U.S.N.										

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

Autonomous Institute Affiliated to VTU

June 2025 Semester End Main Examinations

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

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

Course Code: 22CV7OERSG **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.

		UNIT - I	*CO*	*PO*	Marks
1	a)	Explain remote sensing principle and its advantages in detail.	*CO1*	*PO1*	**10**
	b)	Explain spatial, spectral and temporal resolution with the help of examples.	*CO1*	*PO1*	**10**
		OR			
2	a)	Explain components of interactions between electromagnetic radiation and the Earth's atmosphere.	*CO1*	*PO1*	**10**
	b)	Plot and explain spectral reflectance curves of soil, water and green vegetation. Explain its applications.	*CO1*	*PO1*	**10**
		UNIT - II			
3	a)	Explain GIS and its components in detail.	*CO1*	*PO1*	**10**
	b)	Differentiate between geographic coordinate system (GCS) and Projected Coordinate System (PCS).	*CO1*	*PO1*	**10**
		OR			
4	a)	Explain map projections and distortions with the help of an example.	*CO1*	*PO1*	**10**
	b)	Differentiate between vector and raster data models. List key characteristics of raster data manipulation operations.	*CO1*	*PO1*	**10**
		UNIT - III			
5	a)	Differentiate between Multi-Objective Decision Making (MODM) and Multi-Attribute Decision Making (MADM) based on various features.	*CO2*	*PO1*	**10**

		b)	Explain why most of the challenges in life are pareto optimal. Give examples at individual and governance level.	*CO2*	*PO2*	**10**
			OR			
	6	a)	Explain the chronology of GIS-MCDA development.	*CO2*	*PO1*	**10**
		b)	Explain analytical hierarchical process in decision making with the help of an example.	*CO2*	*PO2*	**10**
			UNIT - IV			
	7	a)	Explain the following topological operations i) Buffering ii) Clip iii) Union iv) Dissolve v) Overlay	*CO3*	*PO2*	**10**
		b)	Explain the structure of an ideal expert GIS system.	*CO3*	*PO2*	**10**
			OR			
	8	a)	Explain levels of freedom associated with software taking GRASS as an example.	*CO3*	*PO2*	**10**
		b)	Location-based services and GIS integration makes business efficient and productive. Justify the same with an example.	*CO3*	*PO2*	**10**
			UNIT - V			
	9	a)	Explain the need, requirements, and objectives of Enterprise GIS. Also, list the objectives of Enterprise GIS.	*CO3*	*PO2*	**10**
		b)	Discuss the need and advantages of using GIS in traffic management and policies.	*CO3*	*PO2*	**10**
			OR			
	10	a)	Define Enterprise GIS highlighting the capabilities and objectives.	*CO3*	*PO2*	**10**
		b)	Discuss the need and advantages of using GIS in land resource management.	*CO3*	*PO2*	**10**

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