

CVM UNIVERSITY

M.Sc. (GEOINFORMATICS) Semester-I Examination-2021

Friday, 26th February – 2021

2:00 PM to 4:00 PM

101400103: PRINCIPLES OF REMOTE SENSING

Total Marks: 60

- Note:** (1) Attempt all questions.
(2) Figures to the right indicate marks.

Q1. Answer the following multiple choice questions. (08)

(a)

- (1) Synoptic view is the of Remote Sensing.
(a) disadvantage (b) application (c) advantage (d) all
- (2) The cone angle subtended by the portion of a spherical surface at the centre of sphere is known as :
(a) energy (b) radiance (c) power (d) solid angle
- (3) Example of Across track multispectral scanner is.....
(a) LISS (b) AVHRR (c) WIFS (d) HRV
- (4) In equation, IFOV = d / f , d stands for of imaging system.
(a) dice (b) drone (c) dimension of detector element (d) device
- (5) Which of the following is an Indian Satellite?
(a) SPOT (b) JERS (c) CARTOSAT (d) ASTER
- (6) Uncorrected radar imagery is displayed inrange geometry
(a) slant (b) ground (c) pulse (d) beam
- (7) indicates type of objects and their physical, biological, and cultural relationships.
(a) pixel (b) pattern (c) photo (d) pie
- (8) Which parameter is measured by using Microwave radiometers?
(a) brightness temperature (b) wavelength (c) frequency (d) none

(b) Answer the following (Fill in the blanks and True or False) (08)

- (1) If the signal is first emitted and then recorded it is.....remote sensing.
- (2) How close sensor measured data to a primary standard of radiance is the measure of accuracy.
- (3) The frequency range of S band is
- (4) refers to relative brightness or colour of objects in an image
- (5) Exitance means the flux density of radiant flux arriving at the surface. (True / False)
- (6) Map scale is the ratio of the distance measured on a map to that measured on the ground between the same two points. (True / False)
- (7) A microwave remote sensor records the backscattered waves in the wavelength

range of 1 mm to 1 m of electromagnetic spectrum. (True / False)

(8) Texture provide an idea of the profile and relative height of a target. (True / False)

Q2. Attempt any Six of the following. (12)

(1) What is Wein's displacement law? For the temperature of 6000°K, what would be the wavelength?

(2) Write Planks law of radiation and interpret each term.

(3) Write the features of SPOT.

(4) How swath width can be calculated?

(5) What is Speckle noise?

(6) List advantages and disadvantages of Passive Microwave remote sensing.

(7) What is the role of Stereoscopic ability in Image interpretation?

(8) Which factors govern interpretability of an Image?

Q3. Explain: EMR interaction with matter and Atmosphere. (08)

OR

Q3. What is Spectral reflectance curve? Explain in detail Spectral Signatures of soil, water and vegetation. (08)

Q4. Explain Across track and Along track multispectral scanning with neat diagram. (08)

OR

Q4. Define the term Resolution and explain its types in length. (08)

Q5. Write a note: Synthetic Aperture Radar (SAR). (08)

OR

Q5. What are the requirements of Laser used in LiDAR technique? Describe LiDAR technique in length with its advantages. (08)

Q6. Discuss the elements of Visual Image Interpretation. (08)

OR

Q6. Explain image interpretation keys with suitable example and flowchart. (08)
