

# QUESTION BANK

## GEOMATICS ENGINEERING

### 2 marks

- a) Define photogrammetry.
- b) What is the importance of parallax measurement?
  - c) What is Geodimeter used for?
- d) Define GIS.
- e) Define crab and drift.
- f) How does mosaic differs from a map?
- g) How is vertical angle measurement made with the help of Total Station?
- h) Draw schematic diagram of geodimeter.
- i) Name various sensors on board of Indian Remote sensing satellites (IRS)
- . j) Draw a schematic diagram of Generic GPS receiver

- a) what is an Angle of Parallax?
- b) Differentiate between Crab and Drift.
- c) What do you mean by Amplitude Modulation?
- d) What is the guiding principle behind Infrared Instruments?
- e) How do you INPUT data in GIS?
- f) What is Hierarchical Database structure?
- g) What are Geostationary Satellites?
- h) Why do you see sky orange or red at the time of sunrise and sunset?
- i) What is DGPS?
- j) For accurate position on the earth surface how many satellite should be in line?

Discuss various components of GIS.

- b) Enlist any two applications of Geodimeter.
- c) Write any two characteristics of Earth Resources Satellite
- d) Explain atmospheric windows.
  - e) Differentiate between a CAD Engine (Auto CAD etc.) and a GIS Software
- f) Discuss importance of projections in GIS.
- g) List kind of errors can occur in GIS.
- h) What is WGS-84?
- i) What is Ideal Remote Sensing?
- j) Write full form o/DGPS and TIFF

- a) If the distance between two identifiable points on the photo graph is 16 cm and on the map is 4 cm, calculate the photo scale if the map scale is 1:40,000.
- b) What are the factors that can affect the velocity of light through the atmosphere?
- c) Define remote sensing.

- d) Write the name of four different types of sensors for remote sensing.
- e) Write the purpose of using a prism in EDM.
- f) Compare between true colour and false colour composition in a satellite image.
- g) Define spectral resolution.
- h) Define radiometric resolution.
- i) Classify GPS receivers.
- j) Define crab in photogrammetry

### 5 Marks

- 2. Derive an expression to determine the elevation of a point by photographic measurement.
- 3. What are the various types of EDM instruments? Explain.
- 4. Write a note on remote sensing observation platforms.
- 5. How is Raster and Vector data represented?
- 6. Why is the GPS signal so complicated?

- 2. A vertical photograph is taken with a camera of focal length 350 mm from an elevation of 2500m above the ground. The terrain is nearly flat. What is the photo scale?
- 3. Explain various parts and applications of the Total Station.
- 4. What do you understand by across track scanning? Explain with neat diagram.
- 5. How GIS and RS can be useful in disaster mitigation and relief measures?
- 6. Discuss any two segments of GPS.

- 2. Write a short note on Aerial Camera with diagram.
- 3. Label various parts of a Electromagnetic Spectrum with neat diagram.
- 4. Write a short note on Indian Remote Sensing Satellite (IRS).
- 5. Discuss different components of GIS.
- 6. Write a short note on common ERRORS encounter during use of GPS.

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- 2. Describe the main components and the use of a photo-theodolite.
- 3. A photographic survey was carried out at a flying height of 4500 m. Focal length of the lens was 15 cm. The photographic plate size was 23 cm × 23 cm. The overlap along the direction of flight was 61%. Calculate the error in height measurement for an error of 0.1 mm in the parallax measurement.
- 4. Discuss in detail about Tellurimeter.
- 5. What is the physical basis of signature in the remote sensing? Discuss with the example of 4 different

earth's features.

6. Write notes on the followings:

Digital elevation model; attribute information.

### **8 Marks**

. Name and explain various parts of aerial camera. Also draw the schematic diagram of aerial camera.

8. Explain various types of Raster GIS Models.

9. Explain various segments of GPS System along with neat sketches.

The difference in parallax between a point living at sea level and another point on a higher ground is measured and found to be 4.20mm. The flying height is 2530m above sea level, the air base is 950m and the focal length of the camera is 210 mm. Determine the elevation of the point on the higher ground.

8. Explain National Reference Systems and Worldwide Reference ellipsoid.

9. Why atomic clocks are used in GPS surveys? Name and explain any two segments a GPS

what is Stereoscopic Fusion? Discuss various CLUES to Depth Perception.

8. Discuss in brief salient features of Meteorological satellites.

9. Describe in detail OVERLAY analysis of Raster data.

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