



NAMIBIA UNIVERSITY
OF SCIENCE AND TECHNOLOGY

FACULTY OF COMMERCE, HUMAN SCIENCE AND EDUCATION

DEPARTMENT OF MARKETING AND LOGISTICS

QUALIFICATION: BACHELOR OF TRANSPORT MANAGEMENT	
QUALIFICATION CODE: 07BTRA	LEVEL: 6
COURSE CODE: LT1611S	COURSE NAME: LAND TRANSPORT SAFETY AND INFRASTRUCTURE CONSIDERATIONS
SESSION: JULY EXAMINATIONS	PAPER: THEORY
DURATION: 3 HOURS	MARKS: 100

SECOND OPPORTUNITY EXAMINATION QUESTION PAPER	
EXAMINER(S)	Dr. Smart Dumba Mr. Neville Geiriseb
MODERATOR:	Ms. Hilma Nuuyandja

INSTRUCTIONS
<ol style="list-style-type: none">1. Answer ALL Questions from Sections A and B, and ANY THREE (3) Questions from Section2. Write clearly and neatly.3. Number the answers clearly.

THIS QUESTION PAPER CONSISTS OF 6 PAGES (Including this front page)

SECTION A: ANSWER ALL QUESTIONS

Question 1

[2X10 Marks]

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

- a) Safety has been traditionally viewed as an issue to be addressed before the design phases of transportation projects. [2 marks]
- b) The relationship between Land use and transport is an important factor in good town planning. [2 marks]
- c) Transport planning is necessary in improving accessibility, mobility, transport choice and social equity. [2 marks]
- d) Generally, the Safe Systems Approach aims to promote railway operations safety by recognizing and attending to the main engineering factors that contribute to them. [2 marks]
- e) Road safety auditing follows the principle of "First come first serve"- [2 marks]
- f) The Safe System Approach requires recognition of the fact that transport safety is not a shared responsibility of transport users and transport engineers, but mostly the transport policy makers. [2 marks]
- g) Road safety approaches mainly target the motor vehicle and the human factor [2 marks]
- h) Major arterials have higher vehicle throughput than access to properties [2 marks]
- i) The Road Safety Audit process results in a report describing potential safety concerns that should be considered after advancing to the next stage of the design process or works. [2 marks]
- j) Road safety strategies are aimed at reducing fatalities to acceptable levels [2 marks]

SECTION B: ANSWER ALL QUESTIONS

Question 2

[2X10 Marks]

Select the correct answer, Each correct answer carries 2 marks

- a) Which of the following statements is **incorrect**?
- A. A vehicle seatbelt must be worn during all times when the vehicle is in forward motion despite time of day.
 - B. Road safety programs must focus on all people including pupils, students, and adults.
 - C. When its not comfortable in the head, a motorcyclist may not wear a helmet
 - D. Personal protective clothing must be worn every time at a mining or construction site.
 - E. All these are correct.
- b) Road Accident Investigations reflect on the following, **expect**.
- A. Why has it happened?
 - B. How has it happened?
 - C. Spatial distribution of accident
 - D. What has happened?
 - E. All of these are correct
- c) Which of these **do not** explain the emergence of the safe systems approach?
- A. The recognition that road safety responsibility is everyone's responsibility.
 - B. The understanding that humans are prone to make mistakes.
 - C. The ineffectiveness of traditional "7 Es" to road safety
 - D. The underfunded central and local government structures
 - E. None of these
- d) Which of these **does not** form part of key concepts and principles of the safe systems approach?
- A. Forgiveness
 - B. State awareness
 - C. Homogeneity
 - D. Heterogeneity
 - E. All of these are correct.
- e) Which of the following statements is **incorrect**?
- A. Modern vehicles have both active and passive safety features.
 - B. The Public Health Approach is not only helpful in the analysis of risk factors, but also provides a framework that guides decision-making throughout the entire process, from identifying a problem to implementing an intervention.
 - C. According to a recent survey, TransNamib has safety procedures set in place, but they are insufficient in preventing human error related accidents, incidents, and delays.

- D. Based on complexity thinking, Heinrich developed the “five domino model” of accident causation, a sequential accident model which has been influential on occupational safety thinking
- E. All of these are correct.
- 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) Which of the following **does not** constitute part of vehicle engineering?
- A. Lane keeping assistance.
 - B. Anti-lock braking systems
 - C. Audible or vibratory signs
 - D. Headway maintenance systems
 - E. None of these
- i) The following are all examples of railway safety mechanisms, **except**
- A. Moving block signalling and centralised traffic control systems
 - B. Traffic light signalling system
 - C. Interlocking system
 - D. Block signalling
 - E. All these are correct.
- j) 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

SECTION C: ANSWER ANY THREE (3) QUESTIONS

Question 3

Explain the similarities and differences between the conventional approach (7Es) and the safe systems approach to road safety [20 marks]

Question 4

- a. Define a road safety management system [5 marks]
- b. Discuss any one example of a road transport safety management system [5 marks]
- c. Write short notes on the roles of organizations or authorities responsible for supervision and enforcement of road transport safety management systems [10 marks]

Question 5

- a) Define and characterize a road safety audit (RSA) [10 marks]
- b) Explain the of roles of the following members of a road safety audit team
 - i. Project sponsor [2 marks]
 - ii. Lead auditor [2 marks]
 - iii. Approval manager [2 marks]
 - iv. Road safety advisor [2 marks]
 - v. Active observer [2 marks]

Question 6

- a. According to International Civil Aviation Organization (ICAO), a Safety Management System is defined as "a systematic approach to managing safety including the necessary organizational structures, accountabilities, policies and procedures. Explain and contrast between Proactive Safety Management and Reactive Safety Management. [12 marks]
- b. Which approach is beneficial to implement in a transport organization or business? [8 marks]

Question 7

- a) What is the role of transport planning in road safety? [6 marks]
- b) Explain the levels of transport planning by using an example of public transport services. [6 marks]
- c) What steps need to be considered to ensure successful integration of safety in the Transportation planning? [8 marks]

Grand Total 100 Marks

END OF QUESTION PAPER

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