

**B. A. Third year**

**Subject: Geography**

**Practical: Surveying, Topographical Maps and Remote Sensing**

**I. Surveying**

1. Objectives; primary division and classification of surveying; principles of surveying.
2. Plane table survey:
  - i. Radiation; intersection; open and close traverse with a minimum of five stations.  
(4 exercises)
  - ii. Resectioning: three point problem by mechanical and graphical methods of Bessel and Llano.  
(3 exercises)
3. Prismatic compass survey:
  - i. Types of bearings and conversion of bearings.
  - ii. Radiation; intersection; open and close traverse (with a minimum of five stations).  
(4 exercises)
  - iii. Calculation of included angles; correction of bearing; closing of the error.  
(1 exercise)

**II. Topographical maps**

1. A brief history of Survey of India; scheme of topographical maps; and conventional symbols.  
(2 exercises)
2. Scale of slopes.  
(1 exercise)
3. Study and interpretation of Survey of India 1:50,000 or 1:63,360 topographical maps representing typical areas of Rajasthan in respect of relief, drainage, land use, settlement and means of transport  
(2 exercises)

**III. Remote sensing**

1. Remote sensing as a tool for data generation and mapping;
2. Basic concepts of aerial photographs and satellite imageries;
3. Generating maps (physical and human features) from aerial photographs and remote sensing data products using pocket stereoscope and other aids. (2 exercises)

**Notes**

1. Candidates will be examined by an External Examiner in consultation with the Internal Examiner.
2. Each exercise should be drawn on a full drawing sheet.

3. The test paper of practical will be of two hours duration and candidates will be required to answer three questions out of five.

4. The distribution of marks will be as follows:

|                                |                 |
|--------------------------------|-----------------|
| a. Paper                       | 30 Marks        |
| b. Record Work*                | 10 Marks        |
| c. Viva-voce**                 | 5 Marks         |
| d. Field survey and viva- voce | 15 Marks (10+5) |

\* Record work will be assessed by the teacher in-charge of the practical group and the external examiner.

\*\* Viva-voce will be based on the record work.

5. Ex-students will have to complete the prescribed practical work under the guidance of the Head of the Department of the respective college and to produce a certificate to that effect before the commencement of the examination.

### ***Suggesting Readings***

1. Cole, John P. and Cuchlaine A. M. King, Quantitative Geography: Techniques and Theories in Geography, John Wiley & Sons Ltd., London, 1970.
2. Hammond, Robert and McCullagh Patrick, Quantitative Techniques in Geography: An Introduction, Clarendon Press, Oxford, 1978.
3. Kanetkar, T. P., Surveying and Levelling, Vol. I, A. V. Griha Prakashan, Bombay, 1985.
4. Nag, Prithvish and M. Kudrat, Digital Remote Sensing, Concept Publishing Company, New Delhi, 1998.
5. Singh, R. L., Elements of Practical Geography, Student Friends, Allahabad.
6. सिंह एवं कनोजिया : मानचित्र तथा प्रायोगात्मक भूगोल, सेन्ट्रल बुक डिपो, इलाहाबाद
7. तिवारी, विश्वनाथ : प्रायोगिक भूगोल, रामप्रसाद एण्ड संस, आगरा
8. वर्मा, एल.एन. एवं लोढा, आर. एम. : प्रायोगात्मक भूगोल, राजस्थान हिन्दी ग्रन्थ अकादमी, जयपुर
9. शर्मा, जे.पी. : प्रायोगात्मक भूगोल, रस्तोगी प्रकाशन, मेरठ