

**B.Tech. CIVIL ENGINEERING (BTCLEVI)**

**Term-End Examination**

00113

**December, 2018**

**BICE-006 : GEOINFORMATICS**

*Time : 3 hours*

*Maximum Marks : 70*

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*Note : Attempt any **seven** questions. All questions carry equal marks. Use of scientific calculator is permitted.*

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1. (a) Discuss the different types of overlaps and state their purposes in aerial photography. 5
- (b) Explain the utilization of relief displacement in photogrammetry. 5
2. (a) What is stereoscopy ? Discuss in detail. 5
- (b) Two points A and B having elevation of 400 m and 200 m respectively above the datum appear on the vertical photograph (as A and B respectively) having focal length of 20 cm and flying altitude of 2000 m above the datum. Their corrected photographic co-ordinates are as follows :

Photographic point	Co-ordinates	
	x(cm)	y(cm)
A	+ 2.75	+ 1.39
B	- 1.80	+ 3.72

Determine the length of the ground line AB. 5

3. Discuss in detail the interaction mechanism of electromagnetic radiation with a target on the Earth's surface, with suitable sketches. 10
4. Write short notes on the following : 2×5=10
  - (a) Orbit of a Satellite
  - (b) Remote Sensing Observation Platforms
5. (a) Explain different spectral enhancement techniques. 5
  - (b) Discuss land use and land cover classification systems. 5
6. (a) What are GPS positioning types ? Explain. 5
  - (b) Discuss the factors which affect GPS Survey. 5
7. Write a detailed note on GPS receiver and its components. 10

8. What do you understand by GIS ? Describe the various applications of GIS in Civil Engineering. 10
9. Explain the process of digitization in GIS. What are the errors introduced while digitizing a map in GIS ? 10
10. Write short notes on any *four* of the following :  $4 \times 2 \frac{1}{2} = 10$
- (a) P(Y) – Code in GPS
  - (b) METADATA in GIS
  - (c) Radiometric Corrections in Digital Image Processing
  - (d) Spatial Resolution
  - (e) Overlap
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