



Road Traffic  
Management Corporation

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**Occupational Certificate: Road Traffic  
Safety Officer  
SAQA ID: 101875**

**External Integrated Summative  
Assessment**

**EXEMPLER QUESTION PAPER**

EXAMINER: SD Maboeane

INTERNAL MODERATOR: PH Plaatjies

EXTERNAL MODERATOR/S: QCTO

**Duration: 3 hours**

**Total: 100**

# ROAD TRAFFIC MANAGEMENT CORPORATION

OC: Road Traffic Safety Officer

External Integrated Summative Assessment

SAQA ID: 101875

Duration: 03 Hours

Paper Total: 100

## Instructions to the Learners:

- This question paper consists of three (3) **Compulsory** sections consisting of fourteen (14) pages. Please ensure that you have all pages.
- Each Section addresses a separate Exit Level Outcome.
- Please read the instructions at the beginning of each section carefully.
- You may start with a question of your choice but please ensure that the numbering is the same as in the question paper.
- Candidates must obey all instructions issued by an invigilator.
- Failure to do so is a serious breach of the competency assessment rules and regulations.
- Ensure that you have received a six-page extract titled “Driver intoxication and risk for fatal crashes in South Africa” which you will need to answer parts of the questions in Section C.

**No mobile phones, smart phones, tablets, or any other similar devices will be allowed during the duration of the examination. These devices should be switched off for the duration of the examination and stored away from the candidates' desk. No communication is allowed during the examination.**

## **Section A: Design, develop and implement a road safety plan to promote safe road usage (Exit Level Outcome 1)**

### **Question 1**

**1.1 The following are the main elements of a road safety plan: (2)**

- I. Safe road users, safe vehicles, safe roads, and communities
- II. Education, awareness campaigns, research, and data
- III. To enforce the law, save on insurance costs, improves driving skills,
- IV. Lower road fatalities, eliminate road crashes, safe on road accident claims
- V. Safe system approach, Any Road Safety Matrix, Government interventions

**Select below:**

- A. All of the above
- B. None of the above
- C. I, II and IV only
- D. III, IV and V only
- E. I, III and V only

**1.2 Define what a road safety plan entails. (3)**

Road safety plan is a \_\_\_\_\_1.2.(a) plan for the \_\_\_\_\_1.2.(b) and \_\_\_\_\_1.2.(c) of road accidents by all road users such as motorists, passengers, pedestrians, and cyclists.

**1.3 Which statement is incorrect? (2)**

**Select one:**

- A. Traffic safety education should already be initiated and taken care of by the parent during the early toddler phase
- B. The school has a socio-pedagogic task in this regard as social structure
- C. The teaching authorities have a responsibility to see to it that the learning contents are relevant to the social needs

- D. Shaping correct and positive attitudes in the development of the child regarding road traffic safety is a societal responsibility
- E. None of the above

**1.4 The Department of Transport (DoT) provides direction for traffic and road safety policy and legislation. Which of the following combinations represent road safety policies/instruments? (2)**

**Select the correct combination:**

- i. Global policies/instruments (Sustainable development goals; United Nations Decade of Action for road safety)
- ii. Regional policies/instruments (SADC Ministerial 10 key points)
- iii. Local policies/instruments (National Development Plan, National Road Safety Strategy)
- iv. Safe system approach, Any Road Safety Matrix, Government interventions
- v. None of the above.

**Select below:**

- A. V
- B. I and II
- C. III
- D. I, II, III and IV
- E. I, II, and III.

**1.5 The Road Traffic Management Corporation (RTMC) endeavours to ensure *Safe, Secure and Responsible* use of roads in South Africa through. (2)**

**Select below:**

- A. Education
- B. Enforcement
- C. Evaluation
- D. None of the above
- E. All of the above

**1.6 Human factor is the main contributing factor to road accident in our country, which of the following are examples of human factors that lead to accident and crashes. (2)**

**Select one:**

- A. Speeding, Overloading, Driving under the influence of alcohol
- B. Text and driving, Behaviour
- C. Appropriate action, Decision making
- D. Drowsiness, phoning
- E. All of the above

**1.7 Which one of the following statements is correct in terms of the Haddon Matrix? (2)**

**Select one:**

- A. Vehicle factor - These may be mechanical failures, such as bad brakes, worn-out tires, seat belt malfunction.
- B. Environment factor - These include limited sight distance, poorly marked roads, missing road signs, sudden changes in roadway alignment and widths.
- C. Human factor - These include road users who are inattentive, distracted, tired, ill, under influence of medications, intoxicated by alcohol or drugs, not restrained by seat belts, etc. age also affects a road user's ability to be safe on the roadway.
- D. All of the above
- E. None of the above.

