



MAHARAJA INSTITUTE OF TECHNOLOGY THANDAVAPURA
Department of Civil Engineering
SCHEME AND SOLUTION



Academic Year	CIE	Date	Semester	Course Code	Course	Maximum Marks
2025-26	1 st	24/3/25	VI th	BCV654B	Geographic Information System	30

Q.No.	Scheme	Marks
	PART-A (MODULE-1)	
a.	<p>Coordinate System is a Method which uses one or more variables of coordinates for identifying the location of an object in a 2/3 dimensions.</p> <p>types of Co-ordinates</p> <ul style="list-style-type: none">1) Geographic Coordinates2) Projected Coordinates<ul style="list-style-type: none">• Conical Projection• Cylindrical Projection• Azimuthal Projection3) Polar Coordinates - (r, θ)4) Cartesian Coordinates - (x, y)• Diagrams	2 1 3 1 1 2
		10 marks
b.	<p>Types of Data : SPATIAL & NON-SPATIAL</p> <p>Spacial</p> <ul style="list-style-type: none">< Raster< Vector <p>Continuous</p> <p>discontinuous</p> <p>Point</p> <p>line</p> <p>Polygon</p>	1 2 3

Keswani
25/3/25

Q.No.	Scheme	Marks
	Non-Spatial data - Attribute Data Explanation for all types and Sub-types Diagram	2
		3
		10 marks
2.a)	Components of GIS	1
	• Hardware	1
	• Software	2
	• Data	1
	• Procedure	1
	• People	1
	- Diagram	1
		1
b.	Attribute data : Data is in the form of tables format. Types of Attributes are :	1
	1) Qualitative	
	2) Quantitative	
	* Qualitative = Nominal - definition Example	2
	- Ordinal - ————	2
	- Binary - ————	2

Kunwar
25/3/25

Q.No.	Scheme	Marks
2	Quantitative - Discrete - definition Example	1
3	Continuous - definition Example	
4	Interval Scales - Sub types	
	- Interval data scale - Example - def.	2
	- A series Scaled attribute - Ex. - def.	
	10 marks	
C.	GIS :- Geographic Information System is a System	
	- aitu Integration of Computer hardware Software	
	and Spatial data for capturing , storing , displaying	
	updating , Manipulating and Analyzing in Order	
	to solve the Complex Management problems	
	2 marks	
	PART - B (MODULE - 2)	
3 a.	Raster data Compression :- deduce the column of	
	data . the Compressed data is called as Encoded	2
	data . The types of Encoding are.	
	• Cell by cell Encoding - Definition diagram	2
	• Quadtree Encoding - - II _____	2
	• Block Encoding - - II _____	2
	• Chern Encoding - - II _____	2
	10 marks	

Kuruma
25/3/25

Q.No.	Scheme	Marks
1-a	Spatial data model definition	2
	Types of Spatial data models	1
	- Conceptual Spatial Model	1
	- Logical Spatial Model	1
	- Physical Spatial Model	1
		<u>5 marks</u>
b.	Raster data structure : Information about Raster data.	1
	Field oriented Raster data structure	2
	Object oriented Raster data structure	2
		<u>5 marks</u>

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25/3/2025

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MAHARAJA INSTITUTE OF TECHNOLOGY THANDAVAPURA
Department of Civil Engineering
Internal Assessment Test - I



SET-A

Date	Time	Semester	Course	Course Code	Maximum Marks
28/03/2025	2:00pm to 3:30 pm	V1	Geographic information system	BCV654B	30
Course Coordinator: Prof. Kusuma R					
CO1	Acquire knowledge on Fundamentals of GIS.				
CO2	Understanding the concept of spatial data models.				
RBT Levels	L1: Remembering L2: Understanding	L3: Applying L4: Analyzing	L5: Evaluating L6: Creating		

Q. No.	Questions	Marks	RBT Level (s)	COs
1 a.	Briefly explain coordinate system and its types.	10	L2	CO1
	b. Explain the main types of data used in GIS and how they are Differ	10	L2	CO1
OR				
2 a.	Explain the components of GIS. Add a note on GIS	10	L2	CO1
	b. Explain the key difference between types of Attribute data	10	L2	CO1
PART B (MODULE-2)				
3 a.	Explain the main types of raster data compression techniques used in GIS	6	L2	CO2
	Explain raster data structure	4	L2	CO2
OR				
b.	a. Explain the key difference between raster vs vector data in GIS	6	L2	CO2
	Elaborate Advantages and disadvantages of raster and vector data.	4	L2	CO2