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BRAINWARE UNIVERSITY

Term End Examination 2025-2026
Programme – B.Sc.(Ag)-Hons-2022/B.Sc.(Ag)-Hons-2023
Course Name – Geoinformatics and Nano-Technology and Precision Farming/Geoinformatics and Nano-technology and Precision Farming
Course Code - CC-BAG577(T)/CC-BAG577 (T)
(Semester V)

Full Marks : 50 **Time : 2:0 Hours**

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group-A

(Multiple Choice Type Question) 1 x 20=20

1. *Choose the correct alternative from the following :*

(i) Select the navigation system based on a network of satellites that helps users to record positional information.

a) GPS b) GIS
c) Remote sensing d) All of these

(ii) Write the name of the system for capturing, storing, checking, and displaying data that are spatially referenced to the Earth.

a) GPS b) GIS
c) Remote sensing d) Variable rate applicator

(iii) Choose the correct number: The ratio between distance or area on a map and the corresponding distance or area on the ground.

a) Model b) Scale
c) Image d) Chart

(iv) Who first used the term nanotechnology?

a) Richard Feynnman b) Nori Taniguchi
c) Richard Flemming d) Richard Williams

(v) Write the word from which the term 'nano' originated.

a) Greek word b) Italian word
c) French word d) Latin word

(vi) Choose the correct answer: The science of measurement and mapping of the Earth's surface is.

a) Geodesy b) Geoid
c) CRS d) OGC

(vii) What is the fertilizer recovery efficiency of phosphorus (P) in rice?

a) 20-30 % b) 30-40 %
c) 60-70 % d) 10-20 %

(viii) What is the fertilizer recovery efficiency of nitrogen (N) in rice?

a) 40-60% b) 10-20%
c) 30-40% d) 50-70%

(ix) What are the limitations of precision agriculture in India?

a) Small farm size b) Heterogeneity of cropping system
c) Complexity of tools and techniques requiring new skill d) All are correct

(x) Choose the correct statement.

a) GPS is a navigation system based on network satellites that helps the users to record longitude, latitude and elevation.
b) GPS provides continuous position information in real time, while in motion.
c) GPS receiver with electronic yield monitors is used to collect yield data across the land in precise way.
d) GPS is a kind of computerized map, but its real role is using statistics and spatial methods to analyze characters and geography.

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(xi) Identify the full form of DGPS.

a) Digital Global Positioning System b) Differential Global Positioning System
c) Distance Global Positioning System d) Direct Global Positioning System

(xii) Choose the correct answer: The full form of SSCM.

a) Site Specific Crop Management b) System Specific Crop Management
c) Sensor Specific Crop Management d) Soil Science and Crop Management

(xiii) Which nanomaterial prevents soil organic matter oxidation?

a) Nano titanium dioxide b) Nano gold
c) Nano Carbon tube d) Nano silver

(xiv) Choose the correct answer: Nano-coating of seeds cannot be made by using elemental forms of ____.

a) Aluminum b) Zinc
c) Manganese d) Gold

(xv) Choose the correct answer: GIS accuracy depends on ____.

a) The encoded process b) Source data
c) Both a and b d) Location

(xvi) Choose the correct answer: A topographic map is also called ____.

a) Topographic sheet b) Topographic module
c) Topographic paper d) None of these

(xvii) Choose the correct answer: Geoinformatics is a new discipline concerned with the ____ of spatial data and the processing techniques in spatial information systems.

a) GPS b) GIS
c) Remote sensing d) Variable rate applicator

(xviii) Which of the following are traditional methods for storing GIS data?

a) Vector graphics b) Raster images
c) Both a and b d) None of these

(xix) Photogrammetry interprets which of the following types of data?

a) EM radiation b) Photographic images
c) Both a and b d) Radiation

(xx) Show the correct answer: An aircraft flies using _____ support.

a) Air b) Water
c) Lands d) None of these

Group-B

(Short Answer Type Questions) 2.5 x 10=25

2. What are the role of texture in image classification? (2.5)
3. Invent a method using nanotechnology in precision farming to enhance fertilizer efficiency and pest control. (2.5)
4. Discuss about the different types of remote Sensing. (2.5)
5. Express your opinion about Global Positioning System. (2.5)
6. Express your opinion about Image Enhancement of image processing. (2.5)
7. Express your opinion about Image Classification. (2.5)
8. What are the applications of remote sensing in agriculture? (2.5)
9. Explain about the Soil Test Crop Response. (2.5)
10. Explain the characteristics of ideal biosensor. (2.5)
11. Express your opinion about GIS. (2.5)

OR

Express your opinion about pre-processing function of image processing. (2.5)

Group-C

(Long Answer Type Questions) 5 x 1=5

12. Express your opinion about Soil Test Crop Response (STCR). (5)

OR

Express your opinion about nanotechnology in plant protection. (5)

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