**1.8 When considering road safety, there are two distinct groups of pedestrians that need special consideration, namely: (2)**

**Select one**

- A. Baby and small children.
- B. Children and elderly pedestrians
- C. Children and young adults.
- D. Mothers and their children.
- E. Small and older children

**1.9 Traffic Safety Officer will typically act as? (2)**

**Select one:**

- A. Design or as a road safety lead auditor
- B. Client or as road Safety auditing member

- C. Observer or as a specialist advisor member
- D. Consultant or as a group leader

**1.10 Read the following scenario and answer the questions that follows:**

**Trends Toward Reducing Vulnerable Road Users (VRU) Crashes**

Vulnerable road user fatalities have been increasing in South Africa at an alarming rate over the years. Pedestrians and single vehicle overturned remained to be the most contributors to the fatal crashes. The number of road fatalities during the 2021/2022 festive period were released: 1 685 people died on the country's roads between 1 December 2021 and 11 January 2022. This is a 14% increase compared to the same period the previous year.

According to the Minister of Transport, Fikile Mbalula, the main causes of road fatalities include jaywalking, speeding, slippery road surfaces, overtaking across barrier lines and poor visibility. The stats reveal that human factors account for 79% of fatal crashes while road factors contributed 11% and vehicle factors 10%. "One driver's blood alcohol concentration (BAC) was a 2.43mg. Unfortunately, it's doubtful whether this person would have decided against getting behind the wheel with an alcohol limit this high whether there was a point system or not." Says he CEO of *MasterDrive*, Eugene Herbert. ([www.mastertorque.co.za](http://www.mastertorque.co.za))

Real change lies in succeeding in showing drivers the error in their actions before those actions are committed.

10.10.1 It is important that a road provides for all road users. Often the needs of the motorists/drivers are incorporated within a scheme while the needs of other vulnerable road users are ignored. Give three (3) vulnerable road users that need to be considered:

**(3)**

10.10.2 What are the top 3 causes of road accidents in South Africa?

**(3)**

10.10.3 Based on the above data and statistics provided in the scenario list six (6) steps that you will follow in designing a municipal road safety plan.

**(6)**

10.10.4 Suggest four ( 4 ) intervention programs/activities to address the causes of fatalities as per the paragraph. (4)

1.11 Summarise four (4) key essential elements for implementing the road safety plan that you have developed for your province/municipality. (4)

1.12 List three (3) stakeholders that contribute towards the successful implementation of road safety plans. (3)

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**Sub-Total= 40**

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## **Section B: Conduct a road related infrastructure audit/assessment (Exit Level Outcome 2)**

### **Question 2**

2.1 Read the following scenario and answer the questions that follows:

#### **2007 Accra Declaration on Road Safety in Africa**

Ministerial Round Table was held at the African Road Safety Conference Accra, Ghana and accepted this Declaration on the 8th of February 2007.

**HEREBY RESOLVE** to undertake the following *amongst* others:

1. Work together to stop the growing epidemic of deaths and injuries on our roads.
2. Promote road safety as a health, transportation, law enforcement, education, and development priority for our nations.
4. Take necessary steps to source sustainable funding for development and management of transport infrastructure and services and work with multilateral and bilateral donors to develop road safety projects and programmes to build national road safety management capacity.
6. Mainstream road safety into new and existing road infrastructure development programmes. In this regard, convince governments to devote a percentage of their investment in infrastructure development to road safety programmes.
8. Ensure the enactment and enforcement of laws associated with driving under the influence of alcohol and drugs; inappropriate and excessive speeding; non-use of helmets; driver licensing; road-worthy vehicles; and the use of mobile phones.
9. Implement specific education programmes among drivers with regard to safe driving, particularly with issues associated with speed. In this regard, promote road safety initiatives at the local, municipal and national levels, for children and other road users.
10. Urge African countries to pay special attention to rural transport. In this regard, ensure that adequate resources are provided for studies on rural dimensions of road safety and the implementation of their outcome. *Done in Accra on 8 February 2007*

