



# **CARIBBEAN EXAMINATIONS COUNCIL**

**Caribbean Advanced Proficiency Examination  
CAPE®**

## **LOGISTICS AND SUPPLY CHAIN OPERATIONS SYLLABUS**

**Effective for examinations from May-June 2016**

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# Introduction

The Caribbean Advanced Proficiency Examination (CAPE) is designed to provide certification of the academic, vocational and technical achievement of students in the Caribbean who, having completed a minimum of five years of secondary education, wish to further their studies. The examinations address the skills and knowledge acquired by students under a flexible and articulated system where subjects are organised in 1-Unit or 2-Unit courses with each Unit containing three Modules. Subjects examined under CAPE may be studied concurrently or singly.

The Caribbean Examinations Council offers three types of certification. The first is the award of a certificate showing each CAPE Unit completed. The second is the CAPE Diploma, awarded to candidates who have satisfactorily completed at least six Units, including Caribbean Studies. The third is the CAPE Associate Degree, awarded for the satisfactory completion of a prescribed cluster of seven CAPE Units including Caribbean Studies and Communication Studies. For the CAPE diploma and the CAPE Associate Degree, candidates must complete the cluster of required Units within a maximum period of five years.

Recognised educational institutions presenting candidates for the CAPE Associate Degree in one of the nine categories must, on registering these candidates at the start of the qualifying year, have them confirm, in the required form, the Associate Degree they wish to be awarded. Candidates will not be awarded any possible alternatives for which they did not apply.



# LOGISTICS AND SUPPLY CHAIN OPERATIONS SYLLABUS

## ◆ RATIONALE

Globalisation has resulted in a significant increase in world trade and has impacted on the size and complexity of international transportation. However, Caribbean countries have not been sufficiently responsive to the impact of these global changes. Consequently, the movement of cargo throughout the region has become more expensive than the rest of the world. In addition, there is a wide disparity between countries and ports of the region in terms of productivity as the countries have not kept pace with the advances in information technology. In order to meet global requirements, Caribbean countries are required to constantly dredge and upgrade port infrastructure in order to remain relevant. The pressure on the Caribbean has not just been on the physical infrastructure but on developing and retaining qualified human resources. As a result, Caribbean ports have now recognised the need to invest in the development of the human resources in the shipping and logistics industry. Accordingly this has led to the emergence of Logistics and Supply Chain Operations as a relevant area of study. Logistics and Supply Chain Operations is the task of effectively and efficiently coordinating material flow and the storage of goods, services and related information from the point of origin to the point of consumption for the purpose of conforming to customer requirements.

The study of Logistics and Supply Chain Operations will assist in satisfying the demand for logistics experts through formal preparation and certification of human resources in the Caribbean. This will enable citizens to access this untapped market space and contribute to regional development. It will also lead to a better quality of life for present and future generations while providing wealth creation through new and innovative job opportunities and other economic possibilities including entrepreneurship. By pursuing this course, students will develop decision-making, problem solving, critical thinking and technological skills. This course is designed to provide the knowledge, skills and competencies that are required for further studies, as well as for the world of work.

Based on the attributes of the Ideal Caribbean Person as articulated by CARICOM, this course of study in CAPE Logistics and Supply Chain Operations can contribute to the development of a Caribbean person who is aware of living in harmony with the environment; demonstrates multiple literacies, independent and critical thinking, questions the practices of past and present and brings this to bear on the innovative application of science and technology to problem solving; and values and displays the creative imagination in its various manifestations and nurtures its development in economic and entrepreneurial spheres in all other areas of life. With reference to the UNESCO Pillars of Learning, this course of study will also contribute to a person who will learn to know, learn to do, learn to live together, learn to be and learn to transform themselves and society.

## ◆ AIMS

This syllabus aims to:

1. promote an awareness of the importance of the global logistics and supply chain industry;
2. help students understand the impact of globalisation and global logistics on multi-modal transport in the Caribbean;
3. create awareness of the impact of regulatory bodies on national and regional policies;
4. help students understand the role and value of stakeholders and information systems in logistics;
5. understand the impact of logistics on economic development at the national, regional and international levels;
6. develop the capacity for critical thinking, creativity, problem solving, leadership and management, positive cooperative behaviours, emotional intelligence, entrepreneurial skills and technological competence through authentic learning experiences;
7. integrate information, communication and technological (ICT) tools and skills.

