B.Sc. Semester-VI Examination, 2022-23

FORESTRY [Honours]

Course ID : 63513 **Course Code : SH/FST/NR 3211**

Course Title : Geomatics

Time : 2 Hours Full Marks : 50

The figures in the right-hand margin indicate marks.

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

Section-A

I. Answer any **ten** from the following questions:

$1 \times 10 = 10$

a) What is remote sensing data?

b) ___ radiation is generally used in remote sensing technology.

c) What is meant by LiDAR?

d) The altitudinal distance of a geostationary satellite from the earth is about:

A) 26000 km

B) 36000 km

C) 40000 km

D) 30000 km

e) Write down the full from of NDVI?

f) Explain the ruster data structure.

g) The relation between velocity, wavelength and frequency can be given as _____

A) $\lambda = c / r$

B) $\lambda = c / f$

C) $\lambda = c / h$

D) $\lambda = h * c / f$

h) In visible region, the blue light is having a wave length range of _____

A) 0.42-0.52 micrometer

B) 0.24-0.52 micrometer

C) 0.42-0.92 micrometer

D) 0.22-0.32 micrometer

i) Describe Stefan-Boltzmann formula.

j) What do you mean by Rayleigh scattering?

k) Which of the following can act as an example for air-borne platform?

A) LISS-III

B) Dakota

C) MOS

D) LISS-II

1) Which is not a spatial analysis tool?

A) TIN

B) Buffer

C) Merge

D) Resolution

[Turn Over]

m) Which sensor provide high resolution Pan images?

A) Cartosat 2

B) LISS- III

C) Hyperion

D) TIROS

n) The first GPS satellite was launched in the year of ____.

o) What is WGS-84?

SECTION-B

II. Answer any **ten** from the following questions:

$2 \times 10 = 20$

a) What is Digitization?

b) What is remote sensing technology?

c) Difference between Ruster Data and Vector Data.

d) Write a short note about GLONASS.

e) Explain the concept of Topology.

f) What is spatial resolution?

g) During which year the project on GPS was launched?

h) Galileo system for Navigation is operated by which country?

i) What is Orthometric height?

j) Why projection is necessary for map making?

k) The space segment consists of _____number of satellite.

l) GNSS system.

m) Explain different types of platforms.

n) What is GIS?

o) What is INSAT?

SECTION-C

III. Answer any **four** from the following questions:

$5 \times 4 = 20$

a) What are the important uses of remote sensing in Forestry?

b) Explain the concept of overlay analysis with proper examples.

c) How Geomatics technology helps the forest management processes?

d) Explain the history of Indian remote sensing satellite.

e) What is LiDAR? is it different from SAR? Explain the utility of LiDAR.

f) Write down the methods of Arial photo interpretation.

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