Total number of printed pages–3

14 (Sem–3) GGY 3123

2025

GEOGRAPHY

Paper : GGY–3123

(Fundamentals of RS, GIS and GPS)

Full Marks : 40

Time : Two hours

The figures in the margin indicate full marks for the questions.

1. Explain the basic concept of EMR and discuss how electromagnetic radiation interacts with the atmosphere and earth's surface. *(Remembering and Understanding)* 2+4+4=10

OR

Discuss the process of digital image processing and explain the key stages involved in the visual and digital interpretation of remotely sensed data. *(Understanding and Analysing)* 4+3+3=10

2. Describe the raster and vector data structures in GIS and compare their advantages and limitations for spatial analysis. *(Understanding and Analysing)* 5+5=10

OR

Discuss the spatial analysis techniques used in GIS and their role in thematic data representation. *(Understanding and Applying)* 6+4=10

3. Evaluate the application areas of GPS in geographical fieldwork with examples from rural and urban contexts. *(Applying and Evaluating)* 5+5=10

OR

Discuss the accuracy and error sources in GPS data and the role of Differential GPS (DGPS) in improving positional accuracy. *(Understanding and Analysing)* 5+5=10

4. Write short notes on : ***(any two)*** *(Remembering and Understanding)* 5×2=10

   (a) Challenges in remote sensing data interpretation

   (b) Spectral resolution and its significance in image interpretation

(c) Data input and storage process in GIS

(d) Role of GIS in urban planning and resource management

(e) Potential and limitations of GPS technology
