

B. Sc. GEOGRAPHY 1ST YEAR 1ST SEMESTER EXAMINATION 2023**Subject: Basics of Cartography****Paper: C102T (SC/GEOG/UG/CORE/TH/02)****Time: 1 hour 30 minutes****Full Marks: 30****GROUP-A***Answer any one question**10x1 = 10*

1. A) A stadium has a playground with a circular running track around it. The total area is 3 sq. km and the width of the track is 30 m. The stadium has been represented on a map with R.F.=1: 4,000. The map has been enlarged four times to produce a new map. What will be the inner circumference of the running track on the new map?
B) Provide an example of a negative Vernier. Justify the use of sphere diagrams to represent urban population.
5+2+3
2. A) Give one example of a multi-axial graph to represent geographical data. Mention the mathematical principle of the Revolution Scale.
B) Derive the formula for the radius (r_{ϕ_0}) of the standard parallel (ϕ_0) of the Simple Conical Projection with One Standard Parallel.
2+2+6

GROUP-B*Answer any two questions**5x2 = 10*

- C) Write a short note on the different forms of geographical data representation.
- D) Differentiate log-log graphs from the semi-log graphs based on their salient features.
- E) Why did the Mercator's Projection become popular among the navigators?
- F) Mention the suitable type of diagrams/ maps to be used to optimally represent the following datasets: road density, tree density, built-up intensity, caste composition and volume, urban sewage flow

GROUP-C*Answer any two questions**2x2 = 4*

- G) Differentiate between Chorochromatic maps and Choroschematic maps.
- H) What is the area between 60° S and 90° S parallel on the earth with radius of 3963 miles?
- I) Calculate the length of 50° N parallel on earth surface in km.
- J) State the mathematical expression of the distance between two points L1 (λ_1, ϕ_1) and L2 (λ_2, ϕ_2) along the Rhumbline.