



**NAMIBIA UNIVERSITY
OF SCIENCE AND TECHNOLOGY**

FACULTY OF COMMERCE, HUMAN SCIENCES AND EDUCATION

DEPARTMENT OF MARKETING, LOGISTICS AND SPORT MANAGEMENT

QUALIFICATION : BACHELOR OF TRANSPORT MANAGEMENT	
QUALIFICATION CODE: 07BTRA	LEVEL: 6
COURSE CODE: TOC621S	COURSE NAME: TRANSPORT OPERATIONS AND COSTING
SESSION: JANUARY 2025	PAPER: THEORY
DURATION: 3 HOURS	MARKS: 100

SECOND OPPORTUNITY EXAMINATION QUESTION PAPER	
EXAMINER(S)	MR. V TJIPOMBO (FT, PT & DI) MS. DN HAIKWIYU (EN)
MODERATOR:	Ms. E JESAYA

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

THIS QUESTION PAPER CONSISTS OF _7_ PAGES (Including this front pages

SECTION A: SHORT ANSWER QUESTIONS**50 MARKS****QUESTION 1: MULTIPLE CHOICE****Write the letter next to the correct answer.****2X20=40 MARKS**

1. A transportation agency is considering the implementation of Mobility as a Service (MaaS) in a densely populated urban area. You are asked to provide insights into its potential benefits. What advantages can MaaS offer in terms of reducing traffic congestion and enhancing urban mobility?
 - A. By promoting car ownership and reducing public transit use
 - B. By encouraging the use of multiple transportation modes and reducing private car usage
 - C. By limiting accessibility to transportation services
 - D. By increasing traffic congestion through centralized planning
2. A transportation agency is exploring the use of Artificial Intelligence (AI) in managing traffic flow. You are tasked with explaining how AI can be applied effectively. In what ways can AI-driven traffic management systems reduce travel time and enhance road safety?
 - A. By increasing traffic congestion and road accidents
 - B. By simplifying complex transactions for road users
 - C. By optimising traffic light systems and monitoring vehicle movements
 - D. By discouraging the use of restricted lanes
3. In a rapidly growing urban area, road congestion is a significant issue. The local government is considering implementing intelligent traffic systems to address this problem. What are the strategic benefits of implementing intelligent traffic systems in managing urban road congestion?
 - A. To construct new road infrastructure and increase road capacity.
 - B. To enhance traffic signal synchronisation.
 - C. To improve the efficiency of traffic flow and reduce congestion.
 - D. To organize public events and parades.
4. A transportation authority is considering the implementation of advanced traffic signal control systems in a busy city to optimise traffic flow. Explain the advantages of advanced traffic signal control systems and how they can positively impact urban traffic management.
 - A. They primarily regulate vehicle emissions and reduce pollution.
 - B. They increase the number of traffic lights at intersections for better control.
 - C. They can reduce delays, stops, and fuel consumption by coordinating traffic signals.
 - D. They focus on organising sports events to divert traffic.
5. A company managing a fleet of delivery trucks is considering adopting telematics and onboard observation systems. Describe how the integration of telematics and onboard observation systems can enhance fleet management and efficiency for the delivery company.

- A. Telematics and onboard observations are unrelated to fleet management.
 - B. Telematics can help schedule more deliveries, while onboard observations focus on vehicle maintenance.
 - C. Telematics provide real-time tracking, and onboard observations monitor vehicle performance.
 - D. Telematics help with weather monitoring for safer deliveries.
6. In a railway system operating at Level 3 of traffic management, multiple trains run along a single line. What potential conflicts might arise at this level, and how do they impact railway operations?
- A. Conflict between passengers and train crew
 - B. Allocation set conflicts and connection conflicts
 - C. Weather-related delays and timetable issues
 - D. Track maintenance issues and signal malfunctions
7. Suppose a railway company fails to consider passenger behavior when designing luggage storage areas. How might this oversight impact passenger experience and operational efficiency?
- A. Improved on-time performance and reduced delays
 - B. Enhanced passenger comfort and satisfaction
 - C. Increased boarding and deboarding times
 - D. Decreased energy consumption and lower operating costs
8. A In the continental/domestic rail freight market, why is it crucial for rail operators to adapt to the variability of unit load types and lengths? How does this adaptation affect their operations?
- A. It ensures standardization of cargo handling.
 - B. It reduces the need for specialised wagons.
 - C. It aligns with the rigid dimensions of maritime containers.
 - D. It allows for more efficient wagon design and utilization.
9. When implementing a rail traffic solution, why is it important to consider safety as a top priority? Provide examples of how safety measures can affect railway operations.
- A. Safety ensures punctuality and minimises resource use.
 - B. Safety measures can lead to faster train speeds.
 - C. Safety impacts passenger comfort and satisfaction.
 - D. Safety reduces the need for signal maintenance.
10. How might the widespread adoption of biometrics and facial recognition at airports impact the future of air travel?
- A. Simplifying airport procedures.
 - B. Enhancing security measures.
 - C. Streamlining baggage handling.
 - D. Improving airline route selection.

