



MASENO UNIVERSITY

UNIVERSITY EXAMINATIONS 2012/2013

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

PUR 316: SURVEYING

Date: 22nd July, 2013

Time: 9.00 – 11.00 a.m.

INSTRUCTIONS:

- ♦ Answer Question ONE and any other TWO questions.

PUR 316: SURVEYING (CITY CAMPUS)

Answer question ONE and any other two

Sketch maps and diagrams should be used whenever appropriate

- 1 a) Describe the principles of chain surveying (8 marks)
 - b) Explain the methods of measuring offsets (8 marks)
 - c) In taping from A to B, a tree on-line necessitated setting an intermediate point C offset 5.5 m to the side of the line AB. Line AC was then measured as 378.92 m along uniform 4% slope. Line CB on horizontal ground was measured as 295.10 m. Find the horizontal length of AB (6 marks)
 - d) Describe four methods used in balancing measurement using rectangular co-ordinates (8 marks)
2. a) Explain two methods used in plane table survey (8 marks)
 - b) Describe any three methods used in plotting campus traverse (12 marks)
3. a) Describe the process of carrying out differential leveling (10 marks)
 - b) Explain the two peg test (10 marks)
4. Describe any six factors influencing topographic surveying (20 marks)
 5. Explain the contribution of GIS and GPS to surveying (20 marks)
- 6 a) A triangular piece of land is bounded by 52.5 m of fencing on one side, 61.2m of stonewall on another side, and 95.7 of road frontage on the third side. What are the interior angles formed by the boundary lines? (4 marks)
 - b) Two points on the opposite sides of a lake, D and E, are 355.5m and 276.2 m, respectively, from the third point, F, on the shore. The lines joining points D and E with point F intersect at an angle of 71.045° . What is the distance DE? (4 marks)
 - c) A differential leveling loop began and closed on BM Bridge (elevation 1237.28 ft). The BS and FS distances were kept approximately equal. Readings taken in order are 8.59 on BM Bridge, 6.54 and 4.87 on TP1, 7.50 and 6.08 on BM X, 7.23 and 2.80 on TP2, and 1.11 on BM Bridge. Prepare, check and adjust the notes. (12 marks)