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SE-8264

B. E. (Sem. V) (Civil) Examination

May / June – 2011

Disaster Assessment by Use of Geospatial Techniques

Time : **3** Hours] [Total Marks : **100**

Instructions :

(1)

નીચે દર્શાવેલ ☛ નિશાનીવાળી વિગતો ઉત્તરવહી પર અવશ્ય લખવી.
Fillup strictly the details of ☛ signs on your answer book.

Name of the Examination :

☛ **B. E. (Sem. 5) (Civil)**

Name of the Subject :

☛ **DISASTER ASSESSMENT BY USE OF GEOSPATIAL TECH.**

☛ Subject Code No. : **8 2 6 4** ☛ Section No. (1, 2,.....) : **Nil**

Seat No. :

Student's Signature

(2) Figures to the right indicate full marks.

(3) Explain with neat sketche, if needed.

(4) Assume missing data suitable with appropriate remarks.

1 (a) Explain the following : **6**
Raster and Vector Data
Analog and Digital Image
Spatial and temporal resolution
resolution

(b) Explain the applications of remote sensing and how it is useful in damage assessment due to floods. **7**

(c) Draw spectral reflectance curve to show the reflectance characteristics of vegetation clear water and soil. **7**

2 (a) Explain the overlay operation in a GIS software. **7**
Explain with sketches the following :
(i) Point in polygon overlay
(ii) Line on polygon overlay.

OR

2 (a) Draw a flow chart showing various processes involved in digital image processing from capturing data to getting output. Explain the various processes. **7**

(b) Explain the concept of polar, inclined, equatorial and geostationary satellites. State the utility of geostationary satellite. 8

3 Write short notes on any **three** of the following : 15
(i) Linking of attribute and spatial data in GIS software
(ii) Temporal and spectral resolution
(iii) Use of remote sensing in natural hazards
(iv) Relational and object oriented data model.

4 (a) Define the following : (any **five**) 10
(i) Quanta
(ii) Wavelength
(iii) Mie Scattering
(iv) Specular reflection
(v) Image interpretation
(vi) Orbit
(vii) Nadir.

(b) Briefly explain remote sensing process. 5

(c) Explain hemospherical absorpance, transmittance and reflectance. 6

OR

(c) What are the considerations for an ideal remote sensing system ? 6

5 (a) What are the advantages and disadvantages of various sensing platform ? 6

(b) Write short notes on following : (any **two**) 6
(i) Pasive remote sensing
(ii) Swath
(iii) IRS Series.

(c) Briefly explain on Indian space program. 8

6 (a) What do you understand by digital image ? What is pixel ? 4

(b) Explain along - track scanning in remote sensing. 5

OR

(b) Explain short note on Landsat. 5
