

**I B. Tech I Semester Regular Examinations, April- 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 about the difference between surface and sub-surface soil? (7M)  
b) What are the different steps involved in soil formation process? (7M)

**Or**

2. a) Write about i) soil moisture tension ii) soil moisture potential (7M)  
b) How do you classify rocks on the basis of origin? Explain any two. (7M)

**UNIT II**

3. a) Write the processes of gaseous exchange. (7M)  
b) What is soil temperature and write the influence of soil temperature on plant growth. (7M)

**Or**

4. a) Explain the laws governing water flow. (7M)  
b) Discuss the concept of soil moisture potential with respect to light, medium and heavy textured soils. (7M)

**UNIT III**

5. Classify the field crops with suitable examples according to Botanical, Commercial, Seasonal, Ontogeny and Agronomical criterion. (14M)

**Or**

6. a) Explain about soil flora and fauna their characteristics? (7M)  
b) Write the factors influencing availability of nutrients. (7M)

**UNIT IV**

7. a) Differentiate between Tillage and Puddling. Give one example for each. (7M)  
b) Discuss about different methods of fertilizer application to agricultural crops. (7M)

**Or**

8. a) Discuss about the Influence of weather on crop grain development. (7M)  
b) Write the source of negative charge on silicate clay minerals. (7M)

**UNIT V**

9. a) Explain about the preparatory cultivation for lowland rice puddling. (7M)  
b) Write about (i) inter cultivation (ii) after cultivation (iii) preparatory cultivation. (7M)

**Or**

- 10 a) Write the objective and types of tillage. (7M)  
b) Explain about the depth of sowing for major agricultural crops. (7M)

