GIET UNIVERSITY, GUNUPUR – 765022

B. Tech (Fifth Semester Regular) Examinations, December – 2023

21BCVOE35001 – Remote Sensing and GIS

(Civil)

Time: 3 hrs   Maximum: 70 Marks

(The figures in the right hand margin indicate marks)

PART – A   (2 x 5 = 10 Marks)

Q.1. Answer *ALL* questions

		CO #	Blooms Level
a.	Explain the difference between active and passive remote sensing.	CO1	K2
b.	What are some challenges faced in remote sensing data interpretation and analysis?	CO1	K1
c.	Name a few applications of GIS in civil engineering.	CO2	K1
d.	Explain the difference between vector and raster data.	CO3	K2
e.	What are some common digital data sources used in civil engineering projects?	CO4	K1

PART – B   (15 x 4 = 60 Marks)

Answer *ALL* questions

		Marks	CO #	Blooms Level
2. a.	Explain the importance of remote sensing in natural resource management, focusing on its applications in water resources, biodiversity conservation, and land use planning.	7	CO1	K2
b.	Compare and contrast active and passive remote sensing techniques. Provide examples of each and explain when each technique is preferred.	8	CO1	K4
	(OR)			
c.	Explain the integration of remote sensing and Geographic Information Systems (GIS).	7	CO1	K2
d.	Examine the future trends in remote sensing technologies.	8	CO1	K4
3.a.	Discuss the importance of spatial data in GIS and how it is collected and represented.	7	CO2	K2
b.	What do mean by Database Queries in GIS? Explain in details	8	CO2	K1
	(OR)			
c.	Describe data validation and cleaning techniques.	7	CO2	K2
d.	Define GIS and elaborate on its components.	8	CO2	K1
4.a.	Discuss the significance of spatial data and how GIS integrates geographic information for analysis and visualization.	7	CO3	K2
b.	Discuss different types of data models, such as vector and raster data models, and how they are used to represent geographic features and attributes in GIS.	8	CO3	K2

<div align="center">(OR)</div>

c.	Discuss the planning and implementation process of GIS systems.	7	CO3	K2
d.	Discuss the significance of GIS in different industries. Provide examples of how GIS technology is used in urban planning, environmental management, disaster response, and other fields.	8	CO3	K2
5.a.	Write notes on (i) Buffering in GIS (ii) Map overlay	10	CO4	K2
b.	Explain the concept of GIS data maintenance.	5	CO4	K2

<div align="center">(OR)</div>

c.	Describe the raster and vector data structures. What are the relative advantages and disadvantages of the two data structures?	10	CO4	K2
d.	Describe the types of Raster overlays with neat sketches.	5	CO4	K2

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