NAMIBIA UNIVERSITY
OF SCIENCE AND TECHNOLOGY

FACULTY OF COMMERCE, HUMAN SCIENCE AND EDUCATION

DEPARTMENT OF MARKETING, LOGISTICS AND SPORT MANAGEMENT

QUALIFICATION: BACHELOR OF TRANSPORT MANAGEMENT	
QUALIFICATION CODE: 07BTRA	**LEVEL:** 7
COURSE CODE: IMT711S	**COURSE NAME:** INTERMODAL TRANSPORTATION
SESSION: JUNE 2024	**PAPER:** THEORY
DURATION: THREE (3) HOURS	**MARKS:** 100

FIRST OPPORTUNITY EXAMINATION PAPER	
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MODERATOR:	Ms. M POLLA

INSTRUCTIONS
1. Answer ALL the questions 2. Read all the questions carefully before answering. 3. Number the answers clearly.

THIS QUESTION PAPER CONSISTS OF _6_ PAGES (Including this front page)

SECTION A: MULTIPLE CHOICE & TRUE OR FALSE QUESTIONS

QUESTION 1: Multiple Choice [2*20 = 40 Marks]

1. You are a logistics manager tasked with optimising the transportation strategy for a multinational company. The company manufactures high-value, time-sensitive electronic components and needs to transport them from a production facility in Northern Namibia to distribution centres across Namibia. Consider the various factors involved in intermodal decision-making. What would be the most suitable combination of transportation modes for this scenario?
   a. Exclusively air transportation
   b. Truck and rail transportation
   c. Maritime and air transportation
   d. Solely rail transportation

2. A company needs to transport time-sensitive medical supplies globally. Which intermodal transport system would be most suitable for this shipment?
   a. Piggyback system
   b. Birdyback system
   c. Fishyback system
   d. Rail-road system

3. In intermodal transportation, what is the primary focus when transporting goods?
   a. Direct handling of cargo
   b. Transferring load units
   c. Exclusive use of a single-mode
   d. Minimising transportation options

4. What challenge does containerisation pose in terms of site constraints, particularly for container transhipment infrastructure?
   a. It requires minimal stacking space.
   b. It reduces the need for terminal space
   c. It demands significant stacking space
   d. It eliminates the need for draft considerations

5. In the context of infrastructure costs, what is a significant investment required for containerisation?
   a. Development of shipping lanes
   b. Construction of specialised ships
   c. Installation of tracking devices on containers
   d. Acquisition of gantry cranes and yard equipment

6. Describe the challenge of empty container travel in the shipping industry.

a. Containers spend too much time generating income.
b. Carriers benefit from the efficient repositioning of empty containers.
c. Empty container travel is cost-free for shipping lines.
d. Carriers incur costs in repositioning empty containers.

7. What is a key consideration in the reducing of land transport costs for containerisation?
   a. Implementation of stricter customs regulations
   b. Use of lightweight aluminium containers
   c. The impact of public policy on modal competition
   d. The concept of economies of scale in container shipping

8. A city's rail terminals were initially developed to complement fluvial and maritime transportation. How did the development of the trucking industry impact the importance of rail terminals?
   a. Enhanced their primacy
   b. Reduced their relevance
   c. Increased accessibility
   d. Encouraged new rail terminal construction

9. A polyfunctional port has a variety of specialised and general cargo piers. What characterises the traffic flow of polyfunctional ports?
   a. Predominantly outbound
   b. More load centers
   c. Inbound-related activities
   d. Limited cargo base

10. Inland accessibility has become crucial for port competitiveness. What transportation systems are less prone to congestion, making them favourable for port regionalisation?
    a. Road and rail
    b. Maritime and barge
    c. Rail and barge
    d. Road and maritime

11. As urbanisation continues, a city is considering the construction of a new airport to meet growing demand. What factors should the city consider in selecting an appropriate site for the new airport?
    a. Proximity to the city center
    b. Available land for expansion
    c. Impact on local ecosystems
    d. All the above

12. An airport, initially serving as a hub for connecting flights, decides to expand its runway capacity. What factors should the airport consider in choosing between parallel and crossing runway configurations?

    a. Runway length and aircraft type
    b. Prevailing winds and weather conditions
    c. Altitude and topography
    d. All the above

13. Which of the following is not part of the most common size of containers available?
    a. 20 ft.
    b. 40 ft.
    c. 45 ft.
    d. None of the mentioned

