



MACHAKOS UNIVERSITY

University Examinations for 2020/2021

SCHOOL OF ENGINEERING AND TECHNOLOGY
DEPARTMENT OF BUILDING AND CIVIL ENGINEERING
SECOND YEAR SECOND TERM EXAMINATION FOR
DIPLOMA IN CIVIL ENGINEERING

2707 / 204 / TE: TRANSPORTATION ENGINEERING I

DATE: 8/6/2021

TIME: 8:30 – 10:30 AM

INSTRUCTIONS:

- *This paper consists of **Five** questions.*
- *Answer **ALL** questions*
- *Maximum marks for each part of the question are as shown.*

1.

a) Define the following terms:

i. Transportation Engineering

ii. Transportation System

(4 marks)

b) Explain *FIVE* problems that transportation systems address.

(10 marks)

c) Outline *THREE* components of a transportation system.

(6 marks)

2.

a) Explain *FOUR* stages of transportation modelling.

(8 marks)

b) Explain *THREE* classes of transportation systems, giving *TWO* examples in each case.

(12 marks)

- 3.
- a) Describe *THREE* innovations that influenced the rapid development of transportation systems. (6 marks)
 - b) Outline the historical development of transportation systems. (14 marks)
- 4.
- a) Explain *FIVE* objectives of transport planning. (10 marks)
 - b) Outline *FOUR* stages in the transportation planning process. (10 marks)
- 5.
- a) Explain *FOUR* items of data sought by interviewers during data collection of trip data. (8 Marks)
 - b) Outline *FOUR* variables used when forecasting of land use. (12 marks)