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University Examinations 2024/2025

SECOND YEAR SECOND SEMESTER EXAMINATION FOR THE DIPLOMA IN AGRICULTURE

AAD 2403: TECHNICAL DRAWINGS AND SURVEYING

DATE: DECEMBER 2024 **TIME: 1½ HOURS**

INSTRUCTIONS: *Answer question **one** and any other **two** questions*

QUESTION ONE (30 MARKS)

a) Describe the difference between first-angle and third-angle orthographic projection (4marks)

b) Distinguish between line of collimation and height of collimation (1 mark)

c) Explain the concept of triangulation in surveying and its importance in determining distances over large areas (3marks)

d) What is the primary purpose of a benchmark in surveying (1 mark)

e) Name the types of contours found in flat and steep surface respectively (2marks)

f) Giving two examples in each case, differentiate between cumulative and compensating errors (8marks)

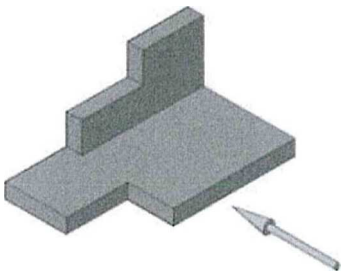
g) Define contouring in surveying. Explain how contour maps are created and their importance in civil engineering projects (2marks)

h) Discuss the process of surveying (6marks)

i) Explain three branches of surveying (3marks)

QUESTION TWO (15 MARKS)

a) Draw the four principal views of the given object in the first angle projection (10marks)



b) Discuss the cumulative an compensating errors (5marks)

QUESTION THREE (15 MARKS)

a) A group of engineers were conducting survey on the leveling of Meru-lsiolo road and found that:

Reading on staff held at Isiolo station was 40.5m

Reduced level of Benchmark was 60.50m

Reading on staff held at Meru station was 24.5m Find:

(i)Reduced level of Meru station (2mark)

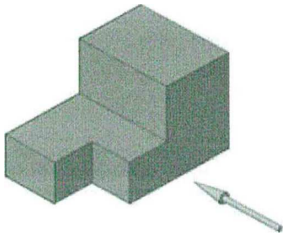
(ii)Height of collimation (5mark)

(iii)Rise or fall of Isiolo with respect to Meru (2mark)

b) Using diagrams and illustrations, discuss traversing methods (6marks)

QUESTION FOUR (15 MARKS)

a) Draw the figure below in the first and third angle projection (9 marks)



b) Discuss general procedure in making a chain survey (6marks)