

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

EXAMINATION FOR THE AWARD OF DEGREE OF BACHELOR OF SCIENCE IN AGRICULTURE AND BACHELOR OF SCIENCE IN AGRICULTURAL EDUCATION

AGEN 352: SOIL AND WATER MANAGEMENT

STREAMS: BSC (AGRIC, AGED) Y3S1

TIME: 2 HOURS

DAY/DATE: THURSDAY 14/12/2017

8.30 A.M – 10.30 A.M

INSTRUCTIONS:

- **Answer all questions in section 1 and two questions in section 2**

SECTION 1 (30MARKS)

1. Define survey. [2marks]
2. By use diagrams describe four equipments used in linear surveying. [8marks]
3. Explain the tasks carried out by the following survey assistants:
 - (a) The leader [3marks]
 - (b) The follower [3marks]
4.
 - (a) List four properties of soil that reduces soil erosion. [2marks]
 - (b) List four causes of soil erosion. [4marks]
 - (c) Define Agricultural water management [4marks]
 - (d) Discuss conservation tillage. [2marks]
 - (e) Discuss cutoff drains [2marks]

SECTION II (20MARKS)

5. (a) Explain the following water management measures.
- (i) Rock catchment [5marks]
- (ii) Road runoff harvesting [5marks]
- (b) Explain the following factors found in the given soil loss equation
- $$A = L \times S \times C \times P$$
- [10marks]
6. Giving preventive measure discuss the following types of soil erosion.
- (a) Gully erosion [10marks]
- (b) River erosion [10marks]
7. Discuss the following errors found in measuring
- (a) Gross errors [5marks]
- (b) Constant errors [5marks]
- (c) Human errors [5marks]
- (d) Complete the survey booking below and carry out the checking test. [5marks]

B.S	I.S	RISE	FALL	R.L	DISTANCE	REMARKS
2.348						
1.891	0.876					
2.517	1.030					
1.932	2.140					
2.653	1.338					
	1.296					