

# TECHNICAL UNIVERSITY OF MOMBASA

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SCHOOL OF BUSINESS

DEPARTMENT OF MANAGEMENT SCIENCE

**UNIVERSITY EXAMINATION FOR:**

BACHELOR OF COMMERCE – PROCUREMENT

**BLT4406: AVIATION AND RAIL TRANSPORT MANAGEMENT**

END OF SEMESTER EXAMINATION

**ORDINARY PAPER**

**SERIES: AUGUST**2019

**TIME:3HOURS**

**DATE:**Pick Date2019

## Instructions to Candidates

You should have the following for this examination

*-Answer Booklet, examination pass and student ID*

This paper consists of five questions. Attempt question ONE (Compulsory) and any other TWO questions.

**Do not write on the question paper.**

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## **Question ONE (COMPULSORY) – 30 Marks**

- a) Explain the important economic contributions of the transport sector to any economy. Do this with reference to the Kenya economy. **[10 marks]**
  
- b) Transport demand is derived demand. Explain this statement with reference to supply chain management. **[ 10 marks ]**
  
- c) Explain the purpose of air way bills and describe the information that it would contain. **[10 marks]**

## **Question TWO**

Discuss the strengths and weakness of rail as a mode of transport. **[20 marks]**

### **Question THREE**

Air transport has experienced a high rate of insecurity. Suppose you are appointed to lead a team on how to curb this situation. Explain how would execute your functions mentioning the major cause of:

- i) Risk associated with air cargo security and air industry security in general. **[10 marks]**
- ii) Mitigation of the risk. **[10 marks]**

### **Question FOUR**

- a. Highlight the advantages of containerization. **[10 marks]**
  
- b. The international civil aviation organization (ICAO) was established in 1947 to standardize safety and other aspects of quality regulation on a world-wide basis. Explain its objectives. **[10 marks]**

### **Question FIVE**

- a. Discuss the role and functions of freight forwarder in the transportation system. **[10 marks]**
  
- b. Explain the four components that make up the transport system. **[8 marks]**
- c. What is the objective of inter-modality? **[ 2 marks ]**

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**Question ONE (COMPULSORY) – 30 Marks**

- a) Explain the important economic contributions of the transport sector to any economy. Do this with reference to the Kenya economy. **[10 marks]**

**Solution**

- Influence growth of industries
- Contribute global trade
- Contribute openness of undeveloped areas of the world
- Source of employment
- Contribute economic growth transfer of skill.

- b) Transport demand is derived demand. Explain this statement with reference to supply chain management. **[10 marks]**

**Solution**

- Transport is a service rarely in demand for its own characteristics. Demand for public transport, road freight facilities or airline service is usually derived from some other function. A company producing clothes or food sees transport as a means of moving its products from factory or warehouse to the retail store. As the demand for products increases so the demand for transport facilities will increase.
- c) Explain the purpose of air way bills and describe the information that it would contain. **[10 marks]**

### **Solution**

- An air waybill is a contract to transport goods by air and is issued by the carrier airline.

### **Detail Content**

- Place of departure and destination.
- Names of consigner, consignee and carrier.
- Description of the goods.
- Number of packages with identifying marks, weights and dimensions.
- Total amount of freight paid.
- Declared value for customs.
- Date of loading.

### **Question Two**

Discuss the strengths and weakness of rail as a mode of transport.

**[20 marks]**

#### **Strengths**

- High average speeds for journey in the range of 50 to 300 miles.
- Rail in the majority of cases runs from city centre to city centre, which can cut journey times.
- The railway effectively utilizes land space over any trip of land of a given width, the railway can carry more passengers and freight than any other land-based system.
- The general public perceive railways as being less environmentally adverse than other forms of transport, both visually and as regards physical pollution.
- The bulk-handling capacity of the railway means they are very cost effective when handling bulk materials in coupled train loads thus relieving the road system of large numbers of heavy trucks.
- The railways are energy flexible and energy efficient. The use of electric traction relieves the railway of reliance on oil for energy.
- The safety record of railways is good, especially from the carriage of hazardous cargo.
- There is great scope for the full automation of the rail network, including the possibility of driverless trains.
- Of all the land-based modes of transport the rail system is the least affected by bad weather.

