



**NAMIBIA UNIVERSITY**  
OF SCIENCE AND TECHNOLOGY

**FACULTY OF COMMERCE, HUMAN SCIENCE AND EDUCATION**

**DEPARTMENT OF MARKETING AND LOGISTICS**

<b>QUALIFICATION:</b> BACHELOR OF TRANSPORT MANAGEMENT	
<b>QUALIFICATION CODE:</b> 07BTRA	<b>LEVEL:</b> 6
<b>COURSE CODE:</b> LTI611S	<b>COURSE NAME:</b> LAND TRANSPORT SAFETY AND INFRASTRUCTURE CONSIDERATIONS
<b>SESSION:</b> JUNE EXAMINATIONS	<b>PAPER:</b> THEORY
<b>DURATION:</b> 3 HOURS	<b>MARKS:</b> 100

<b>FIRST OPPORTUNITY EXAMINATION QUESTION PAPER</b>	
<b>EXAMINER(S)</b>	Dr. Smart Dumba Mr. Neville Geiriseb
<b>MODERATOR:</b>	Ms. Hilma Nuuyandja

<b>INSTRUCTIONS</b>
<ol style="list-style-type: none"><li>1. Answer <b>ALL</b> Questions from Sections A and B, and <b>ANY THREE (3)</b> Questions from Section C</li><li>2. Write clearly and neatly.</li><li>3. Number the answers clearly.</li></ol>

**THIS QUESTION PAPER CONSISTS OF 5 PAGES (Including this front page)**



## SECTION A: ANSWER ALL QUESTIONS

### Question 1

[2x10 Marks]

Indicate whether the following statements are **TRUE / FALSE**

- a) Pedestrians present a particular problem to road safety as they account for nearly a quarter of all traffic-related deaths globally. [2 marks]
- b) Research has identified five major risk factors for accidents: speed, drunk driving, and the use of motorcycle helmets, seat belts, and child restraints. [2 marks]
- c) Trains are vulnerable to different safety threats such as severe weather conditions, head-on collisions, congestion, human trespassing, etc. [2 marks]
- d) Interlocking systems move the railway switches to alter the train's route. [2 marks]
- e) There are 3 levels of transportation planning: Strategic planning, Tactical planning and Operational planning [2 marks]
- f) A road safety impact assessment is similar to a road safety audit in that both are done on a new road [2 marks]
- g) Katutura residents, Windhoek taxi associations, Ministry of Works and Transport, Ministry of Defence all key stakeholders in road safety [2 marks]
- h) Safe road use, safe vehicles, post-crash care, safe speeds, safe roads and roadsides are all pillars of the safe systems approach. [2 marks]
- i) Transport and land use resemble an inverse relationship [2 marks]
- j) The Universal declaration of human rights, the Sustainable Development Goals and the African Charter all governing frameworks for road safety [2 marks]



## SECTION B: ANSWER ALL QUESTIONS

### Question 2

[2x10 Marks]

Select the correct answer, Each correct answer carries 2 marks

- a) The following are major causes of train derailments **except**,
- A. Main-line brake operation
  - B. Obstructions
  - C. Buckled track
  - D. Wide gauge
  - E. All these are correct
- b) Select the **odd** one out regarding rail safety in Namibia
- A. National Transport Services Act, 1998 (28 of 1998)
  - B. Labour Act 2009 (no 11 of 2009)
  - C. Export Processing Zones Act of 1995
  - D. Petroleum Products and Energy Act, 1990 (13 of 1990)
  - E. Explosive Act 1956 (26 of 1956)
  - F. None of these is odd
- c) Which of these **does not** fall under road environment engineering?
- A. Road warning signs
  - B. Audible / vibratory markings
  - C. Pedestrian crossing facility design
  - D. Automotive night vision
  - E. All these fall under road environment engineering
- d) Which statement is **not true** for road safety audits?
- A. Road safety audits are conducted by an audit team that is independent of the design team
  - B. Road safety audits are conducted by an audit team that is adequately qualified.
  - C. Road safety audits are broad enough to consider the safety of all road users and road facilities.
  - D. Road safety audits are quantitative in nature
  - E. All these are true for road safety audits
- e) The following emergency response team is vital after a crash **except**,
- A. Ambulance services
  - B. Fire brigade services
  - C. Police services
  - D. Military service
  - E. All these are vital



- f) The development of a safe and efficient road transport system is challenged by the following constraints , **except**
- A. Financial
  - B. Statutory
  - C. Environmental
  - D. Safety
  - E. Legal
  - F. All these
- g) Select the **odd** out.
- A. Train to Human collision
  - B. Train to Bus collision
  - C. Train to Train collision
  - D. Train to Air collision
  - E. None of these
- h) The following describe the role of transport planning, **except**
- A. Shaping patterns of development that support communities
  - B. Ensuring that efficient (and effective) land-use decisions are made
  - C. Creating vibrant, liveable, sustainable communities
  - D. Supporting economic and regional development
  - E. All these describe the role of transport planning
- i) Which of the following statements is **correct**?
- A. Road Accident Investigation (RAI) and Road Safety Inspection (RSI) are both done on proposed roads.
  - B. Road safety impact assessment and road safety audit are both done on new roads
  - C. Road safety audit and road safety inspection are both done at existing roads
  - D. Road safety impact assessment and road safety investigation are reactive in nature.
  - E. All these are correct
- j) The following terms are associated with the Haddon Matrix, **except**
- A. Crash phase
  - B. Pre-crash phase
  - C. Environment
  - D. Post-crash phase
  - E. All of these are correct





### SECTION C: ANSWER ANY THREE (3) QUESTIONS

#### Question 3

Select any three (3) pieces of legislation that guide rail safety issues in Namibia and analyse their effectiveness in reducing rail accidents [20 marks]

#### Question 4

a) Explain the following terms as they apply to rail safety

i. Derailment [3 marks]

ii. Level crossing accident [3 marks]

iii. Significant accident [3 marks]

iv. Serious injury [3 marks]

b) Identify the leading causes of rail accidents in Namibia and suggest possible ways to minimize these [8 marks]

#### Question 5

Is a Road Safety Audit (RSA) an effective road safety mitigation tool? Critically assess the different phases of RSAs as it relates to the stages of road construction. [20 marks]

#### Question 6

To what extent are accident investigations relevant in the transport sector? What are the phases involved in carrying out the accident investigation process? You should also consider activities before and after an investigation. [20 marks]

#### Question 7

Reliable and detailed data help practitioners accurately identify problems, risk factors and priority areas, to formulate strategy, set targets and monitor performance of the transport sector. Discuss the challenges of collecting quality transport safety data in the Namibian context. Recommend steps to improve the quality of such data. [20 marks]

**Grand Total: 100 Marks**

**END OF QUESTION PAPER**



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