

1. Soil structure and explain types of soil structure (with diagram).
2. Soil profile with a neat labelled diagram.
3. Classification of soil water. Soil water potential and its components.
4. Weathering, Define physical and chemical weathering with different process.
5. Define rocks. Classification and formation of rocks with examples.
6. What are the different factors of soil formation? Explain some major soil forming process.
7. Soil colloid? Describe the properties of colloids. Difference between kaolinite, illite and montmorillonite or (1:1, 2:1 and 2:1:1 clay mineral).
8. What is soil pH? Define buffering capacity. Effect of pH on soil and plant growth.
9. Soil organic matter, its classification and role in soil fertility.
10. Humus. Its classification and importance of humus on soil physical, chemical and biological properties.
11. Enlist different soil orders and characteristics of Vertisols/ Alfisols or briefly explain the characteristics of Black soil/ Alluvial Soil/ red soil/laterite soil.
12. Soil aeration, enlist different mode of air exchange and factor affecting composition of soil air.
13. Soil microorganism. Describe the influence of microorganism on soil fertility.
14. Define minerals, its classification with examples.
15. What is ion exchange? Describe CEC and AEC and the factor affecting it.
16. Classification of salt affected soil along with its characteristics.
17. Soil colour. Describe hue, value and chroma. Significance or importance of soil colour.
18. Define Soil texture and Stoke's Law. Bulk density and factor affecting bulk density.
19. What is soil taxonomy? Describe the features of modern soil taxonomy.
20. What is soil pollution? What are the causes and effects of pollution and how to manage it?