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End Semester Examination, December 2024
Program – B.Sc. (Hons.) Agriculture - Semester- I
COURSE TITLE- Fundamentals of Soil Science
(COURSE CODE- ASAG105)

Time: 2.5 hrs.

Max Marks: **50**

Note: *All Questions are compulsory. Marks are indicated against each question.*

PART-A

Q.1 Attempt any 5 Questions

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|---|-----------------------|
| (a) Define soil as a natural body. | [CO-1] [L-1] 2 |
| (b) Differentiate between pedological and edaphological concepts of soil. | [CO-1] [L-2] 2 |
| (c) What is soil texture, and why is it important? | [CO-3] [L-1] 2 |
| (d) Differentiate between soil consistency and soil plasticity. | [CO-3] [L-2] 2 |
| (e) Define soil pH and its role in nutrient availability. | [CO-4] [L-1] 2 |
| (f) Explain the term 'buffering' in relation to soil pH. | [CO-4] [L-2] 2 |
| (g) What is humus, and how does it benefit soil properties? | [CO-5] [L-1] 2 |

2x5

PART-B

- Q.2 Describe the differences between pedological and edaphological perspectives in soil science and explain why each is important for agricultural studies. [CO-2] [L-1] **10**

OR

Define the main factors influencing soil formation and list examples of how they contribute to different soil types in India. [CO-2] [L-1] **10**

- Q.3 Identify the primary physical properties of soil—texture, structure, density, and porosity—and explain their role in supporting plant growth. [CO-3] [L-2] **10**

OR

Explain how soil temperature affects plant growth and identify some basic methods for managing soil temperature in various climates. [CO-3] [L-2] **10**

- Q.4 Define soil pH and buffering capacity and describe their significance in determining nutrient availability in agriculture. [CO-4] [L-1] **10**

OR

List the functions of soil colloids, including cation exchange capacity (CEC) and base saturation, and describe how they support soil fertility. [CO-4] [L-1] **10**

- Q.5 Describe the composition of soil organic matter and humic substances and explain how they contribute to soil structure and fertility. [CO-5] [L-2] **10**

OR

Identify common sources of soil pollution in agriculture and explain basic strategies to help prevent soil contamination. [CO-5] [L-2] **10**