

**THE KAVERY ENGINEERING COLLEGE***(An Autonomous Institution)***UG/PG DEGREE END SEMESTER THEORY EXAMINATIONS, APRIL-MAY 2026***Seventh Semester**Department of Agricultural Engineering***AI3701 - REMOTE SENSING AND GEOGRAPHICAL INFORMATION SYSTEM***Regulations - 2021***Duration : 3 Hrs****Maximum : 100 Marks****PART – A(ANSWER ALL QUESTIONS) (Marks 10\*2=20)**

| Q.No | Questions                                                        | BTL | CO | Marks |
|------|------------------------------------------------------------------|-----|----|-------|
| 1.   | Differentiate between active and passive remote sensing.         | L2  | 1  | 2     |
| 2.   | List the different types of resolution in remote sensing.        | L1  | 1  | 2     |
| 3.   | Define the term output scale.                                    | L1  | 2  | 2     |
| 4.   | Differentiate between image enhancement and image classification | L2  | 2  | 2     |
| 5.   | List the elements of a map                                       | L1  | 3  | 2     |
| 6.   | What are the key components of GIS.                              | L1  | 3  | 2     |
| 7.   | Define spatial data and non-spatial data                         | L1  | 4  | 2     |
| 8.   | Differentiate between map overlay in raster and vector formats.  | L2  | 4  | 2     |
| 9.   | Define crop acreage estimation.                                  | L1  | 5  | 2     |
| 10.  | What is soil erosion mapping?                                    | L1  | 5  | 2     |

**PART – B (ANSWER ALL QUESTIONS) (Marks 5\*16 = 80)**

| Q.No      | Questions                                                                                          | BTL | CO | Marks |
|-----------|----------------------------------------------------------------------------------------------------|-----|----|-------|
| 11. a     | Describe the role and importance of platforms and sensors in remote sensing.                       | L2  | 1  | 16    |
| <b>Or</b> |                                                                                                    |     |    |       |
| b         | Explain the spectral, spatial, radiometric, and temporal resolutions with suitable examples.       | L2  | 1  | 16    |
| <b>a</b>  |                                                                                                    |     |    |       |
| 12. a i   | Explain the different levels of processing in remote sensing data products with examples.          | L2  | 2  | 8     |
| ii        | Compare data availability and data ordering procedures for satellite data products                 | L2  | 2  | 8     |
| <b>Or</b> |                                                                                                    |     |    |       |
| b i       | Describe the various image enhancement techniques and their importance in digital image processing | L2  | 2  | 8     |
| ii        | Explain the role of digital image processing in improving the accuracy of remote sensing analysis. | L2  | 2  | 8     |
| <b>a</b>  |                                                                                                    |     |    |       |
| 13. a     | Explain the elements of a map with reference to thematic land use maps.                            | L2  | 3  | 16    |
| <b>Or</b> |                                                                                                    |     |    |       |
| b         | Explain the components of GIS and their interrelationships.                                        | L2  | 3  | 16    |
| <b>a</b>  |                                                                                                    |     |    |       |
| 14. a     | Demonstrate how raster and vector data structures are used in GIS applications.                    | L3  | 4  | 16    |

**Or**

|     |   |                                                                                                   |                                                                                              |    |    |   |
|-----|---|---------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|----|----|---|
|     | b | Demonstrate the role of digital elevation models (DEM) and expert systems in GIS decision-making. | L3                                                                                           | 4  | 16 |   |
|     |   | a                                                                                                 |                                                                                              |    |    |   |
| 15. | a | i                                                                                                 | Illustrate how satellite imagery is used to assess crop condition during the growing season. | L2 | 5  | 8 |
|     |   | ii                                                                                                | Demonstrate the use of GIS in estimating crop water requirement.                             | L2 | 5  | 8 |
|     |   | Or                                                                                                |                                                                                              |    |    |   |
|     | b | Apply remote sensing and GIS tools in precision agriculture to monitor crop health                | L3                                                                                           | 5  | 16 |   |

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