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B.E./B.Tech. (Full Time) DEGREE END SEMESTER EXAMINATIONS, MAY 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. Write the relationship between Scale and Resolution of spatial data in the context of urban planning.
2. List the limitations of Remote Sensing in urban and regional planning applications.
3. How do you define slums on medium resolution satellite imagery?
4. What are the advantages of hyperspectral remote sensing in urban and regional planning?
5. List the contents of Regional Plan.
6. What are the objectives of Detailed Development Plan?
7. Define Urban Renewal.
8. List various applications of GIS in Urban Planning and Management.
9. Write the role of GIS as a Planning Support System.
10. What are the advantages of ALTM over conventional methods?

PART B – (5 X 16 = 80 marks)

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| 11(a) | (i) Discuss various digital image processing techniques available for remote sensing data and their relevance in urban and regional planning. | 10 |
| | (ii) What is Texture based analysis? Discuss its advantages over tone based analysis. | 6 |
| 12(a) | What is the objective of temporal mapping? Describe various methods used for temporal mapping of urban areas from satellite imagery. | 16 |

(OR)

- (h) (i) Discuss the parameters used for delineation of Urban Area. Write the limitations in this process. 10
- (ii) Describe the physical and spatial characteristics of CBD area on medium and high resolution satellite imagery. 6
- 13(a) CMDA is in the process of preparing Master Plan for Chennai Metropolitan Area. Discuss the objective and contents of such plan. Indicate the use of Remote Sensing and GIS in master plan formulation. 16
- (OR)
- (b) (i) Discuss the utility of GIS in planning and management of Electric Distribution Network of TNEB. 10
- (ii) Describe the contents of typical Urban Information System. 6
- 14(a) Explain the process of estimating population from Satellite Imagery. Discuss the importance of various parameters considered in the process and limitations of the estimation. 16
- (OR)
- (b) (i) Define Urban Sprawl? Discuss various methods used to map and quantify urban sprawl using satellite imagery. 10
- (ii) What is tax mapping? How Remote Sensing and GIS help in tax assessment and collection of Chennai city? 6
- 15(a) Describe the step by step of process of Urban Growth Modelling. 16
- (OR)
- (b) (i) Discuss any four applications of 3D city model in urban planning and management. 12
- (ii) What is expert system? How does it improve the efficiency of urban and regional planning? 4