



**NAMIBIA UNIVERSITY  
OF SCIENCE AND TECHNOLOGY**

**FACULTY OF COMMERCE, HUMAN SCIENCES AND EDUCATION  
DEPARTMENT OF MARKETING, LOGISTICS AND SPORTS MANAGEMENT**

<b>QUALIFICATIONS: BACHELOR OF TRANSPORT MANAGEMENT</b>	
<b>QUALIFICATION CODE: 07BTRA</b>	<b>LEVEL: 6</b>
<b>COURSE CODE: MTS621S</b>	<b>COURSE NAME: MARITIME AND AVIATION SAFETY AND INFRASTRUCTURE CONSIDERATIONS</b>
<b>SESSION: JANUARY 2025</b>	<b>PAPER: THEORY</b>
<b>DURATION: 3 HOURS</b>	<b>MARKS: 100</b>
<b>SECOND OPPORTUNITY EXAMINATION PAPER</b>	
<b>EXAMINER(S):</b>	MR OSCAR KAVERU MS DIINA HAIKWIYU
<b>MODERATOR:</b>	PROF SMART DUMBA
<b>INSTRUCTIONS</b>	
1. ANSWER ANY FOUR (4) QUESTIONS: EITHER 1, 2, 3, 4, OR 5!!!	
2. WRITE NEATLY AND LEGIBLY IN INK	
3. CLOSED BOOK EXAMINATION	

**THIS QUESTION PAPER CONSISTS OF 9 PAGES (Including this front page)**

**QUESTION 1:****(25 Marks)****Multiple Choice Questions: Indicate the correct answer by writing for example: 1. A or 2.****B:****(20 Marks)**

**1.1** In terms of contributory accident causes, 'poor emergency response' was identified as a factor in more than a quarter of cases:

- (a) 27.5%
- (b) 26.8%
- (c) 27.3%

**1.2** Reporting accident is essential to maritime safety as it helps paint a more informed picture of the risks affecting the:

- (a) Industry
- (b) Commercial enterprise
- (c) Single company

**1.3** The 193 countries who cooperate through International Civil Aviation Organization are currently working toward their agreed global safety target of:

- (a) Fatalities reduction
- (b) Controlling accidents
- (c) Zero fatalities by 2030

**1.4** Once the risks are known, goals can be formulated to address and mitigate against these:

- (a) Incidents
- (b) Hazards
- (c) Accidents

**1.5** The latest version of the IATA Annual Safety Report introduces features that enhance its functionality and:

- (a) Credibility
- (b) Sustainability
- (c) Usability

**1.6** Loss of control in-flight typically occurs when a plane deviates from its "flight envelope," i.e. the aerial region within which an aircraft operates:

- (a) Safely
- (b) Freely
- (c) Restricted to operate

**1.7** The International Civil Aviation Organization sets standards and regulations necessary for aviation safety, security, efficiency, and regularity, as well as for aviation environmental:

- (a) Safeguarding
- (b) Protection
- (c) Preservation

**1.8** The objective of a Safety Management System is to provide a structured management approach to control safety risks in:

- (a) Operations
- (b) Flying
- (c) Working environment

**1.9** If a maritime accident was the result of someone's negligence, workers injured in the accident can claim compensation for damages caused by the accident under the Jones Act and other:

- (a) Mercantile laws
- (b) Admiralty laws
- (c) Maritime torts

**1.10** The International Civil Aviation Organization sets standards and regulations necessary for aviation safety, security, efficiency, and regularity, as well as for aviation environmental:

- a) Management
- b) Sustainability
- c) Protection

**1.11** The Maritime Security Awareness course is intended to provide the knowledge required to enable personnel without designated security duties in connection with a Ship Security Plan (SSP) to enhance ship security in accordance with the requirements of Chapter XI XI 2 of amended:

- (a) The International Convention for the Prevention of Pollution from Ships, 1973 (MARPOL)
- (b) SOLAS 1974 International Convention for the Safety of Life at Sea, 1974
- (c) International Safety Management Code (ISM Code)

**1.12** Incident reporting is the process of recording worksite events, it also entails documenting all the facts related to incidents in the workplace such as injuries, accidents, including:

- a) Deaths due illness
- b) Loitering at workplace
- c) Near misses

**1.13** Risks assessments, audits and inspections enable ship owners and ship managers to keep vessels in good condition and prevent:

- (a) Unexpected accidents/incidents
- (b) Unexpected corrosion
- (c) Hull structure failures

**1.14** Controlled flight into terrain occurs when an aircraft unintentionally collides with land, water, or some other obstacle without there being any indication that the pilot:

- a) Flew in auto pilot
- b) Lost control
- c) Got sick during flight

**1.15** The primary safety measures used in commercial aviation include pre-flight inspections of the aircraft, regular maintenance and inspections of the aircraft, adherence to standard operating procedures, and use of communication systems and:

