



'সমানো মন্ত্র: সমিতি: সমানী'

**UNIVERSITY OF NORTH BENGAL**

B.Sc. Honours 6th Semester Examination, 2022

**CC14-GEOLOGY**

**REMOTE SENSING AND GIS**

Time Allotted: 2 Hours

Full Marks: 40

*The figures in the margin indicate full marks.*

1. Attempt any **five** of the following: 1×5 = 5
- (a) What is pixel?
- (b) Remote sensing techniques make use of the properties of\_\_\_\_\_ emitted, reflected or diffracted by the sensed objects:
- (A) Electric waves (B) Sound waves  
(C) Electromagnetic waves (D) Wind waves
- (c) A reduction of nitrogen nutrient in plants:
- (A) Affects leaf color (B) Reduces pigment concentration  
(C) Increase the visible reflectivity (D) All of these
- (d) Which one of the following statements is correct?
- (A)  $\pi$  radians equal to  $180^\circ$   
(B) The cone subtended by an area on the sphere at the centre, is called the solid angel  
(C) The solid angle is equal to the ratio of the area on the sphere and the square of the radius of the sphere  
(D) All of these
- (e) Which one of the following statements is correct?
- (A) During the day, earth reflects solar radiation  
(B) During the day, earth reflects both solar radiations the emission from its surface  
(C) During the night, earth emits radiation from its surface  
(D) All of these
- (f) The infrared portion of EMR lies between
- (A) 0.4 - 0.7  $\mu$  m (B) 0.5 mm to 1  $\mu$  m  
(C) 0.7 - 1.3  $\mu$  m (D) 0.7 to 14  $\mu$  m

- (g) What is lambertian surface?
- (h) What is panchromatic image?

2. Attempt any *three* questions, each question carry equal marks 5×3 = 15

- (a) What do you understand by active and passive remote sensing, explain with figures and examples.
- (b) What is GIS, and how is it helpful in Earth Sciences?
- (c) Explain about Raster and Vector data with figures.
- (d) What do you understand by Aerial photography, explain discussing following terms Vantage Point, types of cameras and filters?
- (e) What do you understand by spectral resolution of remotely sensed image?

3. Write essay on any *two* topics: 10×2 = 20

- (a) GPS
- (b) Applications of Remote Sensing
- (c) Story of Remote Sensing in India
- (d) Synoptically describe the errors associated with RS images.

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