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

## **External Integrated Summative Assessment**

#### MEMORANDUM

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 rubric consists of three (3) Compulsory sections
- Each Section addresses a separate Exit Level Outcome
- The assessor/marker should use this rubric as a guideline and not be rigid when marking
- All other instructions as provided for in the approved assessment answer script apply.

### 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 entail.

(3)

Road safety plan is a <u>comprehensive/elaborative</u> (1.2.a) plan for the <u>prevention</u> (1.2.b) and <u>protection</u> (1.2c) 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 one:

- 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. Engineering
- 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)

<b>^</b>			
50	lect	$\alpha$ r	Δ.
26	CCL	vı	ıc.

- 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 pedestrian
- 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 audit team 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.mastertorgue.co.za)

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

1.10.1 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)

		[Any 3]
•	Stray animals	(1)
•	Athletes	(1)
•	Motorcyclists	(1)
•	Preschool and school-going children /scholars	(1)
•	Cyclists	(1)
•	The elderly	(1)

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

The assessor does not have to be rigid and should allocate marks to similar projects/programs that the learner could provide

These are among the leading causes of South African road accidents.

•	Distractions. Not focusing on the road while driving is one of the leading causes of road		
	accidents.	(1)	
•	Drunk driving.	(1)	
•	Speeding.	(1)	
•	Reckless driving.	(1)	
•	J-walking.	(1)	
•	Weather.	(1)	
•	Poor road conditions.	(1)	
•	Vehicle faults.	(1)	
		[Any 3]	

1.10.3 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)

The assessor does not have to be rigid and should allocate marks to similar projects/programs that the learner could provide

• Identify the problem or issues (1)

<ul> <li>Agree to set objectives, outcomes and strategies</li> </ul>	(1)
<ul> <li>List possible actions and solutions</li> </ul>	(1)
Implement action plan	(1)
Evaluation	(1)
1.10.4 Suggest three (4) intervention programs/activities to address	ss the causes of
fatalities as per the scenario.	
(4)	
The assessor does not have to be rigid and should allocate	marks to similar
projects/programs that the learner could provide	
Anti-alcohol abuse project	(1)
Anti-substance abuse project	(1)
Pedestrian safety project	(1)
Scholar patrol project	(1)
Driver training program	(1)
Safety in Traffic Education Program (STEP)	(1)
Child in traffic	(1)
	[Any 4]
1.11 Summarise four (4) key essential elements for implementing th	e road safety plan
that you have developed in your municipality/province.	
(4)	
<ul> <li>Understanding your departments or entity's responsibilities for all volume</li> </ul>	ulnerable road users
who use the public road daily.	(1)
Get management commitment	(1)
<ul> <li>Actively engage and communicate with various road users</li> </ul>	(1)
<ul> <li>Identify and evaluate driving related hazards and risks</li> </ul>	(1)
Develop road safety policy	(1)
Adopt rigorous vehicle inspection and maintenance processes	(1)

• Analyse objective data

(1)

Adopt and incident management process	(1)
<ul> <li>Establish how you will deliver, monitor, and administer the road safety;</li> </ul>	olan (1)
<ul> <li>Regularly evaluate road safety plan and make improvements</li> </ul>	
	[Any 5]
1.12 List three (3) stakeholders that contribute towards the successful	implementation
of road safety plans.	
(3)	
Transportation companies	(1)
Law enforcement departments	(1)
Elected public representatives/local politician/councillor	(1)
Emergency services such as fire and ambulance	(1)
Media houses	(1)
School district	(1)
Town planning and zoning department	(1)
<ul> <li>Community groups (chamber of Commerce, Tourism Agencies, etc)</li> </ul>	(1)
Award mark	s for Any [5]
Su	ıb-Total= 40

## 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	s important to understand that the written road infrastructure audit report must be divided
in	nto major sections and follow some important rules. Outline five major sections that you
w	vill use to compile the the road infrastructure audit report for the above scenario (5) (Credit
a	ny 5 points).

The Road Safety Infrastructure (RSI) report consists of five main sections and appendices with maps, pictures, and illustrations as necessary:

- PART 1: Includes details of the road or section/element of road being inspected as well
  as the composition of the inspection team, date, times and conditions at the time of the
  inspection.
- PART 2: Should outline the background data obtained during the preparatory work in the office and a description of the activities undertaken.
- PART 3: Describes the shortcomings or deficiencies which were found and an assessment of these deficiencies. It should contain the completed investigation form and the documentation with pictures. It is recommended to include these deficiencies and shortcomings into table form.
- PART 4: Should contain proposals for countermeasures, from short to long term. The safety effects of the measures should be taken into consideration.
- PART 5: Recommendations about stepwise measures to improve the situation. (1)
- APPENDICES include illustrations, maps, tables and data from other sources and kinds
  (to clarify the results, different kinds of illustrations including photos and sketches of
  countermeasures). If the accident data is used it could also be included in the appendix.
   (1)

