U.S.N.										

B.M.S. College of Engineering, Bengaluru-560019

Autonomous Institute Affiliated to VTU

January / February 2025 Semester End Main Examinations

Programme: B.E. **Semester: VII**

Branch: Institutional Elective **Duration: 3 hrs.**

Course Code: 21CV7OERSG **Max Marks: 100**

Course: REMOTE SENSING AND GIS

Instructions: 1. Answer any FIVE full questions, choosing one full question from each unit.
2. Missing data, if any, may be suitably assumed.

Important Note: Completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages. Revealing of identification, appeal to evaluator will be treated as malpractice.

				CO	PO	Marks
			UNIT – I			
1	a)		Define geodatabase and explain its salient features.	CO1	PO 1	**10**
	b)		Explain the concept of topology, its importance and various topological relations possible in GIS.	CO1	PO1	**10**
			OR			
2	a)		Explain the importance of resolution and various types of resolutions in remote sensing.	CO1	PO1	**10**
	b)		Explain some of the important common datasets in a geodatabase.	CO1	PO1	**10**
			UNIT – II			
3	a)		Explain criterion weight and decision rules in the context of Spatial MCDA framework.	CO2	PO1	**10**
	b)		Explain the elements of MCDA and elaborate on how it helps in decision making involving complex problems.	CO2	PO1	**10**
			OR			
4	a)		Differentiate between Multi-Objective Decision Making (MODM) and Multi-Attribute Decision Making (MADM).	CO2	PO1	**10**
	b)		Explain the Pareto-Optimal situation in decision making with a suitable example.	CO2	PO1	**10**
			UNIT - III			
5	a)		Write brief note on Geographic Resources Analysis Support System (GRASSS) as an open source software and levels of freedom associated with it.	CO3	PO1	**10**

		b)	Explain the topological operations i) buffering and ii) clipping, highlighting the procedure and their applications.	*CO3*	*PO1*	**10**
			OR			
	6	a)	Discuss reclassification of raster data mentioning its procedure, purpose and various applications.	*CO3*	*PO1*	**10**
		b)	Differentiate between vector and raster data models. Discuss key characteristics of Raster data manipulation operations.	*CO3*	*PO1*	**10**
			UNIT – IV			
	7	a)	Define the terms spatial and relational database and discuss the key differences between them. Also, explain how the integration of these two provide a robust tool data management.	*CO3*	*PO1*	**10**
		b)	Explain an ideal expert GIS system elaborating its components. Also, discuss the key advantages of an ideal expert GIS system.	*CO3*	*PO1*	**10**
			OR			
	8	a)	Explain Mobile GIS, stating its features, key capabilities and important applications.	*CO3*	*PO1*	**10**
		b)	Location-based services and GIS integration makes business efficient and productive. Illustrate the same using appropriate case study.	*CO3*	*PO2*	**10**
			UNIT – V			
	9	a)	Elaborate on the application of GIS in effective land resource management, taking an appropriate case study.	*CO3*	*PO1*	**10**
		b)	Explain enterprise GIS management, stating its importance, key capabilities and the major challenges in the implementation.	*CO3*	*PO1*	**10**
			OR			
	10	a)	Explain the criteria in selecting Relational Database Management System (RDBMS) for an organization.	*CO3*	*PO1*	**10**
		b)	Explain Enterprise GIS highlighting the capabilities and objectives.	*CO3*	*PO1*	**10**

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