

Model Question Paper-I with effect from 2022-23 (CBCS Scheme)

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Sixth Semester B.E. Degree Examination
Remote Sensing and GIS

TIME: 03 Hours**Max. Marks: 100**

- Note: 01. Answer any **FIVE** full questions, choosing at least **ONE** question from each **MODULE**.
02. Draw neat sketches wherever required

Module -1			*Bloom's Taxonomy Level	Marks
Q.01	a	Define Remote sensing? Explain the components of ideal remote sensing system with a neat sketch?	2	10
	b	Briefly explain how energy interact with earth features, i.e. soil and vegetation in remote sensing	2	10
OR				
Q.02	a	Explain electromagnetic spectrum with a neat sketch	2	10
	b	List and explain the elements of visual interpretation technique	2	10
Module-2				
Q. 03	a	Define photogrammetry and explain its fundamental principles.	1	4
	b	Discuss the various types of photogrammetry techniques and provide examples of their applications.	2	8
	c	Compare and contrast aerial and terrestrial photogrammetry, highlighting their respective advantages and limitations.	2	8
OR				
Q.04	a	Enumerate and elaborate on the advantages of using photogrammetry compared to traditional surveying methods.	2	6
	b	Discuss how digital photogrammetry has revolutionized the field, including its benefits in terms of data acquisition, processing, and analysis.	2	6
	c	Describe the workflow of a typical digital photogrammetry project, from image acquisition to final output, highlighting the key steps involved and the tools commonly used.	2	8
Module-3				
Q. 05	a	Define GIS and explain its significance in spatial data management and analysis.	2	4
	b	Describe the primary functions of GIS software and how they facilitate data manipulation, visualization, and decision-making.	3	8
	c	Discuss the advantages of using GIS in various fields such as urban planning, environmental management, and emergency response.	3	8
OR				

Q. 06	a	Identify and classify the different sources of data commonly used in GIS applications, including remote sensing, surveys, and field data collection.	3	6
	b	Discuss the advantages and limitations of each data source in terms of accuracy, resolution, and availability.	3	8
	c	Differentiate between spatial and non-spatial databases and provide examples of each.	3	6
Module-4				
Q. 07	a	Explain how GIS, Remote Sensing, and GPS technologies are utilized in the prioritization of river basins for water resource management.	3	10
	b	Discuss the concept of water perspective zones and how they are mapped using geospatial tools to identify areas with high water demand, potential pollution sources, and conservation areas.	3	10
OR				
Q. 08	a	Describe how GIS, Remote Sensing, and GPS are applied in highway alignment studies, including site selection, environmental impact assessment, and route optimization.	3	10
	b	Analyze the use of GIS in accident analysis and mitigation strategies, including hotspot identification, road safety audits, and infrastructure improvements.	3	10
Module-5				
Q. 09	a	Explain the role of GIS, Remote Sensing, and GPS in urban planning and management, including land-use planning, infrastructure development, and transportation networks.	3	10
	b	Discuss how GIS technologies are used to analyze urban sprawl and monitor changes in urban land cover over time, highlighting the importance of accurate spatial data for decision-making.	3	10
OR				
Q. 10	a	Explain how GIS, Remote Sensing, and GPS are applied in precision agriculture for crop monitoring, yield prediction, and resource management.	3	10
	b	Evaluate the challenges and opportunities of integrating geospatial data with traditional farming practices, and how precision agriculture can contribute to food security and environmental stewardship.	4	10