(Source: <https://www.arrivealive.mobi/2007-accra-declaration-on-road-safety-in-africa>)



- 2.1.1 It is important to understand that the written road infrastructure audit report must be divided into major sections and follow some important rules. Outline five major sections that you will use to compile the road infrastructure audit report for the above scenario. (5)
- 2.1.2 Develop a checklist to use in conducting the road infrastructure audit for the above scenario. (5)
- 2.1.3 Forgiving and self-explaining roads are two different concepts of road design that seek to reduce the number of accidents on the road network. Distinguish between forgiving and self-explaining roads and provide/list two examples in each case. (6)

**2.2 Read the following scenario and answer the questions that follows:**

**Road maintenance treatments for unforgiving road infrastructure**

Routine maintenance may be defined as those road treatments that are applied to the roadside or the road itself, to keep it functioning properly. As such, routine maintenance is sometimes referred to as “reactive maintenance.” This suggests that it is work that is performed as a reaction to a specific distress. Routine maintenance is performed on road furniture and the road itself as they begin to show signs of deterioration.

As with routine maintenance, special maintenance could be classified as “reactive” roadworks due to unplanned circumstances. These circumstances could be the result of natural phenomena such as flash floods, or damage caused due to accidents.

In contrast to routine maintenance, periodic maintenance treatments are ideally applied on pavements prior to their manifestation of distresses. These treatments are intended to prolong the life of a pavement by restoring (or maintaining) desirable properties while such measures are still cost-effective. Periodic maintenance can delay future deterioration, or correct existing distresses, therefore they can be classified as preventive or corrective (reduce deterioration progress, or correct existing deterioration producing a step in the distress curve). (Source: <https://www.nra.co.za/road-maintenance> )

- 2.2.1 Identify two works that could be performed as part of the routine maintenance treatment for unforgiving road infrastructure from the above scenario. (2)
- 2.2.2 Identify two works that could be performed as part of specific maintenance treatment for the above unforgiving road infrastructure scenario. (2)
- 2.2.3 Identify two works that could be performed as part of periodic maintenance treatment unforgiving road infrastructure. (2)
- 2.2.4 Give the Name and Surname of the person who developed a matrix that identified risk factors before the crash, during the crash and after the crash, in relation to various elements. (2)
- 2.2.5 Various analytical frameworks like Haddon matrix, forgiving roadside, safe system approach and self-explaining roads can be used to identify the risk factors involved in pre-crash phase, during the crash and after the crash. By using the Haddon Matrix answer the following questions.
- 2.2.5.1 List two human factors that can be considered to prevent crashes from occurring in the Haddon matrix. (2)
- 2.2.5.2 List three human factors that can be considered to increase the occurrence and severity of injuries during the crash in the Haddon matrix. (3)
- 2.2.5.3 List two human factors that can be considered to sustain life post-crash in the Haddon matrix. (2)
- 2.3 Road safety auditors must apply and uphold certain principles when engaged in an audit to ensure decent work and ethical behaviour. As a Road Safety Officer, it is crucial that you are aware of such principles as this may be necessary to procure and recommend the services of a road safety auditor to assist your department/organisation in this regard.
- 2.3.1 Outline five principles of road safety audits. (5)

2.4 A new road related infrastructure audit project is normally implemented in the following stages, namely: (1)

- I. Preliminary design stage
- II. Draft design stage
- III. Detailed design stage
- IV. Construction stage
- V. Pre-opening stage
- VI. Existing stage

Select below:

- A. i, iv, v and vi are correct.
- B. ii, iii and iv are correct.
- C. I, iii, v and vi are correct.
- D. ii, iii, and iv are correct.
- E. All of the above

2.5 A road safety audit is defined as \_\_\_\_\_ . (1)

Select from below:

- A. A formal examination of a road or traffic project where interaction between road users takes place in which an examination team reports on the safety performance.
- B. A formal examination of a future or existing road or traffic project or any project where interaction between road users takes place in which an independent, qualified examination team reports on the accident potential and safety performance of the project.
- C. A examination of a existing road where accidents take place in which an qualified examination team investigate accident potential.
- D. A formal examination of a future road or any project where interaction between road users takes place in which a qualified team reports on potential safety performance.

