University of Ruhuna- Faculty of Technology
Bachelor of Biosystems Technology Honours Degree
Level 2 (Semester II) Examination, November 2022
Academic year 2019/2020

Course Unit: BST 2222 Geoinformatics & Biosystems (Written)
Duration: 1 Hour and 30 Minutes

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Answer all the questions in part   A
Answer any two questions in part   B

Part A

Question One

I.	List out three types of remote sensing.	(6 Marks)
II.	List out 3 advantages/benefits of remote sensing	(6 Marks)
III.	What do you understand by the SWATH of a satellite?	(2 Marks)
IV.	What is the difference between vector data and raster data?	(5 Marks)
V.	Mention three advantages and three disadvantages of GIS	(6 Marks)

Question Two

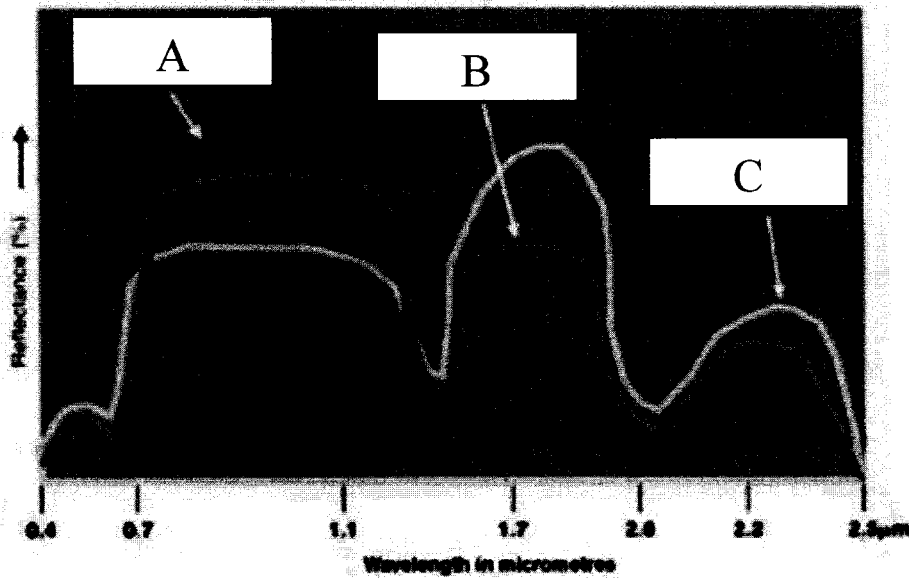|		
I.	What are the functions of GIS?	(3 Marks)
II.	How do you describe the term "Spatial Data"? Give three examples	(5 Marks)
III.	Mention the two types of coordinate systems and state two differences between them. (6 Marks)	
IV.	Mention two types of data in GIS and explain at least two differences between them. (6 Marks)	
V.	Define a map and name at least four elements of a map.	(5 Marks)

Part B

Question Three

Traffic congestion remains a significant problem in most cities in Sri Lanka, especially in Colombo suburb, resulting in huge delays, increased fuel wastage and monetary losses. With the knowledge you have gained in remote sensing, discuss how you could use remote sensing practices efficiently and effectively to overcome this issue.   (25 Marks)

Question Four

    I.   What do you understand by spectral signature?   (2 Marks)

    II.

Mentioned above are reflectance vs wavelength curves of three vegetation types. Select the suitable letter of the graph for   (6 Marks)
   a. Stressed vegetation   -
   b. Healthy green vegetation   -
   c. Severely stressed vegetation   -

    III.   List out five uses of NDVI in agriculture   (5 Marks)

    IV.   Spectral signature is an effective tool which is being used in remote sensing applications in many sectors. However, identification of exact spectral signature of a surface has always been a challenging task. Discuss reasons?   (12 Marks)

Question Five   (25 Marks, 12.5 Each)

Write short notes on any two of below topics,
   I.   Remote sensing for weather control/management
   II.   Use of GIS Maps for decision making
   III.   Spectral signature in remote sensing
   IV.   Remote Sensing Process