- a) Modern navigation
- b) Radio communication
- c) Satellite communication

**1.16** It's critical that in all workplaces staff are empowered to report incidents that happen using an incident:

- (a) Data base
- (b) Report form
- (c) Voice recorder

**1.17** Safety Performance Targets as "The planned or intended objective for safety performance indicator(s) over a":

- (a) Given time
- (b) Given operating circumstances
- (c) Given period

**1.18** Punitive damages punish the party responsible for causing you harm. They aren't related to the type of injury you or a loved one has sustained. They are also awarded much less frequently than:

- (a) Special compensatory damages
- (b) Compensatory damages
- (c) General compensatory damages

**1.19** Continuous training is a pre-requisite for crew competency, human error is an unfortunate cause of preventable maritime accidents. The IMO has in fact directly linked shipping safety to seafarer training, as governed by the:

- (a) International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (**STCW** Convention and Code), 1978
- (b) The International Convention for the Safety of Life at Sea (SOLAS), 1974
- (c) The International Convention on Maritime Search and Rescue (Hamburg, 27 April 1979),

**1.20** Reporting incidents helps the organization to keep track of the trends, patterns and:

- (a) Investigate the root causes of
- (b) Determine the nature of accident
- (c) Discover anomalies

**1.21** The container shipping industry has been undergoing a challenging phase in recent years, driven by a persistent market imbalance between trade and fleet supply capacity that has been intensifying with the influx of Mega Vessels, except:

- (a) Rising trade tensions
- (b) Ore Bulk Oil Carriers
- (c) Changing environmental regulations

**1.22** The sight of the accident is very important sight, since the sight same may have contributed to the cause of the accident and:

- (a) Actual sight where the "Movie was taking place"
- (b) Place "As Found Wreckage" came to rest
- (c) Is of rare significance in the "Grand scheme of things"

**1.23** The general classification of ship accidents is as follow, except:

- (a) Water ingress
- (b) Severe hull damage
- (c) Ballast water

**1.24** Many of the unavoidable accidents by sea and air are caused by severe and/or extreme weather conditions as well as in part, or:

- (a) By animals
- (b) Even entirely by human negligence
- (c) By transportation authority

**1.25** Various transportation accidents are classified into the following classes which are as follows:

- (a) Domestic workers injuries and/or accidents
- (b) Personal mishaps
- (c) Plant/Industrial Accidents

## **QUESTION 2:**

**(25 Marks)**

**2.1** Briefly, define the following types of aviation accident categories?

**(20 marks)**

- |  |           |
|--|-----------|
| 2.1.1 Ground collision.                      | (2 marks) |
| 2.1.2 Icing.                                 | (2 marks) |
| 2.1.3 Turbulence.                            | (2 marks) |
| 2.1.4 Runway Excursion (RE).                 | (2 marks) |
| 2.1.5 Loss of Control in Flight (LOC-I).     | (2 marks) |
| 2.1.6 Controlled Flight Into Terrain (CFIT). | (2 marks) |
| 2.1.7 Fire.                                  | (2 marks) |
| 2.1.8 Turbulence.                            | (2 marks) |
| 2.1.9 Bird.                                  | (2 marks) |
| 2.1.10 Air collision.                        | (2 marks) |

**2.2** What are the four (4) pillars and/or the main four (4) maritime conventions which deals with maritime safety? **(5 marks)**

**Question 3:** **(25 Marks)**

**The following Statements are true or false. Write true (T) if the answer is correct or false (F) if the answer is incorrect.**

**3.1** A major strength of the International Air Transport Association Annual Safety Report lies in its data-collection and analysis approach.

**3.2** Wrongful death damages are a combination of special compensatory damages and general compensatory damages that are applicable only within wrongful death cases.

**3.3** By establishing clear metrics, you create a benchmark to measure your progress over time.

**3.4** Basic Training is not mandatory for seafarers who serve onboard ships. However, the future of training is also likely to hinge on a holistic approach to equip seafarers with both hard skills and soft skills for better situational awareness, leadership, team work and communication.

**3.5** Pilots are involved in every stage of flight for an aircraft, so it makes sense that pilot errors are a leading cause of accidents that do occur. Mind you, general aviation accidents are incredibly rare. However, a pilot error can occur at any point during the process.

**3.6** The best way to articulate and manage your safety outcomes is to make sure your goals are not measurable.

**3.7** "Creating a safety culture has to come from down to top and be taken seriously at every level, from cadet to Chief Executive Officer."

**3.8** Over the years, the International Air Transport Association Annual Safety Report has evolved, embracing new technologies and methodologies to improve its effectiveness.

**3.9** One of International Civil Aviation Organisation four objectives is the implementation of appropriate remedial action addressing deficiencies identified in the civil aviation working processes and infrastructure.

**3.10** Ship owners and managers need only use Health Safety Environment and Quality best practices to inculcate a strong safety culture onboard, prevent accidents/incidents before they happen, and leverage the latest technology and digital fleet management systems to improve maritime safety and quality.

**3.11** International Air Transport Association's Searle also suggested the idea of pooling resources together in some regions - with only around 40% of countries worldwide possessing independent accident investigators, establishing regional investigation agencies could raise standards considerably.

