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**Question Paper Code: 99171**

B.E./B.Tech. DEGREE EXAMINATION, NOV 2023

Open elective

Computer Science Engineering

19UCE971-REMOTE SENSING & GIS

(Common to CSE,EEE, ECE, MECH, IT , Chemical, Agri and biomedical Engineering branches)

(Regulations 2019)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (5x 1 = 5 Marks)

1. Which one of the following helps to identify the objects on the earth surface? CO1- U  
(a) atmospheric window (b) signature (c) radiometric (d)None of these
2. The reflection of solar energy is characterized by the water content in the leaf, in the reflective optical infrared: CO1- U  
(a) visible (0.4 - 0.7  $\mu\text{m}$ ) region (b) near-IR (0.7 - 1.3  $\mu\text{m}$ ) region  
(c) short wave-IR (1.3 - 2.7  $\mu\text{m}$ ) region (d) None of these
3. In geographic coordinate system  $1^\circ$  at equator is equivalent to: CO1- U  
(a) 43 (b) 78 (c) 111 (d) 102
4. Vegetation with more chlorophyll will reflect more: CO1- U  
(a) Ultraviolet energy (b) Emitted energy  
(c) near infra red (d) Thermal infrared
5. In Hyperspectral remote sensing the EM Spectrum is: CO1- U  
(a) Continuous (b) Discontinuous (c) Discrete (d) None of the above

PART – B (5 x 3= 15Marks)

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|-----|--|--------|
| 6.  | What do you mean by atmospheric scattering?          | CO1 -U |
| 7.  | What do you mean microwave sensors?                  | CO1 -U |
| 8.  | What do you mean multispectral image classification. | CO1 -U |
| 9.  | What do you mean Non Spatial data?                   | CO1 -U |
| 10. | What do you mean attribute data analysis?            | CO1- U |

PART – C (5 x 16= 80 Marks)

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|-----|---|----------|------|
| 11. | (a) Identify the key features of spectral reflection characteristics.                     | CO3- App | (16) |
|     | Or  |          |      |
|     | (b) Assess the importance of EMR and its interaction.                                     | CO3- App | (16) |
| 12. | (a) Explain the context of sun synchronous and geosynchronous in detail.                  | CO1- U   | (16) |
|     | Or  |          |      |
|     | (b) Explain the context of active and passive sensors in detail.                          | CO1- U   | (16) |
| 13. | (a) Interpret the concept of Digital image processing in detail.                          | CO3- App | (16) |
|     | Or  |          |      |
|     | (b) Demonstrate the salient features of preprocessing in detail                           | CO3- App | (16) |
| 14. | (a) Explain the various map analysis in detail.   | CO1- U   | (16) |
|     | Or  |          |      |
|     | (b) Explain the various methods for GIS interpretation.                                   | CO1- U   | (16) |
| 15. | (a) Explain briefly about data compression in GIS.  | CO1- U   | (16) |
|     | Or  |          |      |
|     | (b) Explain briefly about Economic appraisal of housing and plotted development projects. | CO1- U   | (16) |