Roll No. | | | | | | | | | | |

ANNA UNIVERSITY (UNIVERSITY DEPARTMENTS)

B.E. / B. Tech / B. Arch (Full Time) - END SEMESTER EXAMINATIONS, APRIL/MAY 2025

B.E.Geoinformatics, Semester II

GI23201 GEOINFORMATICS SYSTEMS

(Regulation 2023)

Time: 3hrs Max. Marks: 100

CO1	Understand the fundamental Geospatial Concepts and their significance.
CO2	Utilise Geospatial Data Sources and Open Data Principles.
CO3	Ability to acquire Proficiency in Geoportals.
CO4	Apply satellite data to practical problems.
CO5	Integrate open data with GIS Applications.

BL – Bloom's Taxonomy Levels

(L1 - Remembering, L2 - Understanding, L3 - Applying, L4 - Analyzing, L5 - Evaluating, L6 - Creating)

General Instructions

PART- A (10 x 2 = 20 Marks)

(Answer all Questions)

Q. No	Questions	Marks	CO	BL
1	Define Geographical Information Systems?	2	1	L1
2	What are the fundamental types of data?	2	1	L1
3	Demonstrate the concept of metadata and its significance in data management.	2	2	L2
4	Explain the role of the Department of Science and Technology in the coordination and monitoring of data sharing through data.gov.in.	2	2	L2
5	Summarise and explain the wireless media.	2	3	L2
6	Outline the most important geospatial protocols.	2	3	L2
7	Define disaster management.	2	4	L1
8	Outline the components of digital image processing.	2	4	L2
9	Explain why it is important to integrate open data with GIS.	2	5	L1
10	Summarise the models of integration.	2	5	L2

PART- B (5 x 13 = 65 Marks)

Q. No	Questions	Marks	CO	BL
11 (a)	Explain and relate the spectral characteristics of main energy sources, atmospheric windows, and common remote sensing systems across different wavelengths. Critically evaluate how these factors interact to influence the selection and effectiveness of remote sensing applications with a neat sketch	13	1	L5
	OR			
11 (b)	Evaluate how the spectral reflectance characteristics of different surface features are used for their identification and analysis in remote sensing with a neat sketch.	13	1	L5
12 (a) (i)	Identify various geospatial data sources and develop a detailed explanation of each with suitable examples, highlighting their applications in geospatial analysis.	13	2	L3
	OR			
12 (b)	Apply your understanding of the National Geospatial Policy (NGP) to explain how it will transform India into a global leader in the geospatial sector, with relevant strategies and examples.	13	2	L3

13 (a)	Analyse the role and functionalities of interactive maps in geoinformatics systems. Examine how interactive mapping enhances spatial data visualisation and decision-making.	**13**	3	L4
	OR			
13 (b)	Analyse the roles of key geospatial data exchange protocols in the development of effective geospatial applications.	**13**	3	L4
14 (a)	Examine the role of geospatial data in forest management. Discuss how remote sensing and GIS technologies aid in forest monitoring, conservation, and sustainable management practices.	**13**	4	L4
	OR			
14 (b)	Analyse the role of remote sensing in disaster management. Examine how remote sensing technologies are applied in disaster preparedness, response, and recovery, with relevant examples.	**13**	4	L4
15 (a)	Elaborate on the process and benefits of integrating open data with GIS for public health applications with a case study.	**13**	5	L6
	OR			
15 (b)	Elaborate on the role of open data and GIS in disaster response during the 2015 earthquake in Nepal.	**13**	5	L6

PART- C (1 x 15 = 15 Marks)

(Q.No.16 is compulsory)

Q. No	Questions	Marks	CO	BL
16. (i)	Describe the components of digital image processing in detail. Examine how each component contributes to the overall image processing workflow, and how they are interrelated to achieve high-quality image outputs.	**8**	4	L4
(ii)	Explain the use of satellite data in monitoring deforestation through Global Forest Watch.	**7**	5	L3