B.E., (Full Time) DEGREE END SEMESTER EXAMINATION, November/December 2013

GEOINFORMATICS ENGINEERING

SEVENTH SEMESTER (REGULATION 2008)

GI 9027 REMOTE SENSING AND GIS FOR ENVIRONMENTAL MONITORING

Time: 3 hr   Max. Mark: 100

Answer ALL Questions

Part – A (10 x 2 = 20 Mark)

1. Write the breakup of Indian per-capita water consumption

2. A City is having a population of 3 lakhs. Calculate its fire demand using National Board of Fire and Writers formula.

3. How will you identify contaminated soil from satellite Imagery?

4. Write about the soil horizon

5. List the Soil Moisture regimes

6. What is Biodiversity?

7. Draw the spectral curve of stressed vegetation due to water.

8. What is ground truth site? How will you select it?

9. Draw the sketch of Wind Rose diagram.

10. Write the assumptions of Gausian Dispersion Model.

Part – B (5 x 16 = 80 Mark)

11. (i) Write in detail about RS and GIS applications in Oil Slick Mapping.   (8 marks)

    (ii) Explain about the satellites used for monitoring the environment   (8 marks)

12. (a) (i) Elaborate about the characteristics of water   (8 marks)

    (ii) Discuss in detail about spectral responses of clear and contaminated water   (8 marks)

OR

12 b) Write in detail about Run off Estimation. What is the role of RS and GIS in run off estimation?

(16 marks)

13. a) (i) Explain about soil Erosion   (8 marks)

    (ii) Draw EMR responses of contaminated soil and explain it.   (8 marks)

(OR)

13 b) Write the application of RS and GIS for collection and transport of solid waste   (16 marks)

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14. a) (i) Explain about the Eco System (8 marks)

(ii) Brief about the role of RS and GIS in wild life studies (8 marks)

(OR)

14. b) Discuss in detail about vegetation stress and the application of RS and GIS in its

Identification (16 marks)

15 a).(i) Brief about Air Pollution Dispersion Models (12 marks)

(ii) A Chimney with a design stack height of 250 m is emitting sulphur dioxide at a
of 500 g/s on sunny day in June with moderate wind speed at the stack altitude.
Estimate the concentration of sulphur dioxide downwind for (Pso_2) (1000,0,0,250)

σ_y . 560 m

σ_z - 535 m

(4 marks)

(OR)

15. b) Write a case study of air quality monitoring using RS and GIS (16 marks)