

**COLLEGE OF AGRICULTURE, FISHRIES AND FORESTRY****School of Agriculture and Forestry****Bachelor of Science in Agriculture - Year 3****Trimester 2, 2019 Final Examination****SAC 703- SOIL EROSION AND ITS MANGEMENT****TOTAL MARKS: 100****TIME DURATION: 3:00 HOURS****INSTRUCTION TO STUDENTS**

1. This paper consists of four (4) pages. Please check to see that your paper is complete.
2. You are allowed 10 minutes extra reading time in which you are NOT permitted to write.
2. Attach all the sheets used as your answer paper in their correct sequence and secure with a string.
3. Use both sides of the answer sheet and write your candidate number on each sheet.
4. Write clearly the number(s) of the question(s) attempted on the top of each sheet.
5. Candidates are not allowed to carry any textual material, printed or written material, bits of papers, inside the Examination Room/Hall

**“MOBILE PHONES ARE STRICTLY NOT ALLOWED”**

SECTION	PARTICULARS	TOTAL MARKS
A	Multiple choice question	10
B	Short answers questions	30
C	Long answers questions	60
	Total	100

## SECTION A

### MULTIPLE CHOICE QUESTIONS

(10X1=10 MARKS)

1. Eroded soil are mainly \_\_\_\_\_.
  - a. devoid of plant nutrients
  - b. rich in plant nutrients
  - c. unaltered in plant nutrients
  - d. all of theses
  
2. Sheet erosion is caused by \_\_\_\_\_.
  - a. wind
  - b. glacier
  - c. heavy rains
  - d. fast running rivers
  
3. The R value in the universal soil loss equation is \_\_\_\_\_.
  - a. rainfall erosivity factor
  - b. soil erodibility factor
  - c. topographic factors
  - d. cropping management factors
  
4. Erosion of very fine particles is seen on account of \_\_\_\_\_.
  - a. saltation
  - b. suspension
  - c. surface creep
  - d. shifting of dunes
  
5. Humus is an important part of soil because \_\_\_\_\_.
  - a. it helps to improve water infiltration
  - b. it can break down organic pollutants
  - c. it converts nitrogen in the air into nitrates used by plants
  - d. it is rich in nutrients, which is important for fertility

6. The soil erodibility factor in the universal soil loss equation is denoted by \_\_\_\_\_.
- R
  - L
  - K
  - C
7. When trees and shrubs are planted in long rows along streams, they are described as \_\_\_\_\_.
- wind breaks
  - soil binders
  - shelter belts
  - basin blisters
8. Terracing is done in \_\_\_\_\_.
- desert areas
  - hilly areas
  - dry areas
  - plain areas
9. The practice of leaving old stalks to provide cover from rain in order to reduce water runoff and soil erosion is called \_\_\_\_\_.
- cover crops
  - no-till farming
  - terracing
  - contour plowing
10. Soil conservation means \_\_\_\_\_.
- prevention of spread of desert
  - to check soil erosion by wind and rains
  - to check soil erosion by afforestation
  - all of these

## SECTION B

### SHORT ANSWER QUESTIONS (30 MARKS)

**A. Write short notes on following.**

**(5X3=15 MARKS)**

1. Offsite effects of soil erosion
2. Agents of soil erosion
3. Accelerated soil erosion
4. Rainwater conservation techniques
5. Gully erosion

**B. Provide differences on following.**

**(5X3=15 MARKS)**

1. Suspension and surface creep
2. Rill erosion and sheet erosion
3. Coastal erosion and sheet erosion.
4. Onsite and offsite effects of accelerated soil erosion
5. Rainfall erosivity factor and cropping management factors

## SECTION C

### LONG ANSWER QUESTIONS

**(6X10=60 MARKS)**

1. "Wind erosion damages land and natural vegetation by removing soil from one place and depositing it at another location". Discuss the factors affecting wind erosion and its management.
2. Explain the watershed characteristics, its classification and importance of soil conservation in watershed management.
3. "The intensity of rainfall causes extensive soil erosion in Fiji". Elaborating this discuss the different processes involved in soil erosion and also explain the effects of soil erosion on soil productivity.
4. "Land capability plays a vital role in deciding the land use". Write an essay on importance of land capability in deciding the land use.
5. Describe universal soil loss equation (USLE) and limitation of this model.
6. "Water and riverbank erosion is a growing problem for local communities in Fiji making it vulnerable to potential climate change impacts". Discuss types of water erosion and their management.

**END OF EXAMINATION PAPER**