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B.E / B.Tech (Full Time) DEGREE END SEMESTER EXAMINATIONS, APRIL 2014

GEO INFORMATICS ENGINEERING

EIGHTH SEMESTER

GI 9030 REMOTE SENSING & GIS FOR AGRICULTURE AND FORESTRY

(Regulation 2008)

Time : 3 Hours

Answer ALL Questions

Max. Marks 100

PART-A (10 x 2 = 20 Marks)

1. What is vegetation Index? Write its significance.
2. List the applications of microwave RS in agriculture.
3. Write the limitations of remote sensing for soil mapping.
4. Draw neatly the spectral signature curve for dry and moisture soil.
5. List the purposes of land evaluation.
6. Write the disadvantage of water logging.
7. What is land degradation?
8. Define Hazard, Disaster and Risk.
9. List the factors that cause forest degradation?
10. List the forest types which are in Tamil Nadu.

Part – B (5 x 16 = 80 marks)

11. i) Explain in detail about factors affecting the optical properties of leaves. (8)
ii. Write notes on hyper spectral remote sensing for crop inventory. (8)
12. a) i) Explain the soil factors that influence the soil reflectance. (10)
ii) Write the different types of soil survey methods with its purposes. (6)
OR
b) Discuss about the assessment of soil erosion using remote sensing and GIS with case study (16).
13. a) i) Explain the different methods of land evaluation for agriculture. (10)
ii) Write Short notes on Saline and alkaline soils.(6)
OR
b) i) Discuss about the decision support system for optimal land use planning.(10)
ii) Describe the Land use / Land cover classification system. (6)

14. a) i) Explain the methodology for assessing crop damage due to flood using remote sensing and GIS.(10)
ii) Write about remote sensing capabilities for Drought Management. (6)

OR

- b) Explain the concept of Thermal Crop Water Stress Indices using remote sensing.(16)

15. a) i) Discuss about the Joint Forest Management (JFM) and the remote sensing role in JFM. (10)
ii) Suggest the forest fire prevention mechanism in high risk zone.(6)

OR

- b) i) Explain the procedure to identify and mapping of forest fire using remote sensing. (10)
ii) Suggest your idea to conserve the natural forest (6)