error by Bowditch Method 5. Merits and Demerits of Prismatic Compass Survey.	<b>04</b>
4	GPS Survey	1. Introduction, Definition, and Components of GPS / Segments of GPS 2. Applications of GPS. 3. GPS Survey (Plotting of area on a graph with the help of latitude and longitude) 4. Introduction about GPS based apps: Aarogya  Setu ,Google Earth, GPS Essentials and Solar Calculator app	<b>03</b>

**Reference Books:-**

1. Kanetkar T.P. and Kulkarni S.V. (1983). Surveying and Levelling (Part I and II), Vidyarthi Gruha Prakashan, Pune.
2. Monkhouse, F.X.J. & Wilkinson, H.R. (1989). Maps & Diagrams, B.I Publications, Bombay.
3. Mishra, R.P, and Ramesh A. (2000). Fundamental of Cartography, Concept Publishing Company, New Delhi.
4. Robinson, A.H. & Sleep, R.D. (1969). Elements of Practical Geography, John Wiley publications, New York.
5. Singh Gopal (1996). Map Work and Practical Geography, Vikas Publishing House Pvt. Ltd., New Delhi.
6. Singh, R.C., and Dutta (1993). Elements of Practical Geography, Kalyani Publications, New Delhi.
7. Singh, Lekhraj & Singh R. (1973). Map work and Practical, Central Book Depot. Allahabad.
8. Singh, R.L., and Singh, R.P.B. (1997). Elements of Practical Geography, Kalyani Publishers, New Delhi.
9. Singh, R.L., and Kanaujia L.R.S. (1963). Map Work and Practical Geography, Central Book Depot, Allahabad.
10. Bygott, J. (1955). Map work and Practical Geography.5<sup>th</sup> Edition, University Tutorial Press, London.
11. Davis, R.E.and Foote, F.S. (1953). Surveying, McGraw-Hill Book Co., New York.
12. Deshpande, G.B.(1991). Surveying, Everest Publishing House, Pune

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