B.TECH. CIVIL ENGINEERING (BTCLEVI)

Term-End Examination

June, 2013

BICE-006 : GEOINFORMATICS

Time : 3 hours   *Maximum Marks : 70*

Note : *Attempt **any seven** questions. All questions carry **equal** marks.*

1. (a) What is stereoscopy ? Discuss its types in   5
        detail.

    (b) Two points A and B having elevation of   5
        400 m and 200 m respectively above datum
        appear on the vertical photograph having
        focal length of 20 cm, and flying altitude of
        2000 m above datum. Their corrected
        photographic co-ordination are as follows :

	x (cm)	y (cm)
a	+ 2.75	+ 1.39
b	− 1.80	+ 3.72

    Determine the length of the ground line AB.

2. What are the elements of Air Photo Interpretation ?   10
    Discuss the factors that assist Air Photo
    Interpretation.

3. Explain the following in detail :   5x2=10
   (a) Resolution of a sensor
   (b) Orbit of a satellite

4. (a) What is spectral reflectance curve ? Explain   5
       in detail with a neat sketch.
   (b) Write a detailed note on applications of   5
       remote sensing.

5. Write in detail about Image rectification and   10
   Image enhancement techniques.

6. What do you understand by spatial data and   10
   attribute data ? How are they integrated to make
   GIS ?

7. How many satellites must be visible in order to   10
   determine 3-D positions correctly ? Explain how
   the distance from the satellite to the GPS receiver
   is determined with a suitable sketch.

8. Discuss the factors which affect the GPS satellite   10
   signals in detail.

9. (a) Write the process of digitization. What are   5
       the errors introduced while digitizing ?
   (b) Discuss the advantages of GIS over other   5
       methods in detail.

10. Write a detailed note on *any two* :   2x5=10
    (a) Buffer operation
    (b) Ideal remote sensing
    (c) Characteristics of Photographic Images.