



Name :

Roll No. :

Invigilator's Signature :

CS/B.Tech/ECE/SEM-8/EC-804D/2013
2013
REMOTE SENSING

Time Allotted : 3 Hours

Full Marks : 70

The figures in the margin indicate full marks.

*Candidates are required to give their answers in their own words
as far as practicable.*

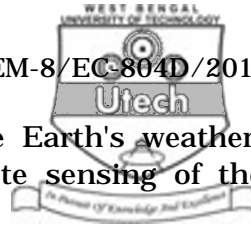
GROUP – A
(Multiple Choice Type Questions)

1. Choose the correct alternatives for any *ten* of the following :
 $10 \times 1 = 10$

- i) Remote sensing is the non-contact recording of information from the
 - a) ultraviolet region
 - b) visible region
 - c) infrared and microwave region
 - d) all of these.
- ii) GIS stands for
 - a) General Information System
 - b) Greyscaling Information System
 - c) Geographic Information System
 - d) GSAT Information System.



- iii) In thermal remote sensing, sensors record objects emitted energy. How much energy is radiated can be expressed by
- a) Plank's law
 - b) Stefan-Boltzmann law
 - c) Snell's law
 - d) Kepler's third law.
- iv) Imaging and non-imaging is related to
- a) active microwave sensors
 - b) passive microwave sensors
 - c) both active and passive microwave sensors
 - d) none of these.
- v) Remote sensing is the techniques of acquiring raster data means
- a) spectral
 - b) spatial
 - c) physical
 - d) all of these.
- vi) Which of the following is not GIS packages ?
- a) MapInfo
 - b) ArcGIS
 - c) Netscape
 - d) Idrisi 32.
- vii) Which technology can be used for day or night data collection ?
- a) RADAR
 - b) LIDAR
 - c) Photogrammetry
 - d) SONAR.
- viii) To replace film-based aerial cameras, enabling small, medium or large-scale mapping we use
- a) metric cameras
 - b) stereometric cameras
 - c) digital metric cameras
 - d) amateur cameras.



- ix) To obtain the information about the Earth's weather, what type of satellites use for remote sensing of the Earth ?
- Meteorological satellites
 - Oceanographic satellites
 - Terrestrial satellites
 - None of these.
- x) Which of the following is not an example of spatial data ?
- Lines showing the routes of linear objects
 - Times of particular events
 - Points showing location of discrete objects
 - Polygons showing the area occupied by a particular landuse or variable.
- xi) Which of the following is not a method of energy scattering in the atmosphere ?
- Rayleigh scattering
 - Mie scattering
 - Non-selective scattering
 - Amalgamated scattering.
- xii) The internal geometry of a digital camera is defined by specifying
- only focal length
 - both focal length and pixel size of CCD
 - only pixel size of CCD
 - none of these.

GROUP - B

(Short Answer Type Questions)

Answer any *three* of the following. $3 \times 5 = 15$

2. What are the functions of GIS ? State some advantages of GIS. $3 + 2$



3. What are the parameters of remote sensors need to be considered in remote sensing system ? Why microwave is preferred for remote sensing ? 2 + 3
4. How does GIS perform spatial analysis of data ?
5. What do you understand by a digitizing of films ?
6. Differentiate between Global Noise and Local Noise. What is the use of Sigma Filter ?

GROUP - C

(Long Answer Type Questions)

Answer any *three* of the following. $3 \times 15 = 45$

7. Explain role of remote sensing to monitor land-use changes. What are the utilities of remote sensing in mapping science ? 8 + 7
8. What is the reason for unsuccessful GIS ? Explain the process in brief. What do you understand by multi-spectral remote sensing system ? What do you understand by “integration of multimedia and GIS” ? $(2 + 4) + 4 + 5$
9. What do you understand by image transformation ? What are the differences between supervised and unsupervised classification ? Explain the requirement and concept of PCT. 5 + 5 + 5
10. What do you understand by multiapproach of image analysis ? Explain role of remote sensing to monitor land-use changes. Explain the application of remote sensing in ocean and coastal monitoring. 4 + 5 + 6
11. Write short notes on any *three* of the following : 3×5
 - a) Thermal remote sensing system
 - b) Radargrammetry
 - c) ISODATA clustering
 - d) LIDAR
 - e) 3D representation of DEM.