 $[1 \times 5 = 5]$ 

### 2.1.2 Develop a checklist to use in conducting the road infrastructure audit for the above scenario. (5)

No.	Question/Criterion	Yes/No	Remarks/Comment
1	Is there any information available about previous		
	Road Safety Inspections (RSI)? (1)		
2	Are there any available issues from accident data		
3	Are transitions installed between different road functions and characteristics? Do road users		

No.	Question/Criterion	Yes/No	Remarks/Comment
	realize the change of road functions and		
	characteristics early enough (orientation		
	sight)? (1)		
4	Are there specific traffic composition		
	characteristics to be taken into consideration		
	(e.g. pedestrians in through road sections)? (1)		
5	Are special measures required for groups e.g.,		
	for young people, older people, sick people,		QY
	physically handicapped, hearing-impaired or		
	blind people? (1)		
6	Is the design of the road according to its function		
	and hierarchy in the network? (1)		
7	Are there any parallel ways to be used by special	<b>V</b> )'	
	vehicles (like carts and farm equipment)? (1)		
8	11. Are there specific measures taken (e.g. traffic		
	islands and lane shifts) at the entrance of		
	settlements and towns? (1)		
9	Are speed limits required and applied in the best		
	way? Have suitable measures been taken to		
	ensure that speed limits are obeyed? (1)		
10	Is stopping sight distance guaranteed along the		
	entire section? Is stopping sight obstructed, for		
	example by narrow crest curves? (1)		
11	Is overtaking sight distance in an acceptable way		
	of the road section ensured? (1)		
12	Is slow and non-motorized traffic separated from		
	fast and heavy traffic (e.g. separate facilities)?		
	(1)		

[Any 1 x 5=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)

In short: **self-explaining roads** seek to prevent driving errors, (1) **while forgiving roads** minimise their consequences (1)

#### Elements of self-explaining roads:

0	Markings		(1)
0	Signs		(1)
0	Geometry		(1)
0	Equipment		(1)
0	Lighting	1	(1)
0	Road surface		(1)
0	Traffic		(1)
0	Speed management	Y	(1)
0	traffic laws		(1)
			Any 2]

#### Elements of forgiving roads

- To reduce the consequences of an accident (1)
- To focus on treatments that bring vehicles back into the lane to reduce injury or fatalities
   (1)
- o To forgive the driver's error by reducing the severity of run-off-road accidents.(1)

[Any 2]

#### 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: <a href="https://www.nra.co.za/road-maintenance">https://www.nra.co.za/road-maintenance</a>)

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)

**Non pavement (N):** These include all the activities that are accomplished outside of the road surface, like clearing side drains & culverts, vegetation control, line-marking, road signs repair, guard rail repair, etc. (1)

Pavement (P): These are works responding to minor pavement defects caused by a combination of traffic and environmental effects, for example, crack sealing, patching, edge repair; shoulders re-gravelling and grading.

(1)

[Any 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)

Non-pavement (N): This comprises works undertaken to clear a road that has been cut or blocked. Included under here are traffic accident removal, clearing debris, and repairing washout/subsidence.

(1)

Pavement (P): This normally involves the repair of selected pavement areas that fail due to latent defects, thus enabling the rest of the pavement to achieve it's anticipated design performance or life. (1)

**Bridge (B):** This normally involves the repair of selected bridge elements that fail mostly due to latent defects, thus enabling the rest of the bridge to achieve its anticipated design performance or life.

(1)

Any 2

2.2.3 Identify two works that could be performed as part of periodic maintenance treatment unforgiving road infrastructure. (2)

**Preventive Treatments (P):** This is the addition of a thin film of surfacing to improve surface integrity and waterproofing without increasing the strength of the pavement. Preventive maintenance treatments are most effective when they are applied to a surface that is intact (i.e., free from significant cracking or disintegration. Preventive treatments are not an effective means of addressing structural deterioration such as rutting and crocodile cracking. (1)

**Resurfacing (R):** This is the addition of a thin surfacing to improve surface integrity and waterproofing, or to improve skid resistance, without increasing the strength of the pavement significantly. (1)

 $[1 \times 2 = 2]$ 

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)

William Haddon

(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 precrash 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)

• Training (1)

• Education (1)

Advanced driving skills

• Behaviour (1)

Attitudes (1)

• Excellent eyesight especially when driving during the night (1)

	Any [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)
Non-use of restrain systems	(1)
Non-use of safety belts	(1)
Presence of drugs and substance abuse	(1)
Fatigue/sleepiness	(1)
Inattentiveness	(1)
Use of cellphone	(1)
Human intolerance factors	(1)
<ul> <li>No stopping/resting after every two (2) hours if driving longer distances</li> </ul>	(1)
	Any [2]
2.2.5.3 List two human factors that can be considered to sustain life post-crash in	the Haddon
matrix.	(2)
First aid/actions or self-help by victims themselves	(1)
First aid bystanders	(1)
Firefighting	(1)
Access to the emergency medical system	(1)
Health insurance	(1)
Rehabilitative psychosocial care	(1)
Delivery of medic before arrival at the hospital	(1)
Appropriate care in hospital emergency rooms	(1)
	Any [2]
2.3 Road safety auditors must apply and uphold certain principles when engaged i	n an audit to
ensure descent work and ethical behaviour. As a Road Safety Officer it is cru	icial that you
are aware of such principles as this may be necessary to procure and rec	ommend 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.	