## ◆ SKILLS AND ABILITIES TO BE ASSESSED

The skills and abilities that students are expected to develop on completion of this syllabus have been grouped under three headings:

- (a) Knowledge and Comprehension;
- (b) Use of Knowledge;
- (c) Interpretation and Application.

### **Knowledge and Comprehension**

The examination will test candidates' skills and ability to:

- (a) grasp and recall basic facts, concepts, and principles of logistics and supply chain operations and their roles in national and regional economies;
- (b) understand the diverse functions in logistics and supply chain on the global economy;
- (c) understand the impact of workforce diversity on logistics and supply chain operations.

### **Use of Knowledge**

The examination will test candidates' skills and ability to:

- (a) select and use facts and concepts in formulating solutions to logistics and supply chain problems;
- (b) distinguish among various components of logistics and supply chain at the local and global scale.

### **Interpretation and Application**

The examination will test candidates' ability to:

- (a) assemble and analyse relevant data and information to make projections on sole logistics related problems;
- (b) draw logical conclusions and make recommendations about logistics and supply chain issues;
- (c) analyse case studies of nations that have logically developed logistics infrastructure to take a competitive advantage.



## ◆ PREREQUISITES OF THE SYLLABUS

Any person who has completed five years of secondary education or its equivalent should normally be able to pursue the course of study defined by the syllabus. A good grasp of the contents of the Caribbean Secondary Education Certificate (CSEC) Information Technology, Economics, Social Studies and Geography syllabuses or equivalent, would be an advantage. However, successful participation in the course of study will also depend on the possession of good numeracy, verbal and written communication skills.

## ◆ STRUCTURE OF THE SYLLABUS

### UNIT 1: CONCEPTUAL ISSUES IN LOGISTICS AND SUPPLY CHAIN

Module 1	-	Logistics and Its Role in the Economy
Module 2	-	Supply Chain and the Global economy
Module 3	-	Customer Service in Shipping and Port Operations

### UNIT 2: SHIPPING AND PORT OPERATIONS

Module 1	-	Commercial Shipping
Module 2	-	Port Operations
Module 3	-	Logistics Transforming Economies

# ◆ UNIT 1: CONCEPTUAL ISSUES IN LOGISTICS AND SUPPLY CHAIN

## MODULE 1: LOGISTICS AND ITS ROLE IN THE ECONOMY

### GENERAL OBJECTIVES

On completion of this Module, students should:

1. understand the evolution of logistics and its key concepts and components;
2. understand competitive advantage and its impact on logistics;
3. appreciate the relationship between inter-modalism and multi-modalism in transportation.

### SPECIFIC OBJECTIVES

### CONTENT

Students should be able to:

#### Introduction and Historical Perspective to Logistics

- |    |                                    |  |
|----|------------------------------------|--|
| 1. | explain the concepts of logistics; | Definition and types:<br><br>(a) business;<br>(b) military;<br>(c) events;<br>(d) service. |
| 2. | discuss the history of logistics;  | Reference to Pre-World War 2 with emphasis on Post-World War 2.                            |

#### Concepts and Components of Logistics

- |    |  |   |
|----|--|---|
| 3. | describe the components of logistics and their roles;      | Product and Price including procurement, inventory, transportation, warehousing, supply chain networks and value added logistics. |
| 4. | explain the impact of information technology on logistics; | Including Port Single Window, Port Community System, Automated System for Customs Data-(ASYCUDA) PORTNET.                         |

#### Logistics and Competitive Advantage

- |    |  |   |
|----|--|---|
| 5. | explain the concept of competitive advantage;                          | Comparative cost advantage – outsourcing or undertaking logistics, including Porter’s approach. |
| 6. | discuss how logistics improves the competitiveness of an organisation; | Outsourcing through 2party, 3party, 4party. Reverse logistics and Just in Time.                 |

## UNIT 1

### MODULE 1: LOGISTICS AND ITS ROLE IN THE ECONOMY (cont'd)

#### SPECIFIC OBJECTIVES

#### CONTENT

Students should be able to:

#### **Intermodal and Multimodal Transportation**

- |    |  |  |
|----|--|--|
| 7. | differentiate between intermodal and multimodal transportation;              | Various modes of transportation- air, rail, road, marine (cruise and cargo), pipeline and inter-modality.  |
| 8. | discuss the impact of intermodal and multimodal transportation in logistics. | Various modes of transportation – air, rail, road, marine (cruise and cargo), pipeline and inter-modality. |

#### **Suggested Teaching and Learning Activities**

To facilitate students' attainment of the objectives in this Module, teachers are advised to engage students in the following teaching and learning activities.

