

(Following Paper ID and Roll No. to be filled in your Answer Books)

Paper ID : 100410

Roll No.

**B.TECH.**

**Theory Examination (Semester-IV) 2015-16**

**GEOINFORMATICS**

*Time : 3 Hours*

*Max. Marks : 100*

**Section-A**

**Q.1 Attempt all parts. All parts carry equal marks. Write answer of each part in short. (2×10=20)**

- (a) Give any three advantages that an aerial photograph offers over ground based observations.
- (b) How is an aerial photograph taken?
- (c) What do you understand by remote sensing?
- (d) Define spectral reflectance curve and what are its utilities in remote sensing?
- (e) Write short notes on orbital calendar and spatial resolution.

- (f) What is resolution of a sensor?
- (g) How can you classify raster data?
- (h) What do you understand by spatial data model?
- (i) Define image histogram.
- (j) Give the functions GPS satellite signals.

### Section-B

**Q2. Attempt any 5 questions from this section.**

**(10×5=50)**

- (a) Elaborate the two major uses of an aerial photograph.
- (b) Illustrate the fundamentals of aerial photo-interpretation.
- (c) Explain the methodologies of remote sensing data analysis.
- (d) Elaborate the relative advantages of using aerial photos and satellite images over products of conventional survey.

- (e) What are the advantages and disadvantages of various remote sensing platforms?
- (f) What things can be represented by point, line and polygon? Explain topological data model to represent area.
- (g) What are the limitations of GIS?
- (h) Explain the functions of GIS.

### Section-C

**Note: Attempt any 2 questions from this section. (15×2=30)**

- Q3. a) Explain in detail about the characteristics of photographic images.
- b) Discuss on the spectral reflectance characteristics of water and vegetation in spectral bands.
- Q4. a) Explain image referencing system.
- b) Explain the concept of object-oriented data model applied in GIS.

- Q5. a) Explain topological model of vector data.
- b) Discuss in detail about the following terms:
- (i) GNSS
  - (ii) GPS
  - (iii) GLONASS
  - (iv) GALILEO

