

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

THIRD YEAR EXAMINATION FOR THE AWARD OF DIPLOMA IN AGRICULTURAL EXTENSION & EDUCATION AND DIPLOMA IN HORTICULTURE

AGEN 0352: SOIL CONSERVATION AND WATER MANAGEMENT

STREAMS: DIP AGED & HORT Y3S2

TIME: 2 HOURS

DAY/DATE: FRIDAY 12/4/2024

2.30 PM. –4.30 P.M.

INSTRUCTIONS: Answer All Questions in Section A (30 marks) and any Two in Section B(40 marks)

SECTION A

QUESTION ONE

- (a) Distinguish between Arbitrary and Grid meridians. (4 marks)
- (b) Explain ANY FOUR (4) applications of hydrological research works (4 marks)

QUESTION TWO

- (a) Explain the disadvantages of surface irrigation that confront every designer and irrigator. (4 marks)
- (b) How would you measure a distance by Pacing? (3 marks)

QUESTION THREE

- (a) Calculate the pace factor if for 250 paces, you measure successively 185m, 190m, and 188m. (4 marks)
- (b) Describe the ways of minimizing run-off in agro-ecological systems. (4 marks)

QUESTION FOUR

- (a) Discuss the types of traverse survey. (4 marks)
- (b) Explain the principle of Triangulation in land survey. (3 marks)

SECTION B

QUESTION FIVE

- (a) Explain Trilateration as applied in measurements of long distances. (6 marks)
- (b) During water erosion, the process of soil transportation by running water is completed under different forms. Discuss. (9 marks)
- (c) What are the bearings and headings (courses) as expressed in three figure notations? (5 marks)

QUESTION SIX

- (a) Explain the conditions when chain surveying is unsuitable. (8 marks)
- (b) How would you avoid errors when counting your steps in distance measurements? (6 marks)
- (c) Explain the needs for drainage in agro-ecosystems. (6 marks)

QUESTION SEVEN

- (a) Discuss the uses of topographic surveying in geography. (6 marks)
 - (b) Explain the steps to follow in the event that a water tank or tanker is contaminated, to reclaim it. (6 marks)
 - (c) Discuss the Two major distinguished types of hydrological models. (8 marks)
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