B.E./B.Tech. (Full Time) DEGREE END SEMESTER EXAMINATIONS, NOV/DEC 2013

Geoinformatic Engineering

EIGHTH SEMESTER - (Regulation 2008)

GI 9028 REMOTE SENSING AND GIS FOR URBAN AND REGIONAL PLANNING

Time : 3 Hours   Maximum Marks: 100

Answer ALL questions

PART A – (10 X 2 = 20 marks)

1. What are the applications of band ratioing in urban mapping and planning?

2. Define texture. List any two urban features that can be identified by texture.

3. Write the criterion used to identify a settlement as a urban area by census of India.

4. List the landuse/landcover classes used in regional mapping.

5. What are the objectives of a Master Plan?

6. List the contents of Detailed Development Plan.

7. Define Housing Typology.

8. How remote sensing can help in land valuation?

9. What is an expert system?

10. Write the applications of Urban Environment Models in Planning and Management of urban areas.

PART B – (5 X 16 = 80 marks)

11(a) (i) Explain various interpretation elements used in visual interpretation of medium   10
resolution satellite images. Mention two examples for each element.

(ii) Describe the characteristics of settlements on satellite imagery.   6

12(a) Describe various methods used for detecting changes in urban landuse from   16
satellite imagery with their advantages.

(OR)

(b)   (i)What is Urban Heat Island? How remote sensing helps in mapping and analyzing urban heat island?   10

    (ii)Describe the physical and spatial characteristics of slum on medium and high resolution satellite imagery.   6

13(a)   What are the objectives of a Regional Plan? Explain the process of regional planning with possible input from remote sensing data.   16

(OR)

(b)   (i)Chennai Corporation wants to identify a suitable site for disposal its solid waste in the peri-urban area. Describe the use of remote sensing and GIS in this process.   8

    (ii)What is utility planning? With a case study describe the use of GIS in utility planning.   8

14(a)   Explain step-by-step procedure involved in analysis of water demand in a ward of Chennai. How remote sensing and GIS will help in the analysis?   16

(OR)

(b)   (i)Explain various applications of Census in Urban Planning and Management.   8

    (ii)Define Urban Renewal? Discuss the process of Urban Renewal with a note on parameters used to identify the locations requiring urban renewal. Identify the use of remote sensing in mapping such parameters.   8

15(a)   Explain various steps involved in development of a urban growth model. How do you calibrate and validate the model?   16

(OR)

(b)   (i)Explain the working principle of ALTM with a neat sketch.   8

    (ii)Discuss any two applications of 3D city models in detail.   8