RollNo. | | | | | | | | | | |

ANNA UNIVERSITY (UNIVERSITY DEPARTMENTS)

B.E. /B.Tech / B. Arch (Full Time) - END SEMESTER EXAMINATIONS, NOV / DEC 2025

NAME OF THE BRANCH
Semester
GI5792 & Remote Sensing Concept
(Regulation2019)

Time:3hrs Max.Marks: 100

CO1	The characteristics of electromagnetic radiation and its interaction with earth features
CO2	The types and configuration of various satellites and sensors
CO3	The elements of data interpretation
CO4	
CO5	

BL – Bloom's Taxonomy Levels
(L1-Remembering, L2-Understanding, L3-Applying, L4-Analysing, L5-Evaluating, L6-Creating)

PART- A(10x2=20Marks)
(Answer all Questions)

Q.No.	Questions	Marks	CO	BL
1	Define Remote Sensing.	**2**	1	1
2	Write the difference between active and passive Remote Sensing.	**2**	1	2
3	What is Rayleigh scattering?	**2**	1	1
4	Write the significance of atmospheric windows in remote sensing.	**2**	1	2
5	List the factors affecting the spectral reflectance of vegetation.	**2**	1	1
6	Differentiate the specular and diffuse reflectors with examples.	**2**	1	2
7	What is a sun-synchronous satellite?	**2**	2	1
8	Write the merits of a long-track and across-track scanners.	**2**	2	2
9	Define spatial resolution.	**2**	2	1
10	List any two image enhancement technique to improve image visual quality.	**2**	3	2

PART- B (5x 13 =65Marks)
(Restrict to a maximum of 2 subdivisions)

Q.No.	Questions	Marks	CO	BL
11 (a)	Explain the merits and demerits of remote sensing compared to conventional methods of data collection.	**13**	1	2
	OR			
11 (b)	Describe the wave theory, particle theory, Stefan – Boltzmann Law and Wien's Law and their significant.	**13**	1	2
12 (a)	Analyze the main atmospheric regions and their characteristics for with sketch.	**13**	1	3
	OR			
12 (b)	Illustrate the atmospheric effects on visible, infrared, thermal and microwave spectrum.	**13**	1	3
13 (a)	Analyze the spectral reflectance patterns of vegetation, soil, and water, and discuss how these differences aid in land cover classification.	**13**	1	3

	OR			
13 (b)	Examine the internal and external factors affecting spectral reflectance of vegetation, soil and water body.	**13**	1	3
14 (a)	Evaluate the suitability of UAVs versus satellite-borne sensors for disaster response and high-resolution mapping applications.	**13**	2	4
	OR			
14 (b)	Apply the concept of spatial, spectral, and temporal resolution to select a suitable satellite sensor for crop monitoring.	**13**	3	4
15 (a)	Explore the steps of digital image preprocessing and enhancement to improve the quality of a remotely sensed image.	**13**	3	4
	OR			
15 (b)	Analyze the differences between selective and elimination interpretation keys and assess their role in accurate image interpretation.	**13**	3	4

PART- C(1x 15=15Marks)

(Q.No.16 is compulsory)

Q.No.	Questions	Marks	CO	BL
16.	Evaluate the suitability of various remote sensing platforms (airborne, space borne, UAV) and sensor types (optical, thermal, microwave) for monitoring agricultural activities. Justify your selection with respect to spatial, spectral, temporal, and radiometric resolution.	**15**	2	5