

UNIVERSITY OF RUHUNA
BACHELOR OF SCIENCE (GENERAL) DEGREE LEVEL II - (SEMESTER II)
EXAMINATION -DECEMBER, 2016

SUBJECT: BOTANY

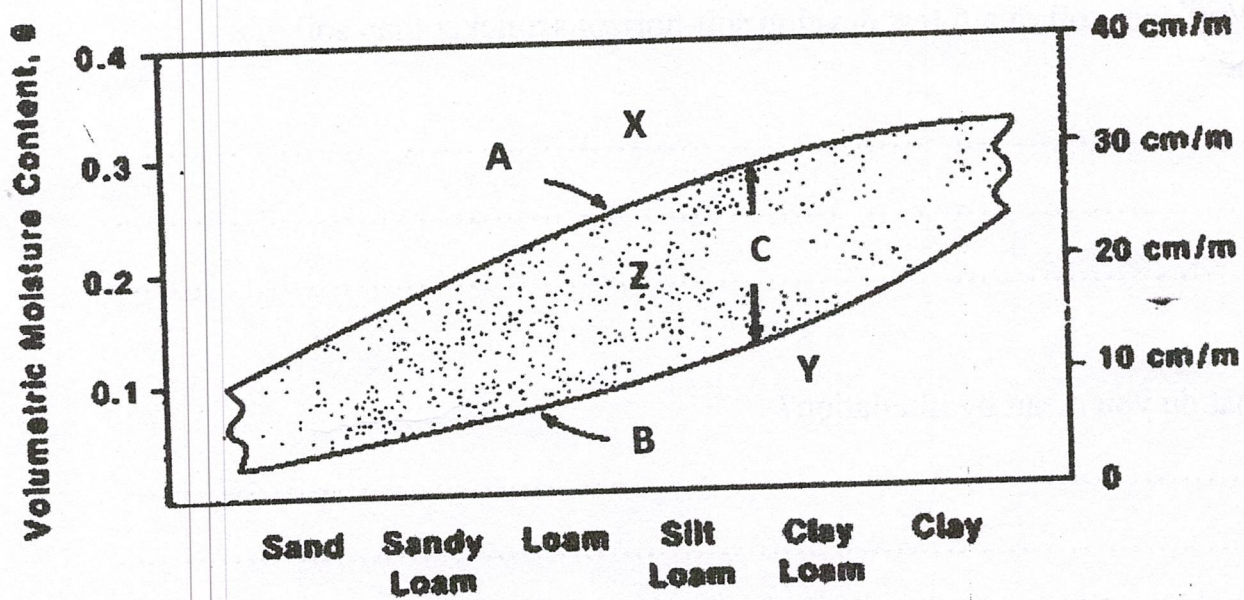
COURSE UNIT: BOT 2231 (Soil Plant Relationships)

Answer two (02) questions including question 1.

Time :One hour

1. Write short answers in the space given.

a).



(i) Name A, B and C

(ii). Describe water availability for plants in X, Y and Z

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(iii). What can you say about growth and survival of 'Y' plant?

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b). Explain the following deposits

- i) Alluvium -
- ii) Colluvium -
- iii) Aeolian -

c) Why does soil of a forest develop soil-horizons quicker than soil of a grassland?

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d) i) What do you mean by illuviation?

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ii) In which soil horizon this illuviation can be seen?

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e) What do you understand by this notion of soil colour? "10GY 5/4"

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f) What do you mean by “Water Retention System” in soil?

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g) Particle density of soil is always higher than bulk density. Explain this statement.

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h). Give two criteria that are used to name an element as an essential element of plant nutrition.

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i). Give three functions of the element ‘Phosphorous’ in plants.

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j). i) Explain “Rill Erosion” briefly.

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ii) How can rill erosion be prevented?

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(Each a to j: 10 marks)

2. Explain briefly the following:

a). Application of incompletely decomposed organic matter as fertilizer for crop plants may negatively effect on crop nutrition. (50 marks)

b). Mechanisms of passive absorption of mineral ions into the plants.

(50 marks)

3. Write short notes on the following:

a). Organic soil (40 marks)

b). Prismatic soil structure (20 marks)

c). Micro-pores in the soil (20 marks)

d). Carbonation (20 marks)