1. Organised field trips to ports and ship agents to view Information Technology Interfaces.
2. Invite guest lecturers to speak on the Information Technology Interfaces.
3. Listen to/view audio/visual presentations on port community system.
4. Conduct investigations on the various modes of transportation and their inter-relationship as a group activity.
5. Analyse and answer questions from a case study based on the various modes of transportation.

## UNIT 1

### MODULE 1: LOGISTICS AND ITS ROLE IN THE ECONOMY (cont'd)

#### RESOURCES

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- Branch, A.E. (2009). Global Supply Chain Management and International Logistics. New York, Routledge.
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- Fawcett, P. et al. Logistics Management, Harlow Essex, England: Financial Times/ Prentice Hall; 1 edition (1998)
- Grant, D. et al. Fundamentals of Logistics Management, McGraw-Hill Higher Education; European ed. edition (2006)
- Kaminsky, L., Simchi-Levi, D., Simchi-Levi, E.  
Long, D. (2003). Designing and Managing the Supply Chain, McGraw-Hill/Irwin Series; 3<sup>rd</sup> edition, 2008  
International Logistics: Global Supply Chain Management. Norwell, Massachusetts, Springer.
- Mangan, J., Lalwani, C., Butcher, T. & Javadbour, P.R. (2013). Global Logistics and Supply Chain Management. 2<sup>nd</sup> edition. Chichester, John Wiley & Sons Limited.
- Pinnock, F. & Ajagunna, I. (2014) From Piracy to Tran-shipment: Jamaica's Journey to becoming a Global Logistic Hub. Grace Kennedy Foundation Lecture. (Available at [www.gracekennedy.com/lectureseries](http://www.gracekennedy.com/lectureseries))
- Pinnock, F. (ND). Logistics 101 Lecture. (Available through the Caribbean Maritime Institute, Kingston).
- Porter, M. (2008). Competitive Advantage: Creating and Sustaining Superior Performance New York, New York, Free Press.

Caribbean Maritime Magazine: <http://www.caribbean-maritime.com/>

## UNIT 1

### MODULE 2: SUPPLY CHAIN AND THE GLOBAL ECONOMY

#### GENERAL OBJECTIVES

On completion of this Module, students should:

1. understand the relationship between logistics and spatial distribution;
2. understand the relationship between logistics and supply chain operations and their impacts;
3. be aware of the impact of globalisation on supply chain operations.

#### SPECIFIC OBJECTIVES

#### CONTENT

Students should be able to:

##### Logistics and Spatial Distribution

- |   |   |
|---|---|
| 1. explain the concept of spatial distribution;       | (a) Definition and examples of spatial distribution.              |
|   | (b) Spatial equity and inequity. Factors – resources and distance |
| 2. assess how logistics impacts spatial distribution; | (a) Transport and supply chain networks.                          |
|   | (b) Cost implications.  |
|   | (c) Centrality and location.                                      |

##### Relationship between Logistics and Supply Chain Operations and their impacts

- |  |   |
|--|---|
| 3. explain the concept of supply chain operations;                         | (a) Definition of supply chain operations.            |
|  | (b) Intermediaries and their roles                    |
|  | (i) Manufacturers                                     |
|  | (ii) Retailers  |
|  | (iii) Wholesalers                                     |
|  | (iv) Transport Operators (marine, air, road and rail) |
|  | (v) Suppliers   |
|  | (vi) Warehouse Operators.                             |
| 4. explain the relationship between logistics and supply chain operations; | (a) Vendor operations.                                |
|  | (b) Warehousing (Public/Private).                     |
|  | (c) Material Handling.                                |
|  | (d) Inventory Management.                             |
|  | (e) Quality Control.                                  |
|  | (f) Communication.                                    |
|  | (g) Consolidation and Delivery.                       |