**3.12** An incident investigator's priority should be to ensure that the incident site is safe and accessible to the public. In some situations, you may have to travel a significant distance to reach the place where an incident occurred. In those cases, you should immediately contact on-site management to make sure that company protocols are being followed.

**3.13** “It is vital that shipping puts safety at the core of its operations and uses every solution available to prevent incidents and save lives.”

**3.14** Many accident investigations are always complete when the Accident Classification Task Force meets to classify the year’s events and additional facts may be uncovered during an investigation that could change the currently assigned classifications in the future.

**3.15** The sight of the accident never contributes to the cause of the accident.

**3.16** Also, safety monitoring and data collection support the development of safety indicators at national, regional and global level.

**3.17** The IATA Accident Classification Task Force (ACTF) enhances this approach by validating accidents, pinpointing contributing factors, and formulating recommendations to mitigate high-risk categories.

**3.18** Midair collisions are accidents where two aircraft collide while still in-flight. Most midair collisions occur on top of mountains, where air traffic is at its heaviest.

**3.19** Accidents caused by unintended flight in IMC occur when a pilot who was previously navigating using only Visual Flight Rules (VFR) loses visual references and is either unqualified to fly in IMC and/or is flying an aircraft that’s unequipped to fly IMC.

**3.20** The environmental impact of marine pollution rarely or seldomly contributes to climate change, which in turn can cause extreme weather affecting vessels.

**3.21** Transportation networks should be well-connected, providing efficient and convenient routes for different modes of transportation to connect people and goods from origins to destinations.

**3.22** Working with reliable and reputable transportation providers can rarely help ensure smooth and efficient transportation of goods or passengers for your business or personal needs.

**3.23** Pipelines transportation is used for sending of solid cargo for example, bulk liquids and gases from one place to another place.

**3.24** The important characteristic of air transport is that does not need a particular surface track for its working operations.

**3.25** Air transport is the fastest means of transportation of freight and passengers on domestic, regional and international routes.

#### **QUESTION 4:**

**(25 Marks)**

**4.1** To enable sustainable development in shipping and ports, briefly elaborate on how effective policies for maritime transport and scalable interventions can be achieved in maritime ecosystem under the following initiatives? **(10 marks)**

4.1.1). Greening Ships and Ports.

4.1.2). Digitalizing Operations.

4.1.3). Improving Efficiency.

**4.2** Name the five (5) factors that affect ocean freight rates and briefly, elaborate on each factor? **(15 marks)**

**Question 5:****(25 Marks)****5.1 Fill-in the missing word:** Indicate the correct answer by writing for example: 5.1 A or 5.2**B:****(20 marks)**

**5.1** Maritime security largely focuses on the protection of vessels and their cargo from ..... threats such as smuggling, piracy, and:

- (a) External threats
- (b) Governments officers'
- (c) Intruders'

**5.2** International Civil Aviation Organization (ICAO) does not have the power to enforce penalties on non-complying accident investigation bodies, it is focusing on industry coordination and highlighting the importance of .....

- (a) Responsible flying
- (b) Aviation industry in general
- (c) Accident reporting

**5.3** Safety monitoring could be an important source of information for measuring the effective functioning of other Safety Management Systems (SMS) .....

- (a) Infrastructures
- (b) Components
- (c) Issues

**5.4** The initial phases of the investigation of accidents consists of the following phases which is the collection of data, analysis of data, and .....

- (a) Perusals of data
- (b) Interrogation of witnesses
- (c) Presentation of findings

**5.5** Quality training can ..... seafarers with safety knowledge, improve attitudes towards safety, and shape behaviors to prevent accidents and better handle emergencies.

- (a) Power
- (b) Equip
- (c) Enable

**5.6** Much of any private investigation into Maritime and Air Transport must be conducted within that forum's ..... and legal framework:

- (a) Accepted practice
- (b) Standard practice
- (c) Accepted norms

**5.7** The Health Safety and Environment (HSE) primary objectives is to identify hazards originating outside the workplace capable of ..... affecting the health and safety of our employees and reducing their risks.

- (a) Wrongly
- (b) Adversely
- (c) Negatively



**5.8** According to Ruben Morales, General Manager of Safety and Risk Management at Hong Kong Express Airways, a ..... by airlines and pilots can also hinder the investigation process, discouraging those closest to an accident from divulging information freely.

- (a) Fear losing job
- (b) Fear of incompetence
- (c) Fear of criminalization

**5.9** International Maritime Organization (IMO) was founded in ..... and headquartered in London, the IMO serves as a vital forum for member states to develop and implement international maritime regulations and standards.

- (a) 1957
- (b) 1945
- (c) 1948

**5.10** Flying is immensely more dangerous in ..... weather. A study by the National Transportation Safety Board shows that more than two-thirds of all weather-related airplane crashes have been fatal.

- (a) Inclement weather
- (b) Foggy weather
- (c) Rainy weather

**5.2** Why do we need to report incident?

**(5 marks)**