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B. TECH.

THEORY EXAMINATION (SEM–IV) 2016-17

GEOINFORMATICS

Time : 3 Hours ***Max. Marks : 100***

Note : *Be precise in your answer. In case of numerical problem assume data wherever not provided.*

SECTION-A

1 **Explain the following :** **(10×2=20)**

a) Stereoscopy
b) Relief Displacement
c) Parallax
d) Active Remote Sensing
e) Passive Remote Sensing
f) Flight Planning
g) Sun-synchronous Satellites
h) Geo-synchronous Satellites
i) Resolution
j) Spectral Reflectance Curve

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SECTION-B

2 **Attempt any five of the following :** **(10×5=50)**

a) Derive an expression for the scale of a vertical photograph. Explain how the ground coordinates and the distances can be obtained from a vertical photograph.

b) Define relief. Derive an expression for the displacement due to ground relief.

c) Two consecutive photographs were taken with a camera of focal length 37.5 cm, at a height of 7200 m. The overlap was exactly half and the prints were 22.5 cm X 22.5 cm. The height was same for both the exposures and the aircraft flew on even peel with no drift. The ground was flat at approx. 2500 m above m.s.l. Determine the scale of the photograph and the length of the airbase.

d) How will you extract information from an aerial photograph? Explain.

e) What is a satellite image? Write short note on characteristics and formats of satellite image.

f) What do you understand by 'Image Enhancement'? Explain with reference to the Satellite Remote Sensing.

g) What do you understand by Land Use / Land Cover Classification? Explain.

h) What is GIS? What are the applications of GIS? Explain in detail.

SECTION-C

Attempt any two of the following : **(15×2=30)**

3. Explain the various segments of GPS.
4. Differentiate between kinematic and differential GPS.
5. How has GPS revolutionized our life? Explain..

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