11. Why is addressing environmental sustainability a significant challenge for airlines, and how can it be tackled effectively?
- A. Due to the high cost of aircraft maintenance.
 - B. It's primarily related to airport congestion.
 - C. Exploring alternative fuel sources and fleet renewal.
 - D. Through improved baggage handling processes.
12. How do air traffic controllers play a critical role in ensuring the safety and efficiency of air travel?
- A. By conducting routine aircraft maintenance.
 - B. By managing air traffic using advanced radar systems.
 - C. By handling baggage and cargo.
 - D. By inspecting airport facilities.
13. A Who is responsible for the safety of the aircraft, passengers, and crew members during a flight?
- A. Co-pilot
 - B. Flight engineer
 - C. Pilot-In-Command (PIC) or captain
 - D. Flight attendant
14. Which route structure is characterised by flights that operate independently, allowing for high utilization of aircraft and personnel?
- A. Point-to-Point system
 - B. Linear Route System
 - C. Hub-and-Spoke (H&S) Route System
 - D. Hybrid Route System
15. In the hub-and-spoke route system, passengers departing from one spoke city to another spoke city usually:
- A. Take a non-stop flight
 - B. Make one connecting stop at the hub city
 - C. Fly directly to their destination
 - D. Change aircraft at the spoke city
16. What is a major disadvantage of the linear route system?
- A. High unit cost due to long distances between stops
 - B. Complexity in scheduling and operational control
 - C. . Limited passenger demand for connecting flights
 - D. Inefficient use of aircraft and personnel
17. Elaborating on the coordination and management role of port authorities, how can their effectiveness influence a seaport's ability to thrive and engage stakeholders in a dynamic industry?
- A. By promoting inefficiencies and stakeholder conflicts
 - B. By having minimal impact on stakeholder engagement

- C. By enhancing stakeholder engagement, operational efficiency, and adaptability
 - D. By focusing exclusively on cargo equipment suppliers
18. You are a consultant advising a seaport on enhancing its competitive advantages. Which of the following is NOT considered a competitive advantage for a seaport's success?
- A. The size of the port's cargo handling equipment
 - B. Geographical location
 - C. Legal and regulatory framework
 - D. Economy
19. You are a port manager dealing with Off-Port-Limits (OPL) Operations. What is the primary purpose of OPL operations at your port?
- A. Handling cargo loading and unloading
 - B. Providing logistics services
 - C. Managing passenger embarkation
 - D. Coordinating cargo distribution within the supply chain
20. A charterer is considering different charter party types. Which charter party type provides charterers with the most control over a ship's functions?
- A. Voyage Charter Party
 - B. Time Charter Party
 - C. Contract of Affreightment (COA)
 - D. Bareboat Charter Party

SUB-TOTAL: 40 MARKS

QUESTION 2: TRUE/FALSE

Indicate whether the following statement are True OR False

10 MARKS

- A. Micro-mobility options, like electric scooters and shared bikes, can help reduce greenhouse gas emissions and reliance on private cars.
- B. Mobility hubs are designed to offer various transportation options, including public transit, cycling, and ridesharing, to improve connectivity.
- C. AI-driven traffic management systems adapt in real-time based on traffic conditions, enhancing traffic flow.
- D. Proactive road treatment and maintenance, such as pre-treating roads with salt and clearing snow, should be done before adverse weather conditions cause problems.
- E. Congestion pricing systems charge motorists a fixed toll regardless of traffic congestion levels.
- F. Autonomous vehicles and ridesharing platforms can potentially reduce traffic congestion by optimizing vehicle occupancy and improving traffic flow.
- G. Ground crews at airports are responsible for aircraft maintenance and conducting in-flight inspections.
- H. Passenger service agents at airports primarily handle baggage and cargo operations.

- I. Smaller ports with fewer berths are generally more efficient and productive than larger ports.
- J. In the carrier selection process, professional reputation and current clients of a carrier are essential factors to consider.

QUESTION 3 MATCHING

Match below the concepts with statements that best defines/describe them [10 Marks]

e.g. 1. Custom duties- B

Concepts/organisation	Statements
1. Berthing:	a) In the form described by the International Health Regulations, it means a certificate issued to the vessel recording the findings after inspection and deratting measure/s applied to the vessel
2. Bunkering:	b) represent multiple charterers/freight forwarders, leading, controlling, and managing port operations for their entire fleet.
3. Charter party	c) The method in which power is exercised to manage a nation's socioeconomic assets for growth
4. Deratting Certificate:	d) The operation of transporting oil to another ship for use in its machinery
5. Flags of Convenience (FOC:	e) Defined as the port of a country where cargo or a passenger (cruise) ship halts to discharge or load the cargo or embark or disembark passengers
6. Liner companies:	f) A legal contract of affreightment common in the tramp trade, by which a shipowner designates one or more specified vessels to carry a charterer's specified cargo quality and quantity between designated ports, berths, or area ranges
7. Port Governance	g) A different agency company from the one stipulated in the C/P agreement
8. Port of Call	h) The restructuring of airliner routes to avoid a congested hub airport
9. Protective Agent	i) A flag of a state whose government sees registration not as a procedure necessary in order to impose sovereignty and hence control over its shipping but as a service that can be sold to foreign ship owners wishing to escape the fiscal or other consequences of registration under their flags
10. Dehubbing:	j) Means placing your vessel in the fixed location known as a berth

SECTION A: 60 MARKS

SECTION B: STRUCTURED QUESTIONS

40 MARKS

QUESTION 4

20 MARKS

There is various classification of replacement programs in vehicle management. Discuss the four (4) classification of replacement programs available in fleet business.

QUESTION 5**20 MARKS**

Imagine you are a city planner tasked with developing a comprehensive Smart Mobility plan for the rapidly growing City of Windhoek. Discuss the key components of your plan including how you would integrate smart mobility with other aspects of a “smart” city. Provide examples of specific initiatives and technologies you would implement to create a seamless and sustainable urban transportation system. Additionally, analyze the potential challenges and benefits of your plan for both the city and its residents.

SECTION B: 40 MARKS**Grand Total: 100 Marks****END OF EXAMINATION QUESTION PAPER**