

Geo-Informatics And Nanotechnology For Precision Farming [ASAG 3110]

Section-A (Short Answer Question)

1. Define Precision Farming? Enlist the components of Precision Farming?
2. Write the specific uses of sensor technologies in farm operations?
3. Enlist the steps in technology development and strategies for precision farming?
4. Define Geoinformatics?
5. Define Agro-Geoinformatics?
6. Define Remote sensing?
7. Define Feature extraction
8. Explain grey level co-occurrence matrix?
9. What is the importance of hyperspectral remote sensing?
10. Define Y_{\max} ?
11. Write short notes on Indigenous Nutrient Supply
12. How GIS works?
13. What is geospatial data?
14. Define geodesy?
15. Define Co-ordinate system?
16. Define geodetic datum?
17. Define Co-ordinate transformations?
18. Enlist the agricultural applications of remote sensing? Explain in detail?
19. What are the applications of GPS?
20. Define GPS and explain in brief the components of GPS?
21. Briefly explain the functions of GPS?
22. Define simulation?
23. Define continuous simulation and discrete simulation?
24. When to use Simulation?
25. Define modelling and enlist the types of modelling
26. What are the three measurable sources of STCR approach?
27. What is STCR?
28. Define Nanoscience?
29. Define Nanotechnology?
30. Define Nanoparticle?
31. What are the three major physical properties of nanoparticle?

32. What are the two main approaches used in nanotechnology?
33. Define nanopesticide?
34. Define nanofertilisers?
35. Define nanosensors?
36. Define nanobiosensors?
37. What are the characteristics ideal for nanobiosensor?
38. What are the potential applications of nanotechnology in agriculture?

Section B (Long Answer Question)

1. Explain in detail different steps involved in precision farming and what are the advantages of precision farming to farming?
2. Define GIS, GPS and write for specific advantages of GPS in farm operations?
3. Define geographic information system? Write the five major components and three main sub systems of geographic information system?
4. Enlist the importance of GIS and explain?
5. Define remote sensing, enlist components of remote sensing and explain?
6. Write short notes on modelling process?
7. What do you mean by simulation modelling and write in brief on areas of application?
8. Write some potential applications of nanobiosensors and explain?
9. Role of nanotechnology in agriculture and explain in brief?