#### **Weakness**

- The financial viability of any rail network is vulnerable to downturns in economic activity. In recessionary times, the volume of traffic using the system may reduce sharply whereas the fixed costs of operating the infrastructure will remain.
- As the railway has a fixed and therefore inflexible infrastructure it is economically vulnerable to major changes in the industrial and social activity of a given geographical area.
- The railways suffer from the need to transship from rail to other modes of transport for some part of the journey. The result is that rail is efficient over longer journeys when the costs of trans-shipment can more easily be absorbed and where the time element may be less significant.
- As a labor-intensive and often unionized industry and rail network is susceptible to industrial action. Where industrial disputes occur regularly and with little warning this has the effect of discouraging clients from using these services.

### Question Three

Air transport has experienced a high rate of insecurity. Suppose you are appointed to lead a team on how to curb this situation. Explain how you would execute your functions mentioning the major cause of:

- iii) Risk associated with air cargo security and air industry security in general. [10 marks]
- iv) Mitigation of the risk. [10 marks]

### Solution

Risk associated with air cargo security

- The placing of explosive or incendiary devices inside air cargo prior to being loaded on the airplane.
- The undeclared or undetected transport of hazardous material on board an aircraft.
- The possibility of smuggling contraband goods inside air cargo.
- Theft from air cargo.
- Hijacking of aircraft or sabotage by people with access to the aircraft.

### Mitigation

- Cargo screening and inspection.
- Improving the physical security of air cargo facilities.
- 'Known shipper' programs.
- Improving staff security training.
- Restricting access to air craft and air cargo facilities.
- Use of the latest air cargo security technology such as tamper-proof seals, blast-resistant hard-sided air cargo containers, biometric data for personnel working with air cargo, and improved air cargo screening systems.

### Question Four

- a) Highlight the advantages of containerization. [10 marks]

### Solution

- Through rates and documentation are possible.
- A door to door service is possible from factory to retail distributor.
- There is no intermediate handling at terminal (port) transshipment points.

- There is less risk of cargo damage and pilferage.
  - More favourable cargo premiums can be obtained.
  - Less packing is needed for shipments, producing substantial cost savings.
  - The cargo is able to arrive in a better condition.
  - As a capital intensive transport system, rates are more competitive.
  - Much quicker, more reliable transits are possible.
  - Faster payment of export invoices is possible.
- b) The international civil aviation organization (ICAO) was established in 1947 to standardize safety and other aspects of quality regulation on a world-wide basis. Explain its objectives. **[10 marks]**

**Solution**

- To ensure the safe and orderly growth of air transport throughout the world.
- To encourage the development of airports and navigation facilities.
- Reduce wasteful competition.
- To ensure that all nations have a fair opportunity to operate internal airlines.
- To avoid discrimination between contracting nations.

**Question Five**

- d. Discuss the role and functions of freight forwarder in the transportation system. **[10 marks]**

**Solution**

- Identify transport options.
- Provide expert advice to client.
- Negotiating freight rates.
- Booking space with the appropriate transport mode.
- Arranging customs and transport documents.
- Arranging customs and transport documents.
- Arranging for the customs clearance of goods.
- Arranging for the warehousing of goods.
- Arranging for the insurance of the goods.
- Pay-all-charges associated with the transportation of the goods, and present one bill to the client covering all expenses and including the freight forwarders own commission.

- e. Explain the four components that make up the transport system. **[8 marks]**

**Solution**

- The way of track.
- The terminal or interchange.
- The signaling and control.
- The vehicle or carrying shifts.

f. What is the objective of inter-modality?

**[2 marks]**

- The transport of freight in a continuous flow through the entire supply chain in the most cost-effective and time-effective manner.