higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

MARKING GUIDELINE

NATIONAL CERTIFICATE (VOCATIONAL)

TRANSPORT OPERATIONS
NQF LEVEL 3

17 November 2023

This marking guideline consists of 7 pages.

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SECTION A

QUESTION 1

1.1 multiproduct pipelines
1.2 road transport
1.3 transtainer
1.4 place utility
1.5 prequalified carrier databases
1.6 sabotage
1.7 social issues
1.8 utilisation
1.9 electronic verification
1.10 luggage

(10 × 1) **[10]**

QUESTION 2

2.1 D
2.2 A
2.3 I
2.4 F
2.5 K
2.6 L
2.7 E
2.8 M
2.9 N
2.10 O

(10 × 1) **[10]**

TOTAL SECTION A: 20

SECTION B

QUESTION 3

3.1 Road transport – The transportation of products by road via trucks is the preferred form of product transport as it offers flexibility, convenience and cost-effectiveness. (3)

3.2 Sea and road✓

- Typically, bulk goods are shipped by sea in shipping containers. There are exceptions, e.g. ships that carry only copper, iron ore or crude oil and specialised freight ships that carry only one type of product, such as cars.
- Ships are customised to deal with intermodal switches, like Ro-Ro ships, or use standardised containers to ensure ease of transfer from one transport mode to another.

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- For example, containers come in 20-foot, 40-foot and 53-foot lengths. The height and width of the containers have been standardised and therefore it can be stacked without leaving open spaces. In other words, a South African container will fit onto a Canadian container that is stacked on a container coming from China, and all of them will fit neatly on top of each other. These containers can also be transported by truck, rail and even by large cargo planes as all these freight vehicles are adapted to deal with the standard container dimensions.✓

Rail and road✓

- Rail transportation is commonly used along with another means of transport. Most goods must be transported from railway stations to other destinations as railways cannot provide a door-to door service. In most cases road transport is used in conjunction with rail.
- At some railways stations, the switch from rail to road is trouble-free and uncomplicated. At smaller stations, the switch may be complicated due to lack of infrastructure. Usually switches between modes are easy if the vehicles are customised for specific products, such as coal, iron ore and crude oil.✓

Air and road✓

- Air transportation is also used in combination with other means of transport. In most cases road transport is used as docks and airports are typically not linked. As with rail and maritime transport, air transport does not provide a door-to-door service.
- The switch from road to air transport is usually also highly dependent on standardised containers. The infrastructure at airports dealing with freight transport usually ensures a seamless switch from road to rail and vice versa.✓ (Any relevant 3 × 2) (6)

3.3

- A skeletal trailer is an articulated semitrailer designed to carry standard containers. It is merely a framework that supports the containers and the containers in fact become the body of the vehicle when loaded onto the trailer.
- An extendable trailer, sometimes referred to as a slider, is similar to a skeletal trailer but can be extended or shortened depending on the size of the container to be transported.
- 56-ton gross combination mass (GCM) vehicles (truck-tractor and trailers), which is the maximum GCM allowance of any combination of heavy vehicles in South Africa. (3 × 2) (6)

3.4

- Much easier and less human involvement in transport operations
- Reduced loss and damage through theft, pilferage, etc.
- Shortened timeframes as handling time is considerably reduced (3)

3.5
- A transtainer is a large device that is mounted on rails. It is used to transfer containers from sea-transport vessels to trucks or rail wagons and move along the quayside. Its boom spans the distance from the ship's cargo hold to the quayside.
- A gantry, or portal crane, also called a straddle crane, is designed to lift containers and swap bodies. It has four legs with wheels at the bottom and can straddle rail wagons and road vehicles. It has a twist-locking device at each corner which fits into the corner casting of the container.
- A grappler lift is similar to a straddle crane, but has four arms designed specifically to handle swap bodies. It straddles the vehicle and positions the arms to lift the swap body. (3 × 2) (6)

[24]

QUESTION 4

4.1
- Cost:✓ The cost of fares is often influenced by the route that the transport carrier must follow. The longer the route, the more expensive the journey becomes. It is necessary to include all economically viable routes, e.g. include Johannesburg and Durban, but exclude Pofadder as local services will cover that area.✓
- Travel time:✓ When planning routes, it is crucial that variables such as the distance to and from stops, waiting periods between transport services, travel time and transfer time between modes are considered.✓
- Reliability:✓ Another important requirement is the reliability of service on specific routes. Reliability on routes may be impacted by things such as poor road surface, traffic delays, etc.✓
- Convenience:✓ In terms of convenience, the frequency of the service, the operating hours, the number of intermodal or same-modal transfers, ease of access and use of the fare collection system must be considered.✓
- Comfort:✓ One of the requirements for routing is certainly the comfort of passengers. This includes the amount of crowding, the length of queues, the time needed to stand without the availability of places to rest, the features of the transport vehicle, the availability of shelter against the elements, etc.✓

(Any 3 × 2) (6)

4.2
- Deprivation of food and water
- Changes in climatic conditions
- Overcrowding or isolation, unfamiliar surroundings, noises and unexpected sensations
- Insufficient care during transportation
- Physiological responses associated with stress (Any 4 × 1) (4)

