



BRAINWARE UNIVERSITY

Library Brainware University 398, Ramkrishnapur Road, Barasat Kolkata, West Bengal-700125

Term End Examination 2023-2024 Programme - B.Sc.(Ag)-Hons-2023 Course Name – Fundamentals of Soil Science-I Course Code - CC-BAG171(T) (Semester I)

Full Marks: 50

Time: 2:0 Hours

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group-A (Multiple Choice Type Question) 1 x 20=20 Choose the correct alternative from the following: (i) What is the density of earth as a whole (g/cc) a) 4.5 b) 5.5 c) 6.5 d) 7.5 (ii) Which mineral indicates quick chemical change in soil a) Calcite b) Limonite c) Haematite d) Goethite (iii) What is the predominant element on earth crust? a) Oxygen b) Aluminium c) Iron d) Silicon (iv) Outline the name of process in which mechanical movement of clay and iron oxides from 'A' horizon without undergoing chemical alteration a) Lessivage b) Movement c) Hydrolysis d) Migration (v) Who is known as Father of Soil Science? a) Jenny b) Dockuchaiev c) Simonson d) Liebig (vi) Select one example of fundamental pedogenic process a) Podzolization b) Humification c) Laterization d) Gleization (vii) soil profile extends up to a) 0.5-1.0 m b) 1.0-1.5 m c) 1.5-2.0 m

(viii) Relate the root limiting subsoil layer to a horizon

(ix) Who outlined five factors of soil formation

a) A horizon

c) M horizon

d) 2.0-2.5 m

b) B horizon

d) L horizon

a) Jenny		
c) Simonson	b) Dockuchaiev	
comes under the classic	d) Liebig landscape characteristics and geomorphic patt	
a) Physiographic	and geomorphic patt	erns
c) Physical		
9 -	b) Geologic d) Chemical	
a) Order c) Family who developed International pipe a) G W Robinson	I Taxonomy	
a) Order c) Family	h) c	
न (xii) Who developed International	d) Series	
c) Family who developed International pipe a) G W Robinson	d) Suborder d) Series tte method of soil texture determination?	
c) v v Dockuchajev	DIAHMANATET	
(xiii) Select the names of soil having at I	d) G. Bouyoucos	
a) Sandy soil	east 35% clay separate	
c) Clay soil	b) Silty soil	
(xiv) Which mineral is most resistant to	d) Loam soil	
a) Quartz	weathering?	
c) Pyroxene	b) Olivine	
(xv) Select the range of bulk density (BD	d) Amphibole	
a) 1.5		
c) 1.7	b) 1.6	
(xvi) Outline the base saturation percent:	d) 1.8	
a) >35%		
c) >15%	b) >10%	
(xvii) Which of the following cation has th	d) >20%	
a) Sodium		
c) Calcium	b) Potassium	
(xviii) As per USDA, outline the number of	d) Magnesium	
a) 10		
c) 12	b) 11	
(xix) Which of the following soil textural cl	d) 14	
a) Clay loam		
c) Loamy sand	b) Sandy Ioam	
(xx) The law which states water flow in so	d) Silty Ioam	
a) Stokes law		
c) Ficks law	b) Darcy law	
oj Ficko lavi	d) Graham law	
	Group P	
	Group-B	2.5 x
(Short A	nswer Type Questions)	2.5 x 10=25
		10-23
2. Briefly explain about physical weathering	•	(2.5)
3. Outline five different functions of soils	5•	(2.5)
4. Outline the role of relief or topography in soil formation.		(2.5)
5. Classify igneous rocks with examples	1 3011 Torritation.	(2.5)
6. Identify different types of pedoturbation	a .	(2.5)
'. Identify the characteristics of Histosols or	der of soil	(2.5)
8. Outline the salient characteristics of Inter	national pipette method of soil texture	(2.5)
determination		
9. Identify different characteristics of Red so	ils of India	(2.5)
Capidin A and B horizon present in soil pro	ofilo	(2.5)
11. Distinguish between soil texture and soil s	structure	(2.5)
and John S		

OR Compare the process of eluviation with illuviation		(2.5)
Group-C (Long Answer Type Questions)		5 x 1=5
12. Elaborate the structure of vermiculite with diagram OR Elaborate the various processes of chemical weathering		(5)
		(5)