MAHARASHTRA AGRICULTURAL UNIVERSITIES EXAMINATION BOARD, PUNE
SEMESTER END EXAMINATION
B.Sc.(Hons.) Agriculture

Semester	**: I (New)**	**Term**	**: I**	**Academic Year**	**: 2017-18**
Course No.	**: SSAC 111**				
Credits	**: 3(2+1)**	**Title**	**: Fundamentals of Soil Science**		
Day & Date	**: Monday, 01.01.2018**	**Time**	**: 09.00 to 12.00**	**Total Marks**	**: 80**

Note : 1. Solve **ANY EIGHT** questions from **SECTION "A".**
2. All questions from **SECTION "B"** are compulsory.
3. All questions carry equal marks.
4. Draw neat diagrams wherever necessary.

SECTION "A"

Q.1 a) Classify soil structure on the basis of type.
b) Draw a neat diagram of soil profile and label it.

Q.2 a) Give the composition of plant residue and enlist the sources of soil organic matter.
b) Discuss about soil aeration and its significance.

Q.3 a) Explain the land capability classification.
b) Enlist various soil moisture constants and describe any one.

Q.4 a) Define mineral. Classify minerals on the basis of mode of formation.
b) What is soil formation? Enlist different soil forming processes.

Q.5 a) Define rocks. Give details of metamorphic rocks.
b) Enlist soil orders and explain in detail any one.

Q.6 a) What is ion exchange? State its importance in agriculture.
b) Define soil texture. What is the importance of soil texture in relation to plant growth .

Q.7 a) Explain the physical classification of soil water.
b) Enlist the factors affecting soil temperature. Explain the effect of soil temperature on soil and plant growth.

Q.8 a) Explain the role of soil microorganisms.
b) Enlist the different properties of soil colloid and describe any one.

Q.9 a) Define soil survey. Explain different types of soil survey.
b) What is weathering? Explain in detail chemical weathering.

Q.10 Write short notes (Any Two).
1) Soil pollution 2) Soils of Maharashtra
3) Cation Exchange Capacity 4) Soil pH

SECTION "B"

Q.11 Define the following terms.
1) Field capacity 2) Pedology 3) Particle density 4) Edaphology
5) Flocculation 6) Elluviation 7) pF 8) Humus

Q.12 Answer in one sentence.
1) What is Dyke?
2) What is soil consistence?
3) Name the cementing agent in soil structure.
4) Name the rocks in which the vesicles are filled up with mineral crystals.
5) What is Hue?
6) What is streak of mineral?
7) Name the scientist who is known as the Father of Soil Science.
8) Name two reference books along with authors used for SSAC-111.

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