4.3
- Minimising outsourced carrier costs
- Selecting the best set of carriers to meet transportation needs
- Determining the best mix of carriers to handle standard and surge distribution needs
- Reducing the effort and staff time required to determine the optimal distribution plan
- Analysing what-if situations
- Evaluating the best combination of carrier discounts to transport the company's volume at the lowest total cost
- Reducing labour, time and costs associated with conducting bids
- Utilising transportation assets in the most efficient manner possible
- Reducing uncertainty in the bidding process, thus eliminating the incentive for carriers to inflate rates (Any 5 × 2) (10)

4.4
- Mode of transport
- Type of product
- Transit capital
- Packaging
- Breakage
- Regulation
- Hijacking and theft (Any 4 × 1) (4)

4.5
- Experience
- Driver capabilities and licensing
- Vehicle capabilities
- Material handling and loading equipment capabilities
- Financial position (cash-flow capabilities – carriers with financial problems may not be able to conclude a project)
- Litigation history (some carriers may use excessive claims and litigations as a means to increase income after awarding of a contract) (Any 1 × 1) (1)

[25]

QUESTION 5

5.1
- South Africa's public transport systems still need much improvement to solve urban traffic congestion problems.
- Nationally the trend is to operate inexpensive, and hence often older vehicles, especially in the minibus taxi market. The result is an unregulated entry into the passenger transport market resulting in a higher level of congestion and environmental impact than is socially desirable.✓
- This eventually led to the government intervention to improve the effectiveness of the taxi industry through the taxi recapitalisation programme (TRP).
- The TRP aims to bring about safe, effective, reliable, affordable and accessible taxi operations by introducing new taxi vehicles (NTVS) designed to undertake public transport functions in the taxi industry.
- These taxis carry more passengers in more reliable vehicles, reducing the number of vehicles on the road and improving the reliability of the taxi service.
- Other government initiatives to reduce the effect of traffic congestion in urban areas include the mass rapid transport network, which includes rail (Gautrain) and bus services (Rea Vaya, MyCiTi, etc.) These initiatives go a long way in reducing traffic congestion by providing improved passenger transport systems
- South Africa's middle class is overwhelmingly dependent on private motor cars and prefers private over public transport. Despite comparatively low levels of affluence, private car ownership in South Africa's big cities are relatively high. The results are congestion, high carbon emissions and lengthy travel times. (Any 4 × 1) (4)

5.2 Private transport includes all modes of road transport of selected people, usually not in exchange for a fare. Public transport refers to a shared passenger transportation service which is available for use by the general public. (2 + 2) (4)

5.3
- For every transaction, it should be made clear which staff member is involved.
- Cashiers working at registers should be identified on the cash register receipts that are issued by them.
- The cash register must always be closed, except during transactions.
- Staff members must always be aware of safety regulations and practise caution.
- When the register is left without supervision, cash must be locked away.
- Excess cash should regularly be removed, counted and locked away.

(Any 4 × 2) (8)

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5.4
- Refunds will be processed in accordance with the fare ruling on the ticket.
- All refunds are subject to an administration fee.
- The service fees charged are nonrefundable.
- Expired tickets have no refund value if presented after 12 months from the date of original document issue. However, the additional collection on the reissued ticket will be refundable within 12 months.
- Service fees from South Africa and Mauritius are VAT inclusive.

(Any 4 × 1) (4)

5.5
- Health and safety regulations require warning and safety signs to be in place wherever it is necessary. In terminals and vehicles all fire alarms, fire extinguishers and emergency exits should be clearly indicated.
- There must never be anything blocking emergency exits and a sign showing this should be on doors.
- Most transport operators have security personnel on site. They serve as good deterrents for most potential problems and are there to react immediately, should anything happen.
- Operator licences are conspicuously placed at strategic places. This is done to assist passengers in distinguishing between reputable transport operators and other fly-by-night or unlicensed companies.
- Transport operators ensure that they have relief drivers for buses to prevent drivers from exceeding the prescribed driving hours without rest.
- Rest periods for pilots and co-pilots are also well monitored to ensure optimum performance.
- One of the main safety measures taken by transport operators is ensuring the safety of vehicles before the trip. Regular checks, routine maintenance and pre-trip inspections are usually standard practice.
- Most land transport operators have roadside emergency and breakdown procedures and are equipped with wireless communications devices.
- Most transport operators provide safety information on their websites and when selling tickets.
- Passengers are warned that pickpockets might be around and that they should pay careful attention to the safekeeping of wallets, keys and other valuable belongings.
- As tourists often attract the attention of criminal elements, transport operators should warn passengers to be on the lookout for their personal safety and for the security of their baggage.
- Passengers are not allowed to leave any baggage unattended and strict precautions are in place to prevent others from placing illegal goods (such as drugs) and dangerous goods (such as explosives) in the baggage of unsuspecting passengers. (Any 5 × 2) (10)

5.6
- Lift club
- Value-added services as provided by hotels for their clients
- Staff shuttle
- Chartered service where a vehicle and a driver is hired (Any 1 × 1) (1)

[31]

TOTAL SECTION B: 80
GRAND TOTAL: 100

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