MASENO UNIVERSITY

UNIVERSITY EXAMINATIONS 2015/2016

FIRST YEAR SECOND SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF ARTS IN URBAN & REGIONAL PLANNING WITH INFORMATION TECHNOLOGY

CITY CAMPUS - REGULAR

PGS 121: INTRODUCTION TO SURVEYING

Date: 18th April, 2016 Time: 2.00 - 4.00pm

INSTRUCTIONS:

- **Answer Question ONE (Compulsory) any other TWO.**

Sketches and diagrams should be used whenever appropriate

1. Students leveled out a playing field and the following were the readings, 0.251, 0.255, 0.245, 0.331, 0.332, 0.22, 0.456, 0.433, 0.413. During the exercise the equipment was moved after the 3rd and 6th readings. The first reading was on a bench mark 101.451m. Entre the reading in a level book and carry out the necessary checks. (14 marks)

   b) Describe three advantages of using GPS for locating features (6 marks)

   c) Explain the causes of errors in levelling survey (8 marks)

   d) A road 5 kilometers was measured on the ground using a chain. The same 5 km was plotted on a paper a scale of 1: 5000. What was the length of the road on the paper (2 marks)

2. a) Explain the difference between geodetic and plane survey(6 marks)

   b) Describe any six branches of surveying (12 marks)

3. a) Describe the stadia system in tachometric surveys (15 marks)

   b) Describe the tangential system in tachometric survey (5marks)

4. a) Discuss the merits and demerits of plane table survey

   b) Explain two method used in plane table survey

5. Discuss the five basic qualities of good field notes (20 marks)

6. Using a campus students reconstructed a playing field for a primary school

   Explain the process of carrying out the exercise (6 marks)

   Discuss the sources and solutions of errors in this exercise (6 marks)

Given the following whole circle bearings (WCBs) derive the quardrantal (QBs) bearings

WCB of AB=1 55° 45$\hat{}$ (2 marks)

WCB of AB= 355° 45$\hat{}$ (2 marks)