

SH-III/NR/2106/19

B.Sc. 3rd Semester (Honours) Examination, 2019-20

FORESTRY

Course ID : NR2106

Course Code : SH-NR-2106

Course Title : Soil Biology and Fertility

Time: 2 Hours

Full Marks: 50

The figures in the margin indicate full marks.

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

1. Write a definition or short answer of *any ten* of the following: 1×10=10
- (a) Cultivated Soil
 - (b) Frankia
 - (c) Soil texture
 - (d) Soil color
 - (e) Write down the 2 tree species suitable for where soil pH is less than 6.5. (botanical name)
 - (f) Pedology
 - (g) Soil weathering
 - (h) Soil profile
 - (i) Bio fertilizer
 - (j) Soil horizon
 - (k) Complex fertilizer
 - (l) Soil fertility
 - (m) Mycorrhizae
 - (n) Urea contain nitrogen in the form of _____
 - (o) Full form of IISS _____
2. Write short note/ define *any ten* of the following: 2×10=20
- (a) Soil macro nutrient
 - (b) Nitrogen fixation
 - (c) Difference between symbiosis and asymbiosis
 - (d) Importance of Biofertilizers
 - (e) Role of microorganisms in soil fertility
 - (f) Define Soil Horizon
 - (g) Types of soil erosion

- (h) Carbon cycling
- (i) Rhizosphere
- (j) Differentiated between forest soils and cultivated soils
- (k) Role of microorganisms in soil fertility
- (l) Soil micro nutrient
- (m) “Soil as a natural body” — explain it.
- (n) Differentiated between nitrification and de-nitrification in forest ecosystems.
- (o) Define Humus formation.

3. Write down on brief *any four* of the following:

5×4=20

- (a) Write a short note about the importance of soil to plant growth.
 - (b) Distinguish between Eluviation and Illuviation process.
 - (c) Discuss the significance of climate and microorganism in soil formation.
 - (d) What are the essential nutrient elements in soil? Discuss functions of any two of them.
 - (e) Define bio-fertilizer. Write their classification and advantages.
 - (f) Describe carbon formation process and its importance for forest soil.
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