## UNIT 1

### MODULE 2: SUPPLY CHAIN AND THE GLOBAL ECONOMY (cont'd)

#### SPECIFIC OBJECTIVES

#### CONTENT

Students should be able to:

- |   |                        |
|---|------------------------|
| 5. discuss the impact of <i>global</i> logistics and supply chain operations on national, regional and international development; | (a) Economic.          |
|   | (b) Social.            |
|   | (c) Cultural.          |
|   | (d) Location.          |
|   | (e) Natural Resources. |
|   | (f) Environment.       |

#### Globalisation and Supply Chain Operations

- |   |   |
|---|---|
| 6. <i>explain the concept of globalisation;</i>                   | <i>Definition of globalisation.</i>                         |
| 7. assess the impact of globalisation on supply chain operations; | (a) Monetary and Fiscal Policies.                           |
|   | (b) Trade blocs.  |
|   | (c) <i>Trade Facilitation</i>                               |
|   | (d) <i>Modernisation of Trading Practices and Modernism</i> |
|   | (e) Sustainability Issues                                   |
| 8. discuss the key issues in the global supply chain.             | (a) Customs Clearance.                                      |
|   | (b) Distribution Management.                                |
|   | (c) Import Logistics and Outbound Distribution.             |
|   | (d) Safety and Security of Goods.                           |
|   | (e) Transit Time.   |

Uncertainties including weather, terrorism, political unrest, socio-economic conditions

## UNIT 1

### MODULE 2: SUPPLY CHAIN AND THE GLOBAL ECONOMY (cont'd)

#### SUGGESTED TEACHING AND LEARNING ACTIVITIES

To facilitate students' attainment of the objectives in this Module, teachers are advised to engage students in the following teaching and learning activities.

1. Organised field trips to transportation companies, warehouses (public/private) and manufacturers.
2. Invite guest lecturers to speak on trade facilitation and globalisation.
3. Listen to/view audio/visual presentations on model cities/countries (Singapore, Panama, Dubai, Rotterdam and United Kingdom).
4. Conduct investigation on the various intermediaries and their roles in facilitating effective logistics and supply chain operations.
5. Analyse and answer questions from a case study based on a select country.

#### RESOURCES

- |  |   |
|--|---|
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| Bardi, E.J., Coyle, J.J. & Novack, R.A. (2006).                | Management of Transportation. Thompson  |
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| David, P. & Stewart, R. (2013).                                | International Logistics: Management of International Trade Operations. 4 <sup>th</sup> edition. Ciercero                            |
| Hill, C.W.L. (2007).   | International Business Competing in the Global Market Place. 6 <sup>th</sup> edition. New York, Mc-Graw-Hill/ Irwin.                |
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|  | Caribbean Maritime: Land and Marine Publications Limited (available at <a href="http://www.landmarine.com">www.landmarine.com</a> ) |

## UNIT 1

### MODULE 3: CUSTOMER SERVICE IN SHIPPING AND PORT OPERATIONS

#### GENERAL OBJECTIVES

On completion of this Module, students should:

1. understand the dynamics of good customer service in logistics and supply chain operations;
2. understand the importance of customer interfaces and support systems;
3. appreciate the value of evaluating customer satisfaction.

#### SPECIFIC OBJECTIVES

Students should be able to:

##### Components of Customer Service

1. explain the concept of customer service;
2. describe the characteristics of service;
3. describe the skills, attributes and competencies of customer service providers;

#### CONTENT

Definition of customer service

Customer (internal/external).

Characteristics of service, for example:

(a) intangibility;

(b) perishability,

(c) inseparability;

(d) heterogeneity.

(a) Skills:

(i) communication;

(ii) foreign language;

(iii) computer literacy;

(iv) corporate values;

(v) interpersonal skills.

(b) Attributes:

(i) personality traits;

(ii) positive attitudes;

(iii) tact and diplomacy;

(iv) integrity;

(v) corporate ethics;

(vi) deportment.



