

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

B.E./B.Tech. (Full Time) DEGREE END SEMESTER EXAMINATIONS, APRIL/MAY 2011

Geoinformatic Engineering Branch

FIFTH SEMESTER

GI 9028 REMOTE SENSING AND GIS FOR URBAN AND REGIONAL PLANNING

(Regulation 2008)

34

Time : 3 Hours

Maximum Marks: 100

Answer ALL questions

PART A – (10 X 2 = 20 marks)

1. Write the limitations of Remote Sensing for Urban Planning.
2. What is the need of automatic feature extraction in urban context?
3. List the characteristics of urban fringe on medium resolution satellite imagery.
4. Define Urban Heat Island.
5. What is the objective of Detailed Development Plan?
6. List the advantages of Client based Architecture for Web GIS.
7. Define Urban Renewal.
8. Write any four applications of Housing Typology analysis.
9. Differentiate planning support systems from expert systems.
10. What is 4D GIS?

PART B – (5 X 16 = 80 marks)

- 11(a) (i) Explain the working principle of Laser Mapping with neat sketches. What are the advantages of laser mapping over other mapping techniques? 8
- (ii) Describe the techniques used to generate 3D city models. Write about any two applications of 3D city model. 8
- 12(a) Explain various preprocessing techniques used for digital image analysis of satellite imagery. 16
- (OR)
- (b) (i) How scale and resolution are related? Describe various scales and resolutions used for Regional and Urban Plans. 4
- (ii) Write the characteristics of settlements on small scale satellite imagery 4
- (iii) What is Visual Interpretation Key? Explain different types of visual interpretation keys with their advantages 8
- 13(a) Explain with a case study, the use of Remote Sensing and GIS in Solid Waste Management Planning of an urban area. 16
- (OR)
- (b) (i) Explain typical contents of Urban Information System. 6
- (ii) How an effective regional plan achieves sustainability? Write about the use of remote sensing and GIS in sustainable regional planning. 10

14(a) What is census estimation? Explain different methods used for census estimation with a note on their application. 16

(OR)

(b) (i) How Remote Sensing and GIS helps in tax mapping? 6

(ii) What are the factors considered in a typical land suitability analysis? How remote sensing can help in deriving those parameters. 10

15(a) Why do you require temporal mapping of urban areas? Explain different methods of quantifying changes in urban areas. 16

(OR)

(b) (i) Describe physical structure and composition of urban areas. 6

(ii) What are the advantages of hyperspectral remote sensing over conventional remote sensing? 6

(iii) Write are characteristics of slums on remote sensing imagery. 4
