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SEMESTER END THEORY EXAMINATION

B.Sc. (Hons)Horticulture

Semester	: I (New)	**Term** : I	**Academic year**	: 2020-21	
Course No	: H/SSAC-111		**Title**	: Fundamentals of Soil Science	
Credits	: 2 (1+1)				
Day and Date	**: 10/07/2021,Saturday**		**Time:** 12.00-1.00	**Total Marks:** 40	

Note:
1. Solve any **four** questions from Section **"A"**
2. Solve any **six** questions from Section **"B"**
3. All questions from Section **"C"** are compulsory
4. Send the PDF file of answer sheet to the email id of respective course teacher.

SECTION "A"

(Write the answers in 4-5 sentences only. Each question carries 4 marks.)

Q. 1 Define soil. Enlist the fundamental and specific soil forming process.

Q. 2 Define soil structure. State the importance of soil structure.

Q. 3 Define soil colloids. Enlist the properties of soil colloids and describe any one.

Q. 4 Explain in brief the formation of saline soil.

Q. 5 Explain the significance of soil water.

SECTION "B"

(Write the answers in one sentence only. Each question carries 2 marks.)

Q. 6 (Answer in one sentence/Do as directed /Define etc.)

a) Define soil consistency.

b) Define soil texture.

c) Define salinization.

d) Calculate percent porosity of soil if bulk density is 1.45 g cm^{-3} and particle density is 2.65 g cm^{-3}.

e) Define soil survey.

f) What is humus?

g) Enlist the soil orders.

SECTION "C"

Q. 7 **(Choose the correct option. Each question carries 1 mark.)**

1 The bulk density of soil is always --------- than its particle density.

a) greater b) equal
c) smaller d) none of them

2 Crumby type of structure has ------ porosity than plate like.

a) lower b) higher
c) equal d) slightly lower

3 The surface soil temperature is always --------- than the air temperature.

a) lower b) higher
c) equal d) slightly lower

4 Kaolinite is ------- type of clay mineral.

a) 2:1 b) 1:1

c) 3:2 d) 2:1:1

5 ---------- is also known as available water.

a) Gravitational water b) Capillary water

c) Hygroscopic water d) Soil water

6 The breaking up of flocs into individual soil particles is called as ---------.

a) flocculation b) aggregation

c) dispersion d) shrinkage

7 The sum total of the exchangeable cations that a soil can absorb is called its ----------

a) AEC b) CEC

c) Ion substitution d) Ion exchange

8 -------- used to quantify soil colour.

a) Stock's law b) Mohr's scale

c) Munsell colour scale d) Munsell colour chart

9 Sesquioxides have high ----------

a) water holding capacity b) phosphorus adsorption capacity

c) CEC d) leaching losses

10 Following is the importance of soil water ----------.

a) carrier of food nutrients b) regulates soil temperature

c) acts as weathering agents d) all of the above

11 Land capability classification is done in --------- classes.

a) 12 b) 8

c) 4 d) 7

12 -------- are highly rich in organic matter.

a) Histosols b) Entisols

c) Vertisols d) Inceptisols