14. The following are principal benefits of intermodal transportation except_____?
    a. Intermodal transportation provides more transportation option to shippers. Single modes may be too slow or too expensive for the shipper, however the combination of modes provides more options.
    b. By converting from trucking to rail; IMT can reduce highway congestion
    c. Many companies use containers to temporarily store goods.
    d. None of the mentioned

15. Intermodal freight transportation involves the transportation of freight in a _____ or vehicle, using multiple modes of transportation (rail, ship and road), without any handling of the freight itself when changing modes.
    a. Container ship
    b. Intermodal container
    c. Well-car
    d. Containerisation

16. The _____ is an example of a document of title.
    a. Receipt
    b. Bill of lading
    c. Loading manifest
    d. All of the above

17. In intermodal transportation, container traffic is measured by _____
    a. By weight
    b. By bulk
    c. By ports
    d. By TEUs

18. Which of the following is a renewable source of energy?
    a. Solar

b. Methane
c. Hydroelectric
d. All of the above

19. In response to global concerns about environmental sustainability, a logistics company is reevaluating its transportation practices. They are considering transitioning from traditional trucking to intermodal transportation. Analyse the environmental benefits of intermodal transportation.
    Which environmental advantage is a key consideration in the decision to adopt intermodal transportation?
    a. Increased fuel consumption
    b. Higher carbon emissions
    c. Reduced congestion
    d. Limited flexibility
20. How does the container's unique identification number contribute to efficient transport management?
    a. It indicates the weight of the container.
    b. It allows for easy tracking and verification.
    c. It determines the container's contents.
    d. It signifies the manufacturing date of the container.

QUESTION 2
True or False Questions **[2*5 = 10 Marks]**

2.1. Piggyback systems involve the movement of containers on railway flatcars.
2.2. The Bill of Lading serves as an agreement between the shipper and the carrier, documenting the terms and conditions of the transportation.
2.3. Sustainability benefits in intermodal transportation are limited to fuel efficiency and do not extend to environmental conservation.
2.4. Intermodal transportation provides fewer alternatives compared to single modes for specific types of shipments.
2.5. Employment opportunities in the transport sector are irrelevant to economic growth.

Sub-total: 50 Marks

SECTION B: STRUCTURED QUESTIONS
QUESTION 1 **[25 Marks]**

As a transport expert recently appointed to the logistics hub committee, you are entrusted with the task of evaluating the quality performance of the Port of Walvisbay, a critical intermodal facility in Namibia's logistics network. Intermodal facilities play a pivotal role in facilitating the seamless transfer of goods between different modes of transportation along the supply chain, contributing to efficient global trade operations. Your assessment will provide valuable insights

into the port's effectiveness in supporting cargo movement and optimising supply chain operations.

Background: The Port of Walvisbay serves as a vital link in the global trade network, connecting landlocked countries in Southern Africa to international markets through its strategic location and comprehensive infrastructure. As the transport expert for the logistics hub committee, you have been tasked by the director to conduct a comprehensive quality assessment of the port to identify strengths, weaknesses, and areas for improvement.

Objective: Your primary objective is to evaluate the quality performance of the Port of Walvisbay by identifying and analysing key elements of an intermodal terminal's quality performance indicators. Your assessment will help the logistics hub committee make informed decisions and implement strategies to enhance the port's efficiency, reliability, and competitiveness in the global marketplace.

Examine five key elements that serve as quality performance indicators at an intermodal terminal. Substantiate your analysis with concise examples elucidating the significance of each indicator in enhancing operational efficiency and effectiveness.

QUESTION 2 **[25 Marks]**

The landscape of transportation is undergoing a profound transformation, characterised by a mobility revolution propelled by advancements in information and communication technology (ICT), sensor technology, communication technology, and data science. This evolution heralds a paradigm shift in how transport and mobility services are provided and utilised. Key discussions surrounding future transport and mobility trends revolve around four critical components: automation, connectivity, electrification, and sharing.

Amidst this backdrop, consider the intricate intermodal transportation network connecting major cities with critical ports and industrial centres. The environmental impact of this network, marked by traffic congestion, air pollution, and energy consumption, presents a significant challenge. However, the advent of advanced technologies offers a ray of hope in mitigating these environmental concerns.

As a transportation expert tasked with optimising the environmental sustainability of the intermodal transportation network, analyse how the integration of automation, connectivity, electrification, and sharing technologies can effectively reduce its environmental footprint. Provide detailed examples illustrating the application of each technological component and elucidate how they collectively contribute to enhancing the network's ecological sustainability. Additionally, discuss potential challenges and limitations associated with the implementation of these technologies in a complex intermodal transportation system.

Sub-total: 25 Marks
Grand Total: 100 Marks

END OF MEMORANDUM