



MACHAKOS UNIVERSITY

University Examination 2018/2019

SCHOOL OF ENGINEERING AND TECHNOLOGY
DEPARTMENT OF BUILDING AND CIVIL ENGINEERING
THIRD YEAR SPECIAL/SUPPLEMENTARY EXAMINATION FOR
BACHELOR OF SCIENCE (CIVIL ENGINEERING)
ECV 306 TRANSPORTATION PLANNING AND DEVELOPMENT

DATE: 25/7/2019

TIME: 8.30-10.30 AM

INSTRUCTIONS:

- *This paper comprises five questions*
- *Answer question number one and any other two questions*
- *All the optional questions carry equal marks*
- *Candidates to have relevant design manuals*

QUESTION ONE (30 MARKS)

- a) Explain what Functional classification of a roadway defines (3 marks)
- b) Explain the term “public transport” (2 marks)
- c)
 - i) Outline two advantages of air travel (2 marks)
 - ii) State one disadvantage of air travel (1 mark)
- d) Describe Six (6) public transport modes (6 marks)
- e) State a public transport service that is used in areas of low-demand and for people who need a door-to-door service (2 marks)
- f) Describe High-speed rail (2 marks)
- g) Describe Cable-propelled transit (CPT) vehicles (2 marks)

- h) Explain three categories of impacts, of transportation as a source of emission pollutants, on the environment. (3 marks)
- i) Outline seven (7) barriers towards implementing a successful Non – Motorized Transportation (NMT) policy. (7 marks)

QUESTION TWO (20 MARKS)

Describe the three (3) classification categories of roadways.

QUESTION THREE (20 MARKS)

Explain the four (4) phases of highway route location process:

QUESTION FOUR (20 MARKS)

Transportation sector is becoming increasingly linked to environmental problems. Describe seven (7) most important impacts.

QUESTION FIVE (20 MARKS)

Explain six (6) examples of "reasonable" and three (3) examples of "not reasonable" revenue forecast assumptions with regard to transportation system.