

2022

B. Sc. (Honours) in AGRICULTURE

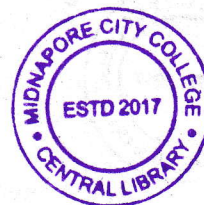
1st Semester Examination

Fundamentals of Soil Science

PAPER — AGS-103

Full Marks : 50

Time : 2 hours



The figures in the right-hand margin indicate marks.

*Candidates are required to give their answers
in their own words as far as practicable.*

Illustrate the answers wherever necessary.

Answer from **all** the Groups as directed.

GROUP—A

1. Answer any **five** questions : 2×5=10
- (a) Define soil.
 - (b) Explain pH concept.
 - (c) How are metamorphic rocks formed?

(2)

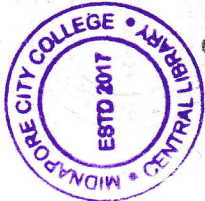
(d) What is meant by 1 : 1 type of clay minerals?

(e) Define soil colloids.

(f) Give examples of macro-fauna and flora of soil.

(g) Write down the properties of soil.

(h) Name the different soil profiles.



GROUP—B

2. Answer any four questions : 5×4=20

(a) Write down the effect of pH on nutrient availability.

(b) Briefly describe the process of formation of soil.

(c) Define soil texture. How and what criteria are followed to determine soil texture?

(d) Explain buffering capacity of the soil.

(e) Explain CEC.

(f) What are the composition of soil organic matter and their influence on soil properties.

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(Continued)

(3)

GROUP—C

3. Answer any two questions :

(a) Discuss the beneficial and harmful effects of micro-organism in soil with example. 10

(b) Define bulk density and particle density. Write down the relationship between BD, PD and Porosity (%). 4+6=10

(c) Write the differences on the following topics : 2×5=10

(i) Soil vs. Land

(ii) Soil Fertility vs. Soil Productivity

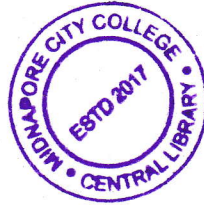
(iii) Igneous Rock vs. Sedimentary Rock

(iv) Particle Density vs. Bulk Density

(v) Soil Acidity vs. Soil Alkalinity

(d) Discuss weathering process in details regarding the formation of sedimentary rocks. 10

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B.Sc./1st Sem/AGS-103/23

BL23/136—90