



MASENO UNIVERSITY
UNIVERSITY EXAMINATIONS 2013/2014

**THIRD YEAR FIRST SEMESTER EXAMINATIONS FOR THE
DEGREE OF BACHELOR OF ARTS IN URBAN & REGIONAL
PLANNING WITH INFORMATION TECHNOLOGY
(CITY CAMPUS – DAY)**

PUR 316: SURVEYING

Date: 18th July, 2014

Time: 2.00 – 4.00 p.m.

INSTRUCTIONS:

- Answer Question ONE and any other TWO questions.



PUR 316: SURVEYING

Answer question ONE and any other TWO

Sketch maps and diagrams should be used wherever they serve the purpose

1. a) Explain the process of chaining along a slope **4 marks**
- b) Explain the relevance of field notes in surveying **6 marks**
- c) A surveyor measured a distance of 4km along each side of a square perimeter wall. Calculate the perimeter of this on a plan at a scale of 1:2500 **4 marks**
- d) The following readings were taken during the leveling of an access road 2.191, 2.505, 2.545, 2.325, 1.496, 3.019, 2.513, 1.752, 2.811, and 3.824. The leveling equipment was moved after the fourth (4th) and eighth (8th) readings. The first reading was on a benchmark at the height of 120.00m. Book the values using the height of collimation method and carry out the necessary checks **16marks**
2. a) Describe three methods used in tachometric surveying **14 marks**
- b) A surveyor walked along a 100m fence line 8 times. The number of paces he took was 111, 110, 111, 111, 112, 110, 111, and 111.
Calculate the average pace length to 2 decimal places **2 marks**
- c) Calculate the length of the fence constructed on a paper at scale of 1:5 paces **4 marks**
3. a) Discuss the merits and demerits of plane table survey **10 marks**
- b) Discuss any the advantages of using GPS for surveying **10 marks**
4. Explain the sources of errors in leveling **20 marks**
5. a) Discuss the contributions of surveying in settling land conflicts **10 marks**
- b) Discuss the contributions of GIS and GPS improving surveying **10marks**

6. The table below shows the bookings from a compass traverse. Use this to answer the questions.

Line	Back bearing	Forward bearing	Length in CM	Length in M
AB	47	228		400
BC	115	285		200
CD	168	343		300
DE	262	83		350
EA	312	132		250

- a) In your answer booklet draw the framework accurately at the scale of 1:400 **15 marks**
- b) Adjust the error of closure and show all necessary calculations and construction lines. **5 marks**