Roll No. | | | | | | | | | | |

B.E. (Part Time) End Semester DEGREE EXAMINATION, APRIL / MAY 2011

Elective / Civil Engineering

PTCE 051 – PRINCIPLES OF REMOTE SENSING

(Regulation 2002)

Time: 3 Hours | Answer ALL Questions | Max. Marks 100

PART-A (10 x 2 = 20 Marks)

1. What is multi-concept in Remote Sensing?
2. List various radiation sources.
3. Write the composition of atmosphere.
4. Define a Lambertian surface.
5. What are the orbital characteristics of IRS 1C?
6. Differentiate Sun synchronous and Geo synchronous satellites.
7. What is a CCD?
8. List the applications of thermal scanners.
9. Write the advantages of microwave sensors over optical sensors.
10. What are the applications of Scatterometry?

PART B – (5 X 16 = 80 marks)

11(a) (i) What is RADAR Equation? Derive Radar Equation from basics. 8

(ii) Define Interferometry. Explain various applications of interferometry. 8

12(a) Define Remote Sensing. Explain with a neat sketch, the components of a typical remote sensing system. 16

(OR)

(b) (i) What is Resolution? Explain various resolutions in Remote Sensing 8

(ii) Describe the merits and demerits of Remote Sensing over conventional methods. 8

13(a) What is scattering? Explain different types of scattering with their significance in Remote Sensing. 16

(OR)

(b) (i)Define spectral signature. Draw the spectral signature for vegetation and soil 8

(ii)Describe different factors affecting the spectral reflectance of materials. 8

14(a) Explain the orbital, sensor characteristics of CARTOSAT 16

(OR)

(b) (i) Describe any one launch vehicle used for launching remote sensing satellite. 7

(ii) Write a short note on i) Repeativity ii) Land coverage iii) stereovision capability 9

15(a) With a neat sketch, explain the working principle of thermal infrared scanner 16

(OR)

(b) (i)Write a short note on RBV. 6

(ii)Explain different methods used for calibration of thermal sensors. 10