



MASENO UNIVERSITY

UNIVERSITY EXAMINATIONS 2011/2012

THIRD YEAR SECOND SEMESTER EXAMINATIONS FOR THE DEGREE OF BACHELOR OF ARTS IN URBAN & REGIONAL PLANNING WITH INFORMATION TECHNOLOGY (MAIN CAMPUS)

NPL 311: SURVEYING

Date: 18th April, 2012

Time: 9.00 – 11.00 a.m.

INSTRUCTIONS:

- ◆ Answer QUESTION ONE and any other TWO questions.
- ◆ Use sketches and diagrams whenever appropriate.

**NPL: 311 SURVEYING
(SIRIBA CAMPUS)**

Answer question ONE and any other TWO

1. a) Explain the basic principles of fixing points in surveying (4marks)
b) Discuss the types of errors in chain surveying (16marks)
c) Describe the field procedure for vertical measurements (10marks)
2. Discuss three methods of plane table surveying (20marks)
3. a) Describe the segments of operation in GPS (10marks)
b) Explain advantages using GPS (10marks)
4. The following staff readings were taken during a leveling exercise 2.51, 2.50, 2.45, 1.55, 1.45, 1.95, 2.95, 2.60, 1.88, 0.95, 1.77, 2.66, and 2.40. the first reading was taken with the staff held at B.M(bench mark) 100.251m. The instrument was moved after the 4th 6th and 9th readings
 - a) Book the above exercise and apply the necessary checks (10marks)
 - b) Discuss four causes of inaccuracies in this exercise (10marks)
5. Explain three methods of tachometric surveying (20marks)
6. Write explanatory notes on the following
 - a) Triangulation (8marks)
 - b) Trilateration (6marks)
 - c) Traversing (8marks)