(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