

FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA

SCHOOL OF ENVIRONMENTAL TECHNOLOGY

DEPARTMENT OF SURVEYING AND GEOINFORMATICS

SECOND SEMESTER EXAMINATION

COURSE: SVG 324 (ELECTRONIC SURVEYING AND MAINTENANCE) UNIT: 2

SESSION: 2018/2019 LEVEL: 200 DATE OF EXAM: 11/10/2019

TIME ALLOWED: 2 HOURS

INSTRUCTION: ANSWER FOUR QUESTIONS IN ALL

Q1. Discuss the concepts of electromagnetic wave and state its application in EDM?

Q2a. Explain the principles of Electronic Distance measurement?

b. Write short note on the sources of error affecting the accuracy of EDM?

Q3a. Explain the concept of calibration as used in EDM?

b. What are the advantages of EDM over classical methods of linear measurement?

Q4a. With the aid of a diagram explain the concept of modulation viz-a-viz:

i. Frequency modulation

ii. Amplitude modulation

b. An EDM was used to determine the length of a survey line AB. If it takes the wave 2 minutes to travel from the EDM to the reflector, calculate the length of AB. Take speed of wave to be 3800m/s.

Q5a. Explain briefly the following electrical/electronic components used in EDM

i. Amplifier

ii. Oscillator

iii. Transformer

iv. Transistor

b. With the aid of a diagram explain the term "Ground Swing" as used in EDM