• Confidentiality – to respect the value and ownership of information obtained during

• Competency - to apply and knowledge, skills and experience needed

the audit activities and process.

(1)

(1)

(5)

•	Fair presentation – to report truthfully and accurately on audit findings and active	vities
	including any unresolved opinions between the audit and team and the audit	ditee.
	(1)	
•	Independence - to maintain an objective mind throughout the audit process	ss to
	ensure that the audit findings and conclusions are based on evidence	(1)
•	Integrity – to observe both the form and spirit of road safety standards and abs	olute
	honesty while performing his/her duties	(1)
•	Objectivity - to exhibit the highest level of professional objectivity in gathe	ering,
	evaluating and communicating information about the road environment, t	raffic
	activity and process being examined.	(1)
•	Risk-based approach - to ensure that audit activities are adequate to mitigate	ate a
	variety of different types of risk	(1)
	An	y [5]
2.4 A new ro	oad related infrastructure audit project is normally implemented in the follo	wing
stages, n	amely:	
(1)		
l.	Preliminary design stage	
ı. II.	Draft design stage	
III.	Detailed design stage	
IV.	Construction stage	
V.	Pre-opening stage	
VI.	Existing stage	
Select below:		
A. B.	i, iv, v and vi are correct. 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	

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.

(1)

2.5 A road safety audit is defined as \_\_\_\_\_

- 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:Select below: (1)
- 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 longterm 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

## 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)

An abstract summarizes, the major aspects of the entire paper in a prescribed sequence that includes:

- 1) the overall purpose of the study and the research problem(s) investigated; (1)
- 2) the basic research design of the study; (1)
- 3) major findings or trends found. (1)
- **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)

The following serves as a guideline of key concepts that the assessor could expect from the learner in response.

This study presents the findings from in-depth sample of fatal crashes drawn from the RTMC database between 2016 and 2018 with 13 074 fatal crashes. Various variables relating to crash complexity such as vehicle characteristics and regulation, and the day/night, weekday/weekend and vacation/non vacation periods were employed during the study. In contrast to fatal crashes involving only the driver, the study revealed a higher risk for alcohol-attributed fatal crashes in instances involving other drivers and pedestrians. Additionally, road users were also at a greater risk during the night, over long and regular weekends alike for light vehicles and buses compared to trucks. The article concludes by highlighting the role of traffic authorities and what law enforcers can do to improve road safety on the public road.

[Any 5]

- 3.2.2 Analyse the extract and draw three (3) conclusions on how to improve road safety
  - Using roadblocks during the night, non-vacation periods and over weekends

- Speed monitoring during other periods
- Mobile visible policing
- Paradigm shift regarding driver intoxication being solely the cause of crashes when in fact crashes co-occurs because of other associated risks like drowsiness, fatigue, speeding, disregarding traffic lights and signs, overtaking, and the use of cellphone.
- Excessive speeding
- Inappropriate overtaking

#### [ Any 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 to as a guide.(3)

Objective	Causal problems	Potential indicator for	Monitoring
		monitoring	mechanism/data sources
Reduce death and illness related to	Insufficient outreach	Percentage reduction in water	Ministry of Health statistics
Water and Sanitation related	awareness campaigns	and sanitation related diseases	
diseases in the targeted	through informal and	among target population	WHO statistics
communities	formal education activities and initiatives in the affected communities	Number of children under 36 months with diarrhea in the last two weeks	Records from village clinics
Minimise the burden of alcohol-	Insufficient road safety	Driver intoxication related	Crash reports/police or crash
related public road crashes.	outreach awareness	crashes compared with all	Investigators (1)
	campaigns educational	crashes (1)	
	activities and initiatives		Population census data (1)
	at specific intersections,	Rates of driver intoxication	
	taxi ranks, bus depots	crashes per number of people	Vehicles registered for use on
	etc (2)	involved (1)	public roads (1)
	(1)	Rates of driver intoxication crashes per number of vehicles (1) Rates of speed crashes per vehicle kilometre travelled (1) Any (1)	Highway/road administration data related to traffic volume and road design (1)  Any (1)

- 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)

- Non-probability purposive sampling
   (1)
- The above sampling technique relies heavily on specific criteria for selection of the sample for example relevant qualification (1) and several years of experience in the field.
- The above criteria/perspectives may typify important viewpoints pertinent to the research questions.

[Any 3]

Sub-Total = 20
PAPER TOTAL = 100 Marks