## UNIT 1

### MODULE 3: CUSTOMER SERVICE IN SHIPPING AND PORT OPERATIONS (cont'd)

#### SPECIFIC OBJECTIVES

#### CONTENT

Students should be able to:

#### Customer Interfaces and Support Systems

4. describe the customer interfaces of logistics;

The 7Cs:

- (i) context;
- (ii) content;
- (iii) commerce;
- (iv) connection;
- (v) communication;
- (vi) customisation;
- (vii) community.

5. explain the importance of the extended 3Ps to customer interface in logistics;

(a) 7Ps :

- (i) product;
- (ii) price;
- (iii) place;
- (iv) promotion;
- (v) people;
- (vii) process;
- (vii) physical evidence.

## UNIT 1

### MODULE 3: CUSTOMER SERVICE IN SHIPPING AND PORT OPERATIONS (cont'd)

#### SPECIFIC OBJECTIVES

#### CONTENT

Students should be able to:

#### **Evaluation of Customer Service in Logistics and Supply Chain Operations**

- |  |   |
|--|---|
| 6. assess key customer service factors in logistics and supply chain operations; | (a) Lead Time;<br>(b) Dependability;<br>(c) Cycle Time;<br>(d) Safe Delivery;<br>(e) Correct Orders;<br>(f) Communications;<br>(g) Convenience. |
| 7. evaluate customer service satisfaction.                                       | Solicit feedback through:<br>(a) questionnaires;<br>(b) surveys;<br>(c) established benchmarks.   |

#### **Suggested Teaching and Learning Activities**

To facilitate students' attainment of the objectives in this Module, teachers are advised to engage students in the following teaching and learning activities.

1. Invite guest lecturers to speak on quality customer service.
2. Listen to/view audio/visual presentations on customer service.
3. Conduct investigations on the various intermediaries and their roles in facilitating effective customer service in logistics and supply chain operations.
4. Analyse and answer questions from a case study based on a select company.

## UNIT 1

### MODULE 3: CUSTOMER SERVICE IN SHIPPING AND PORT OPERATIONS (cont'd)

#### RESOURCES

- Ballou, R.B. (2004). *Business Logistics/Supply Chain Management*. 5<sup>th</sup> edition. Upper Saddle River, New Jersey, Pearson Prentice Hall
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Caribbean Maritime: Land and Marine Publications Limited (available at [www.landmarine.com](http://www.landmarine.com))

## ◆ UNIT 2: SHIPPING AND PORT OPERATIONS

### MODULE 1: COMMERCIAL SHIPPING

#### GENERAL OBJECTIVE

On completion of this Module, students should understand the nature and factors related to commercial shipping.

#### SPECIFIC OBJECTIVES

#### CONTENT

Students should be able to:

#### An overview of Commercial Shipping

- |    |  |  |
|----|--|--|
| 1. | differentiate among the types of shipping and cargo; | (a) definition and types of commercial shipping;<br>(b) cargo types.   |
| 2. | discuss the components of commercial shipping;       | Components include:<br>(a) vessels;<br>(b) shipboard management;<br>(c) security (ISPS) and safety (SOLAS, mention of regional safety codes);<br>(d) charterers;<br>(e) warehouse facilities;<br>(f) customs clearance;<br>(g) transportation services.<br>(h) shipping documentation. |
| 3. | explain the factors influencing vessel choice;       | Factors include:<br>(a) type of cargo;<br>(b) type of port;<br>(c) routing and distance;<br>(d) risk;<br>(e) freight rate/charterer's rate;<br>(f) port infrastructure and costs;<br>(g) ship-owner's expectation.   |

## UNIT 2

### MODULE 1: COMMERCIAL SHIPPING (cont'd)

#### SPECIFIC OBJECTIVES

#### CONTENT

Students should be able to:

#### Types of Vessels and Shipping Markets

- |    |   |   |
|----|---|---|
| 4. | describe the different types of vessels;          | Types of Vessels:<br>(a) container;<br>(b) tankers – LNG, LPG, chemical, crude;<br>(c) passenger – cruise, water taxis, ferry;<br>(d) RORO;<br>(e) multipurpose and schooners;<br>(f) tugs and offshore supply vessels (OSV);<br>(g) recreational – luxury yachts, speed boats. |
| 5. | describe the different types of shipping markets; | Types of Shipping Markets:<br>(a) new building – cruise and cargo;<br>(b) second hand;<br>(c) ship repair;<br>(d) freight;<br>(e) sales and purchase;<br>(f) demolition;<br>(g) international tanker and international dry-cargo.   |

