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Total No. of Printed Pages: [01]

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**B.Sc. (Hons.) Agriculture (Semester – 1st)**

**FUNDAMENTALS OF SOIL SCIENCE**

**SUBJECT CODE: BAGRS1153**

**Paper ID: [21130103]**

**Time: 03 Hours**

**Maximum Marks: 60**

**Instruction for candidates:**

1. Section A is compulsory. It consists of 10 parts of two marks each.
2. Section B consist of 5 questions of 5 marks each. The student has to attempt any 4 questions out of it.
3. Section C consist of 3 questions of 10 marks each. The student has to attempt any 2 questions.

**Section – A**

**(2 marks each)**

Q1. Write a short note on the followings:

- a. Soil porosity.
- b. Soil acidity.
- c. Soil colour.
- d. Soil organic matter.
- e. Soil buffering.
- f. Soil Profile.
- g. Soil water retention.
- h. Soil bulk density.
- i. Soil organisms.
- j. Soil Components.

**Section – B**

**(5 marks each)**

- Q2. Discuss the various types of soil found in different parts of India?
- Q3. What is soil acidity and alkalinity? Discuss the effect of pH on nutrient availability?
- Q4. Define weathering? Explain the processes of soil formation?
- Q5. Discuss the conditions under which saline and sodic soils are formed?
- Q6. Discuss the pedological and edaphological concepts of soil?

**Section – C**

**(10 marks each)**

- Q7. Define soil texture, soil structure, soil water retention, soil consistence and soil plasticity? Discuss about soil taxonomy classification in detail?
- Q8. Define bulk density, particle density and porosity of soil? Derive a relation among bulk density, particle density and porosity? Bulk density and particle density of a field were reported as  $1.65 \text{ g/cm}^3$  and  $2.75 \text{ g/cm}^3$  respectively. Calculate the percent porosity of soil?
- Q9. Define soil organic matter, their composition and its properties? And also explain its influence on soil properties