



MACHAKOS UNIVERSITY

University Examinations for 2021/2022

SCHOOL OF ENGINEERING AND TECHNOLOGY
BUILDING AND CIVIL ENGINEERING DEPARTMENT
FIRST SEMESTER FIRST YEAR EXAMINATION FOR
DIPLOMA IN BUILDING AND CIVIL
SURVEY 1

DATE: 2/12/2021

TIME: 8.30-11.30 AM

INSTRUCTIONS:

- *This Examination contains FIVE questions*
- *Attempt all questions*

1.
 - i) Define the term surveying. (2 marks)
 - ii) State and explain the fundamental principles of surveying. (6 marks)
 - iii) State and explain the purposes of surveying. (6 marks)
 - iv) Differentiate between plane and geodetic surveying. (8 marks)

2.
 - a) Define the following terms.
 - i) Chain survey
 - ii) Ranging
 - iii) Chaining
 - iv) Traversing
 - v) Witnessing stations
 - vi) Main station
 - vii) Subsidiary station
 - viii) Tie station (8 marks)

- b) State and explain the fundamental principles of chain survey (6 marks)
- c) State and explain the operations involves in chain survey (6 marks)
- 3. a) What is the purpose of levelling in surveying. (2 marks)
- b) Define the following terms as used in levelling.
 - i) Datum level.
 - ii) Bench mark.
 - iii) Temporary bench mark
 - iv) Local datum.
 - v) Backsight.
 - vi) Foresight.
 - vii) Intermediate sight. (14 marks)
- 4. State and explain four levelling techniques (8 marks)
- 5. State the geometrical relationships in leveling instrument (4 marks)