#### Issues Related to Shipping

- |    |  |   |
|----|--|---|
| 6. | discuss issues affecting commercial ship operations; | Issues:<br>(a) scheduling;<br>(b) routing;<br>(c) bunkering;<br>(d) ship repair and maintenance;<br>(e) port services (including dredging, berth prioritisation and navigational aids). |
|----|--|---|

## UNIT 2

### MODULE 1: COMMERCIAL SHIPPING (cont'd)

Students should be able to:

#### Shipping Policies

- |    |  |   |
|----|--|---|
| 7. | discuss the relationship among national, regional and international shipping policies; | (a) National – shipping acts and regulations, tariffs, flag and port state control. |
|    |  | (b) Regional – codes, customs and port regulations.                                 |
|    |  | (c) International – Key IMO Instruments.  |
| 8. | discuss the roles and functions of regulatory and enforcement organisations.           | (a) Principle organisations including – IMO, ILO, CARICOM and CSA.                  |
|    |  | (b) Acts, codes, conventions and protocols.   |

#### Suggested Teaching and Learning Activities

To facilitate students' attainment of the objectives in this Module, teachers are advised to engage students in the following teaching and learning activities.

1. Organised field trips to ports to observe different types of vessels.
2. Invite guest lecturers from the relevant stakeholders of the port and shipping industry.
3. Listen to/view audio/visual presentations from IMO at [imo.org](http://imo.org).
4. Arrange cooperative learning /teaching through online platforms.
5. Analyse and answer questions from a case study based on an evaluation of port state control in their respective country.

## UNIT 2

### MODULE 1: COMMERCIAL SHIPPING (cont'd)

#### RESOURCES

- Alizadeh, A. & Nomikos, N. *Shipping Derivatives and Risk Management*. Palgrave-McMillan.
- Branch, A.E. & Robarts, M. *Branch's Elements of Shipping*. 9<sup>th</sup> edition. London, Chapman and Hall.
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Caribbean Maritime: Land and Marine Publications Limited (available at [www.landmarine.com](http://www.landmarine.com))

Portside Caribbean Magazine

**UNIT 2**  
**MODULE 2: PORT OPERATIONS**

**GENERAL OBJECTIVES**

On completion of this Module, students should:

1. understand the varied functions and classification of ports;
2. be aware of the factors affecting port and terminal operations;
3. understand the role of the private and public sector in the management of ports;
4. appreciate the importance of the private sector in the management and operations of ports;
5. understand the role of ports in facilitating logistics.

**SPECIFIC OBJECTIVES**

**CONTENT**

Students should be able to:

**Port Classification and Functions**

- |   |                         |
|---|-------------------------|
| 1. describe the different types of ports; | (a) Definition of port. |
|   | (b) Types of port:      |
|   | Marine                  |
|   | (i) landlord;           |
|   | (ii) landlocked;        |
|   | (iii) service;          |
|   | (iv) tool.              |
|   | Aviation:               |
|   | (i) international;      |
|   | (ii) domestic.          |



## UNIT 2

### MODULE 2: PORT OPERATIONS (cont'd)

#### SPECIFIC OBJECTIVES

Students should be able to:

2. explain the characteristics and functions of a port;

#### CONTENT

General Characteristics of Ports:

- (a) port facility
- (b) communication;
- (c) traffic services;
- (d) human resources;
- (e) auxiliary services;
- (f) navigational aids;
- (g) safety and security;
- (h) functions of ports.

Marine function:

- (a) traffic;
- (b) industrial/industrial zones;
- (c) merchant;
- (d) logistics/distribution;
- (e) passenger.

Aviation function:

- (a) passenger;
- (b) logistics/distribution;
- (c) traffic.

## UNIT 2

### MODULE 2: PORT OPERATIONS (cont'd)

#### SPECIFIC OBJECTIVES

#### CONTENT

Students should be able to:

3. explain the factors influencing port choice
- Factors:
- (a) scheduling;
  - (b) routing;
  - (c) port infrastructure;
  - (d) port performance;
  - (e) port cost;
  - (f) port risk;
  - (g) type of vessel.

