

**I B. Tech I Semester Supplementary Examinations, August/Sep- 2022**  
**PRINCIPLES OF SOIL SCIENCE AND AGRONOMY**  
(Only Agri E)

Time: 3 hours

Max. Marks: 70

**Answer any five Questions one Question from Each Unit**  
**All Questions Carry Equal Marks**

**UNIT-I**

- 1 a) Write on Soil forming processes and the factors affecting the formation. (7M)  
b) Explain the methods of determining the texture of soil. (7M)

**Or**

- 2 a) Write the importance of soil profile study. Enlist different horizons in the soil profile. (7M)  
b) Enlist processes of soil formation and discuss role of any one in detail. (7M)

**UNIT-II**

- 3 a) Discuss about inorganic and organic colloids. (7M)  
b) Write about soil aeration indices –and their importance. (7M)

**Or**

- 4 a) How the C: N ratio influence the nutrient availability in soils? (7M)  
b) Draw a neat diagram of typical soil profile. (7M)

**UNIT-III**

- 5 Write the new comprehensive system of soil classification its orders and their characteristics (14M)

**Or**

- 6 a) Write about i) nitrification ii) DE nitrification iii) solubilization (7M)  
b) Classify the irrigation water based on EC, SAR and Boron content. (7M)

**UNIT-IV**

- 7 a) Discuss about Arnon's criteria of essentiality. (7M)  
b) Explain about Alluvial soils and black soils and its advantages. (7M)

**Or**

- 8 a) Write about the essential resources for crop production. (7M)  
b) Describe Agro Climatic Zones of AP. (7M)

**UNIT-V**

- 9 a) Explain the primary and secondary tillage practices (7M)  
b) Explain the effects of-tillage-on crops and soils. (7M)

**Or**

- 10 a) What is Sowing and discuss the methods of sowing. (7M)  
b) Enlist different kinds of Soil erosion. Describe any two erosion preventing measures in detail. (7M)

