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

ANNA UNIVERSITY (UNIVERSITY DEPARTMENTS)

B.E. /B.Tech / B. Arch (Full Time) - END SEMESTER EXAMINATIONS, NOV / DEC 2023

B.E.GEOINFORMATICS
5th & 7th Semester
GI5071 Geoinformatics for Agriculture and Forestry
(Regulation2019)

Time:3hrs Max.Marks: 100

CO1	Understand the spectral properties of agricultural crops and their applications.
CO2	Understand the spectral properties of soil and applications.
CO3	Understand the RS and GIS capabilities to land management
CO4	Understanding the RS and GIS application to damage assessment due to disaster.
CO5	Understand the spectral properties of Forest species and application to forest management

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	Describe the significance of Red-Edge in determining the crop health with a neat sketch.	2	1	1
2	What are the necessities of crop yield forecasting?	2	1	2
3	What are all the factors responsible for soil formation?	2	2	1
4	List the factors influencing the soil reflectance properties.	2	2	2
5	Describe the components of precision agriculture with a neat sketch.	2	3	1
6	List the purposes of land evaluation.	2	3	2
7	Differentiate temperature and water stress in plants?	2	4	2
8	What is use of crop cutting experiments?	2	4	1
9	List out the forest-related parameters that can be retrieved from remote sensing techniques.	2	5	1
10	List the reasons for forest degradation.	2	5	1

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

Q.No	Questions	Marks	CO	BL
11 (a)	Examine the optical properties of the healthy and water-stressed crops using a spectral reflectance curve with a neat sketch.	13	1	3
	OR			
11 (b)	Discuss the role of Remote Sensing in crop monitoring and conditions assessment with case study.	13	1	3
12 (a)	Demonstrate the significance of optical and microwave Remote Sensing techniques in studying the soil health characteristics.	13	2	3
	OR			
12 (b)	Explain the methodology of soil erosion assessment using Remote Sensing with case study.	13	2	3
13 (a)	Determine the hypothesis adopted in analyzing the multispectral,	13	3	3

	hyperspectral and microwave Remote Sensing data in classifying LULC categories.			
	OR			
13 (b)	Discuss the land evaluation methods for land suitability analysis.	**13**	3	3
14 (a)	Analyze the causes of the different types of floods and how Remote Sensing can be utilized to assess the damage caused to crops by floods.	**13**	4	4
	OR			
14 (b)	Describe the following crop insurance schemes: - CCIS, ECIS, FIIS and NAIS	**13**	4	4
15 (a)	Determine the factors contributing to forest fires and how Remote Sensing can assist in evaluating and forecasting them.	**13**	5	3
	OR			
15 (b)	Explain the forest encroachment mapping using Remote sensing with case study	**13**	5	3

PART- C(1x 15=15Marks)

(Q.No.16 is compulsory)

Q.No	Questions	Marks	CO	BL
16	i) Evaluate the characteristics of saline landscape categories and suitable remote sensing techniques to map them.	7	4	5
	ii) Describe the climate change impact on Indian Agriculture.	8	4	5