#### Port and Terminal Development

4. discuss factors affecting port and terminal development;
- (a) Planning and design.
  - (b) Navigation.
  - (c) Dredging and disposal.
  - (d) Coastal impact.
  - (e) Environmental impact.
5. explain the types of terminals;
- Types of Terminals:
- (a) container;
  - (b) break-bulk;
  - (c) bulk – dry/liquid;
  - (d) general cargo;
  - (e) passenger;
  - (f) multi-purpose;
  - (g) dry.

## UNIT 2

### MODULE 2: PORT OPERATIONS (cont'd)

#### SPECIFIC OBJECTIVES

#### CONTENT

Students should be able to:

#### Government versus Private Sector

#### Management of Ports

6. compare the roles of government and private sector in the management and operations of ports;	(a) Port authority. (b) Private sector management contract. (c) Privately run ports (sufferance wharves).
7. examine the impact of public/private partnerships in port management and operations;	(a) Memorandum of understanding between government and private sector. (b) Operational management.
8. examine the role of the various stakeholders in the efficient operation of a port;	Stakeholders: (a) agents; (b) customs brokers; (c) freight forwarders; (d) stevedoring companies; (e) terminal operators; (f) haulage companies; (g) trade unions.
<b>Role of Ports in Logistics</b> 9. discuss the changing roles of ports in logistics and supply chain operations.	Value Added: (a) trade facilitation; (b) economic zones; facilitating multi-modalism.

## UNIT 2

### MODULE 2: PORT OPERATIONS (cont'd)

#### Suggested Teaching and Learning Activities

To facilitate students' attainment of the objectives in this Module, teachers are advised to engage students in the following teaching and learning activities.

1. Organised field trips to ports.
2. Invite guest lecturers from the relevant stakeholders from the port management teams.
3. Listen to/view audio/visual presentations on port management from youtube.com.
4. Arrange cooperative learning /teaching through online platforms.
5. Analyse and answer questions from a case study based on a model city/country.

#### RESOURCES

- Bose, J.W. (2011). *Handbook of Terminal Planning (Operations Research/ Computer Science Interfaces Series)* Springer.
- Bourns, M.G. (2014). *Port Management and Operations*. 1<sup>st</sup> edition. CRC Press.
- Branch, A. (2011). *Elements of Port Operations and Management*. Springer.
- Branch A.E. (2009) *Global Supply Chain Management and International Logistics*. New York, Routledge.
- Christopher, K. (2014). *Port Security Management*. 2<sup>nd</sup> edition. CRC Press.
- David, P. & Stewart, R. (2013). *International Logistics: Management of International Trade Operations*. 4<sup>TH</sup> edition. Ciecero
- Guldogan, E.U. (2011). *Port Operations and Container Terminal Management: With Applications*. VDM Verlag.
- Lighteringen, H. (2012). *Ports and Terminals*. 1<sup>st</sup> edition. Netherlands, VSSD.
- Mangan, J., Lalwani, C., Butcher, T. & Javadpour, P.R. (2013). *Global Logistics and Supply Chain Management*. 2<sup>nd</sup> edition. Chichester, John Wiley & Sons Limited.
- World Bank (2003). *Port Reform Tool Kit: Module 4*.

Caribbean Maritime: Land and Marine Publications Limited (available at [www.landmarine.com](http://www.landmarine.com))

## UNIT 2

### MODULE 3: LOGISTICS TRANSFORMING ECONOMIES

#### GENERAL OBJECTIVES

On completion of this module, students should:

1. understand the transformational effect of logistics on social, economic, environmental and political factors on a named model city/country in the region;
2. conduct a comparative analysis on a named model city/country and a Caribbean country of their choice.

#### Preamble

This module is concerned with the comparative analysis of the transformative effects of logistics on a model city/country and a select Caribbean country. Students are required to gather the necessary information for this Module.

The table below outlines the year of examination, and the model city/country and the Caribbean country on which the comparative analysis should be based. The specific objectives of this Module must be used to guide this activity.

