



UNIVERSITY OF EMBU

2019/ 2020 ACADEMIC YEAR

SPECIAL AND SUPPLEMENTARY EXAMINATIONS

FIRST YEAR EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN
MANGEMENT OF AGROECOSYSTEMS AND ENVIRONMENT, AGRICULTURE,
HORTICULTURE, AND WATER RESOURCES MANAGEMENT
ASS 101: LANDFORMS AND SOIL FORMATION

DATE: OCTOBER 26, 2020

TIME: 2.00 – 4.00PM

INSTRUCTIONS:

Answer Question ONE and ANY Other TWO Questions.

QUESTION ONE (30 MARKS)

- a) State and Explain the two types of parent material (4 marks)
- b) Describe vegetation influences soil formation (6 marks)
- c) Distinguish between a slope gradient and a slope aspect as used in soil geomorphology. (4 marks)
- d) Describe THREE horizons that you can find in a well weathered soil. (6 marks)
- e) Describe TWO soil forming processes that are common in drylands. (4 marks)
- f) Describe the morphology of soils at the University of Embu college coffee farm. (6marks)

QUESTION TWO (20 MARKS)

- a) Using a diagram, describe how hillslope position influences soil development (12 marks)
- b) Describe FOUR slope shapes that are associated with the hillslope (8 marks)



ISO 27001:2013 Certified

Knowledge Transforms



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QUESTION THREE (20 MARKS)

Soils in a desert environment show little profile development. Explain how each of the FIVE factors of soil formation controls their development. (20 marks)

QUESTION FOUR (20 MARKS)

- a) Describe FOUR soil forming processes that are dominant in the humid tropical soils of East Africa (12 marks)
- b) Explain the environmental factors that control each of the processes you have mentioned in question 4a above. (8 marks)

QUESTION FIVE (20 MARKS)

- a) Describe the horizon differentiation of a well-developed soil. (12 marks)
- b) Explain FOUR pedogenic processes that have contributed to the development of the soil you have described in Q5a above. (8 marks)

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