2.6 When evaluating the safety of pedestrians, the road safety auditor needs to ensure that: (1)

Select below:

- A. The vehicle speeds are compatible with the extent of pedestrian interaction.
- B. The road environment provides for safe refuge.
- C. The road system provides for continuous traffic flow.
- D. The road system limits pedestrian access to areas used by vehicles for travelling.
- E. Footpaths have overhanging vegetation and objects that will force the pedestrian to walk in

the roadway.

F. A and B are correct

2.7 The benefits of a road safety audit, besides the obvious accident reduction and prevention, it also: (1)

Select below:

- A. Saves time and cost by enabling changes to project details at the planning and design stage
- B. It reduces cost related to accidents because road safety audits are seen as a measure tool in seeing if law enforcement actions are successful for the short-, medium- and long-term effects on a road system
- C. It reduces litigation relates costs because road safety audits are seen as an action taken by a road authority to assess safety and to enable them to prepare a short, medium and/or long-term plan to remedy the situation.
- D. Saves manpower and resources by enabling direct action to an identified problem in the design stage
- E. A and C are correct

**Sub-Total= 40**

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## Section C: Conduct research project and generate an abstract (Exit Level Outcome 3)

### Question 3

- 3.1 Define an abstract in terms of the scientific enquiry/research. (3)
- 3.2 Read the attached research extract/paper titled “Driver intoxication and risk for fatal crashes in South Africa: A 3-year review” and answer the following questions:
- 3.2.1 Formulate an abstract. (5)
- 3.2.2 Analyse the extract and draw three (3) conclusions on how to improve road safety. (3)
- 3.2.3 Design a monitoring and evaluation tool for a programme to minimise the burden of alcohol-related public road crashes. Use the table below. Hint: An example has been done for you in the table below as a guide, complete the second one. (3)

Objective	Causal problems	Potential indicator for monitoring	Monitoring mechanism/data sources
Reduce death and illness related to Water and Sanitation related diseases in the targeted communities	Insufficient outreach awareness campaigns through informal and formal education activities and initiatives in the affected communities	Percentage reduction in water and sanitation related diseases among target population  Number of children under 36 months with diarrhea in the last two weeks	Ministry of Health statistics  WHO statistics  Records from village clinics
Minimise the burden of alcohol-related public road crashes.	<b>(1)</b>	<b>(1)</b>	<b>(1)</b>

- 3.3 Quantitative data is the term used to describe: (1)
- Select one:
- A. all the data you include in your research report

- B. charts and tables
- C. statistical tests
- D. data in the form of numbers and measures

3.4 Which of the following is the principal quantitative method of data capturing?

Select one:

(1)

- A. focus groups
- B. surveys
- C. participant observation
- D. discourse analysis

3.5 Which of the following scales is commonly used to measure opinions in a questionnaire?

Select one:

(1)

- A. ranking scale
- B. nominal questions
- C. Likert rating scale
- D. open question

3.6 Read the following passage and then answer the questions that follow:

### **Researching into perceptions of professionalism**

Lee was a Road Safety student who wished to investigate the different understanding of 'professionalism' among Road Safety Officer in different roles within various provinces in South Africa. He wanted to find out about the perspectives of those within the road safety functions working in different positions such as Assistant Managers, Managers, and Senior Managers. Lee's reading around the subject of professionalism in general and the HR function highlighted a range of ambiguities. He decided to undertake semi-structured interviews with people who worked in road safety environment.

3.6.1 Identify the most appropriate sampling selection and provide a reason for your selection of that sampling. (3)

**Sub-Total = 20**

**PAPER TOTAL = 100 Marks**