B.E., (Full Time) DEGREE END SEMESTER EXAMINATION, November/December 2011

GEOINFORMATICS ENGINEERING

SEVENTH SEMESTER (REGULATION 2008)

GI 9027 REMOTE SENSING AND GIS FOR ENVIRONMENTAL MONITORING

Time: 3 hrs Max. Mark: 100

Answer ALL Questions

Part – A (10 x 2 = 20 Mark)

1. Write the break up of per capita domestic water demand
2. What are all the methods used in Suspended minerals estimation?
3. A hilly terrain is having a monthly average precipitation of 30 cm. Estimate its annual run off using Inglish formula.
4. What is the significance of soil salinity
5. What is soil erosion and how will you estimate it?
6. What is non point source pollution?
7. List the habitat classification in land use and Land Cover map preparation
8. Write short notes on direct method of fish detection
9. Differentiate Environmental lapse rate and adiabatic lapse rate
10. List the types of atmospheric stability and the significance of each type in dispersion of air pollutants

Part – B (5 x 16 = 80 Mark)

11. (i) Explain about the characteristics of Water and its estimation (8 marks)
    (ii) Discuss about Runoff Estimation (8 marks)

12. (a) (i) Discuss about Soil Classification (8 marks)
    (ii) Write about the spectral reflectance of soil and vegetation (8 marks)

OR

12 b) (i) Explain about soil degradation assessment using Remote Sensing and GIS (8 marks)
    (ii) Discuss about the application of RS and GIS in solid waste management (8 marks)

13 a) (i) Write in detail about vegetation stress monitoring using Remote Sensing (8 marks)
    (ii) How the Remote Sensing is useful for Wild life studies and explain it. (8 marks)

(OR)

13. b) (i) Discuss about Land use and Land cover map preparation using RS (8 marks)
    (ii) Write about the Remote Sensing application of Forest conservation (8 marks)

14. a) Write about the Sensors used for Environmental Monitoring (16 marks)

(OR)

14. b) (i) Discuss about the RS application in Oil Slick Mapping (8 marks)

(ii) Write about the Chlorophyll detection and estimation using RS (8 marks)

15 a) (i) Discuss about Gaussian Dispersion model for Air Pollution (8 marks)

(ii) A Chimney with a design stack height of 250 m is emitting sulphur dioxide at a rate of 500 g/s on a sunny day in June with moderate wind speed at the stack altitude. Estimate the concentration of sulphur dioxide downwind for the following conditions.

(a) (Pso_2) (1000,0,0,250)
(b) (Pso_2) (1000,50,0,250)

(8 marks)

(OR)

15. b) i) Discuss about Plume Behaviour (8 marks)

ii) Explain about the influence of meteorology in Air pollution Studies (8 marks)