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

GEO INFORMATICS ENGINEERING

FIFTH 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. Name the EMR useful for Agricultural Remote Sensing?
2. Differentiate hyper spectral from multispectral remote sensing.
3. Draw neatly the spectral signature curve for dry and moisture soil.
4. Write the size of soil particle of clay, silt and sand.
5. What is precision farming?
6. What is sustainable agriculture?
7. List the ill effects of water logging.
8. What are the factors that cause forest degradation?
9. List the types of forest file.
10. What is meant by forest stock map?

Part – B (5 x 16 = 80 marks)

11. i) Explain the procedure to estimate crop acreage and production estimate. (8)
ii. Write notes on various vegetation indices and their significant.(8)
12. a) i) Explain the soil factors that influence the soil reflectance. (8)
ii) Write about soil genesis and classification.(8)

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)

P.T.O.

14. a) i) Explain the remote sensing contributions to Drought Assessment. (10)
ii) Write about Thermal crop water stress index. (6)

OR

- b) i) Explain the Application of remote sensing for identifying crop stress. (8)
ii) Write the role of remote sensing for assessing damage by pest and disease.(8)

15. a) Discuss methodology for afforestation, Deforestation and Encroachment mapping of forest using remote sensing and GIS. (16)

OR

- b) i) Explain the procedure to timber volume estimation using remote sensing. (10)
ii) Suggest your idea to the sustainable development of forest. (6)