B.E., (Full Time) DEGREE END SEMESTER EXAMINATION, April/May 2014

GEOINFORMATICS ENGINEERING

SIXTH 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 Lacey's formula for run off estimation
2. Calculate fire demand of a city having population of 9 lakhs.
3. Write about Ombrothermic Diagram and its uses.
4. What is Pedon and Polypedon?
5. Write the factors affecting solid waste generation.
6. What is Competition in Eco system? List its type
7. List the habitat classification in land use and Land Cover map preparation
8. List the Sensors used for temperature monitoring in Sea
9. Write about atmospheric stability and its significance.
10. Differentiate Legrangian and Eulerian Dispersion Models

Part – B (5 x 16 = 80 Mark)

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

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

12. (a) (i) Explain about water quality assessment (8 marks)

    (ii) Write about suspended mineral estimation from water (8 marks)

OR

12 b) Elaborate about flood prediction models and role of RS and GIS in flood prediction (16 marks)

13. a) i) Write about Solid Waste Management and the role of RS and GIS in it (6 marks)

    (ii) Solid waste from a new industrial town is to be collected in drop boxes, some of which will be used in conjunction with stationary compactors. Based on traffic studies it is estimated that the average time to drive from the garage to the first container location and from the last container location to the garage each day will be 20 and 25 minutes respectively. If the average time required to drive between containers is 5 minutes and the haul distance to the disposal site is 20 km, determine the number of containers that can be emptied per day, based on an 8 h workday. Assume suitable off-route factor. (10 marks)

(OR)

13 b) (i) Brief about Taxonomical classification of soil (8 marks)

(ii) Write about the impact of agricultural and industrial activities on soil properties (8 marks)

14. a) (i) Discuss about Land use and Land cover map preparation using RS and GIS (8 marks)

(ii) Write about the Remote Sensing application of Forest conservation (8 marks)

(OR)

14. b) (i) Write in detail about vegetation stress monitoring using Remote Sensing (8 marks)

(ii) Discuss about RS application in Wild life Management. (8 marks)

15. a) (i) Discuss about Gausian Dispersion model **(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)**

σ_y - 560 m

σ_z - 535 m

(OR)

15. b) (i) Write about Air Pollution Sampling and Control **(8 marks)**

(ii) Write short notes about plume behaviour and its significance **(8 marks)**