

Ex/SC/ GEOG/UG/SEC/21/203/2025

BACHELOR OF SCIENCE EXAMINATION, 2025

(2nd Year, 3rd Semester)

GEOGRAPHY

PAPER : SEC/21/203

[GIS and GNSS]

Time : Two Hours

Full Marks : 40

Answer all questions.

UNIT—I
(Coordinate Systems)

1. Make a comparative discussion on Geoid and Spheroid. How is the vertical datum measured? What is a Semi-major axis?
5+3+2=10

UNIT—II
(GIS Database)

2. Discuss the steps involved in converting analogue maps to digital maps. State the types of Geo-referencing. Differentiate between raster data and vector data.
4+3+3=10

GEOG-1010

[Turn Over]

(2)
UNIT—III
(GIS Operations)

3. Mention the different sources of GIS data. Explain the different type of overlay analysis. Define Metadata.
4+4+2=10

UNIT—IV

(GNSS Data Retrieval and Management)

4. What is the function of Base and Rover receivers in GPS positioning in differential mode? Calculate the area enclosed within the given waypoint coordinates and draw a polygon in a close traverse.
3+7=10

SL No	Waypoint	Easting	Northing	Accuracy
1	A	640420	2491897	6m
2	B	640545	2491562	3m
3	C	641165	2491562	6m
4	D	641051	2491727	3m
5	E	641015	2492150	4m
6	F	640588	2492056	4m
1	A	640420	2491897	4m

★ ★ ★

GEOG-1010

XX24(113)—50