



**NAMIBIA UNIVERSITY
OF SCIENCE AND TECHNOLOGY
FACULTY OF MANAGEMENT SCIENCES
DEPARTMENT OF MARKETING AND LOGISTICS**

QUALIFICATION: BACHELOR OF TRANSPORT MANAGEMENT	
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COURSE CODE: SPI621S	COURSE NAME: TRANSPORT SAFETY PRACTICE AND INFRASTRUCTURE MANAGEMENT
SESSION: NOVEMBER 2019	PAPER: THEORY
DURATION: 3 HOURS	MARKS: 100

FIRST OPPORTUNITY EXAMINATION QUESTION PAPER	
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INSTRUCTIONS
<ol style="list-style-type: none">1. Answer ALL the questions.2. Write clearly and neatly.3. Number the answers clearly.4. This question paper consist of Section A and B.

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

SECTION A: MULTIPLE CHOICE AND TRUE/FALSE QUESTIONS

(40 Marks)

Question 1: Multiple Choice

Write the letter next to the correct answer.

2x10=20 Marks

- 1.1. The transportation system that requires a low initial investment among the following is?
- a) Roadway
 - b) Railway
 - c) Harbour
 - d) Airport
- 1.2. Land use, transportation and road network plans are _____.
- a) Inter linked
 - b) Intra linked
 - c) Not linked
 - d) Depends on the network
- 1.3. The following form part of the transport planning process, except?
- a) Transport vision and goals.
 - b) Existing conditions analysis.
 - c) Monitoring system performance.
 - d) Project alignment and strategy implication.
- 1.4. The following statement are true about life-cycle infrastructure planning process, except?
- a) It state the fact that all transportation infrastructures have a life span.
 - b) Each infrastructure has a life-cycle, which necessitates a long-standing view of such infrastructures.
 - c) The life-cycle also does not indicate the consequences of infrastructure on the geographic areas they are constructed.
 - d) The first step of the life cycle analyze the demand capacity of the geographic area at which the infrastructure development is planned.
- 1.5. Accident investigations must provide vast evidence to answer the following question (s):
- a) What happened?
 - b) Where and when did it happen?
 - c) Who is involved?
 - d) All of the above questions.
- 1.6. Which of the following statements is false?
- a) Accident investigations are conducted for different reasons and objectives.
 - b) Investigations are mostly dependent on the respective stakeholders and their perspectives.
 - c) Different stakeholders might have different aims and objectives for conducting an accident investigations.
 - d) Disagreement on accidents investigation aims and objectives cannot compromise the outcomes of the investigation.

- 1.7. Safety policy and objectives component has the following elements, except?
- Management obligation and duty.
 - Safety answerabilities.
 - Recruitment of main safety personnel.
 - SMS regulations and tools.
- 1.8. Safety promotion can be achieved through _____.
- Awareness raising
 - Changing behaviors
 - Publishing safety materials
 - all of the above
- 1.9. One of the reasons for the scarcity of resources is:
- Public budgets prejudiced to new assets, for political reasons.
 - Annual budgets not suited to stable, multi-year operations and maintenance needs.
 - Low cost funds obtained from user fees and user-charge evasion.
 - All of the above.
- 1.10. The compilation of current Safety Management System related records and documents includes:
- SMS internal review or audit records.
 - Predictive Mitigation.
 - Mitigation risks and crashes proposal.
 - All of the Above.

Sub-total: 20 Marks

Question 2: True/ False

State whether the following statements are true or false:

2x10= 20 Marks

- When a mitigation approach is not sustainable but effective is considered to be durable.
- If the mitigation approach has high residual safety risks and requires additional control measures that are costly, then it is not worth implementing.
- GADM program is a data management platform for sea mode, which integrate all sources of operational data received from various channels.
- ICAO is an international organization with the responsibility for the safety and security of shipping and the prevention of maritime pollution.
- The accident site should be isolated until all pertinent evidence has been collected or observed and recorded.
- A record of all evidence is the final step in accident investigation.
- Data quality includes a review of variable definitions, ensuring they are simple to understand and apply.
- Transport infrastructure are important for the development of the country in facilitating the movement of people and goods, it improves the access to education, health care, employment and economic markets.
- There are both local and international modal sources of transport safety data, particularly on infrastructures development, vehicles, operations, traffic clashes and injuries, and economical analysis.
- Reliable and detailed data compromise the process of identify problems, risk factors and priority areas, and formulation strategy, targets and performance monitoring.

Sub-total: 20 Marks

SECTION B: STRUCTURED QUESTIONS

(60 Marks)

Question 3

3.1. Explain four principles of the safe system approach?

12 Marks

3.2. Answer the following questions relating to diagram 1 below:

a) Does diagram 1 below show real or potential hazard? Justify your answer!

2 Marks

b) Assess the hazard in the diagram 1 using the risk assessment process? You should also mention each step in the risk assessment process.

10 Marks



Diagram 1

Sub-Total: 24 Marks

Question 4

4.1. You are hired by TransNamib Holdings Ltd to conduct an investigation on railway accidents that happened in Namibia this year. How will you do it?

15 Marks

4.2. Before the accident investigation take place, it is often a challenging task to place the right people, in the right places, at the right time, and to have the correct tools, according to the right procedure and management controls. What are the steps that stakeholders should consider to ensure their readiness for the investigative task?

7 Marks

Sub-Total: 22 Marks

Question 5

5.1. An infrastructure demand assessment provides management with the necessary data to guide their decisions. Discuss three (3) types of assessments that organization like Road Authority can use to analyse their infrastructure demand? 9 Marks

5.2. List any five (5) principles considered for sustainable transport infrastructure network design? 5 Marks

Sub-total: 14 Marks

Total: 100 Marks

THE END