

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

COLLEGE OF ENGINEERING, ANNA UNIVERSITY
END SEMESTER EXAMINATION, APRIL / MAY 2011
GI 9151 REMOTE SENSING

Time: 3 hours

Maximum marks: 100

PART A (10 X 2 = 20 marks)

Answer ALL questions

23

1. Define Remote sensing in your words
2. List the different EM regions with wavelength range
3. Define Atmospheric windows
4. When Mie Scattering will occur in atmosphere?
5. What do you infer from energy balance equation regarding RS
6. Why Remote Sensing most often measures diffuse reflectance properties of features?
7. Why we need multispectral image?
8. List any four satellite sensors with spatial resolution
9. What is advantage of unsupervised classification?
10. Differentiate passive remote sensing from active remote sensing

PART B (5 X 16 = 80 marks)

11. (i) Bring out the inter relationship between wavelength (λ), frequency (ν), Radiant energy (E), Temperature (T) and Radiant emittance (W) with appropriate formula. (10)
(ii) Describe the components of Remote sensing with sketch (6)
12. (a) Explain in detail about main atmospheric regions and its characteristics
(OR)
(b) Discuss about atmospheric effects on visible, infrared, thermal and microwave spectrum
13. (a) (i) Write about the fundamental EMR interaction with earth features considering energy balance equation (10)
(ii) Describe the spectral signature concept (6)
(OR)
(b) (i) Discuss about typical signature curves for vegetation, Water and soil (10)
(ii) List the factors affecting spectral reflectance of Vegetation, Soil and water (6)
14. (a) (i) Describe the resolution concepts of satellite sensors (8)
(ii) Explain scanners in satellite sensors (8)
(OR)
(b) (i) Explain principles and applications of micro wave remote sensing (10)
(ii) Write the applications of Thermal infrared sensors (6)
15. (a) Write the guidelines to order the satellite data products
(OR)
(b) Explain the basic elements of interpretation with examples