**Table Showing the Year of Examination and Related Cities/Countries.**

Year of Exam	Model City/Country	Caribbean Country
2016	Dubai	Trinidad and Tobago
2017	Singapore	Jamaica
2018	Panama	Antigua and Barbuda
2019	Rotterdam	Barbados
2020	London	Guyana

## UNIT 2

### MODULE 3: LOGISTICS TRANSFORMING ECONOMIES (cont'd)

#### SPECIFIC OBJECTIVES

#### CONTENT

Students should be able to:

- |  |   |
|--|---|
| 1. analyse the impact of logistics on social development;        | (a) Job Creation.<br>(b) Poverty Reduction.<br>(c) Infrastructural Development.<br>(d) Social Services.   |
| 2. analyse the impact of logistics on economic development;      | (a) Increased GDP.<br>(b) Balance of payment.<br>(c) Increased per capita income.<br>(d) Balance of trade.<br>(e) Inter-sectorial collaboration.                  |
| 3. analyse the environmental impact of logistics on development; | (a) Improvement in the built environment.<br>(b) Awareness .<br>(c) Loss of habitat.<br>(d) Destruction of protected areas.                                       |
| 4. analyse the cultural impact of logistics on development;      | (a) Effects of external cultures.<br>(b) Organisational culture.<br>(c) Adoption of best practices.<br>(d) Cultural re-orientation.<br>(e) Cultural assimilation. |
| 5. analyse the political impact of logistics on development;     | (a) Political will.<br>(b) Stakeholder consultation.<br>(c) Ratification and implementation of international policies (W.T.O.).                                   |

## UNIT 2

### MODULE 3: LOGISTICS TRANSFORMING ECONOMIES (cont'd)

#### **Suggested Teaching and Learning Activities**

To facilitate students' attainment of the objectives in this Module, teachers are advised to engage students in the following teaching and learning activities.

1. Organised field trips to sites in their own country.
2. Invite guest lecturers to speak on a topical issue (economics/environmental).
3. Listen to/view audio/visual presentations on a model city/country.
4. Arrange cooperative learning /teaching through online platforms.
5. Analyse and answer questions from a case study based on a model city/country.
6. Conduct internet search to ascertain the relevant information related to the countries being studied.

## ◆ OUTLINE OF ASSESSMENT

Each Unit of the syllabus will be assessed separately. The same scheme of assessment will be applied to each Module in each Unit. Candidates' performance on each Unit will be reported as an overall grade and a grade on each Module of the Unit. Grades will be awarded independently for each Unit.

The assessment for each Unit will comprise two components:

1. External assessment undertaken at the end of the academic year in which the Unit is taken. This contributes 80% to the candidate's overall grade.
2. School-Based assessment undertaken throughout the course of the Unit. This contributes 20% to the candidate's overall grade.

### EXTERNAL ASSESSMENT FOR EACH UNIT

**(80 per cent)**

<b>Paper 01</b> (1 hour 30 minutes)	This paper consists of 45 multiple choice items. There are 15 items on each Module.	30%
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<b>Paper 02</b> (2 hours 30 minutes)	This paper consists of three (3) sections, each corresponding to a Module in the Unit. Each section will contain two structured essay type questions. Candidates will be required to answer all six questions.	50%
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### SCHOOL-BASED ASSESSMENT (SBA) FOR EACH UNIT

**(20 per cent)**

#### Paper 031

The School-Based assessment for each Unit requires candidates to demonstrate skills in research, analysis, evaluation and presentation of information. The School-Based assessment will enable the candidate to demonstrate skills and competencies developed from each of the three Modules of the Unit.

#### UNIT 1

Candidates are required to select a company of their choice and assess how logistics and supply chain operations have impacted the environs. The project will require them to visit to the organisation and conduct research.

#### UNIT 2

Candidates are required to identify a problem at a port in their country and use their knowledge of logistics and port operations to formulate a plan of action that could be used to resolve the problem.

**Candidates must complete the School-Based Assessment for each Unit that they write.**



## Paper 032

Private candidates are required to write an Alternative paper – Paper 032. Details are provided on page 38.

## MODERATION OF THE SCHOOL-BASED ASSESSMENT

School-Based Assessment Record Sheets are available online via the CXC's website [www.cxc.org](http://www.cxc.org).

All School-Based Assessment Record of marks must be submitted online using the SBA data capture module of the Online Registration System (ORS). A sample of assignments will be requested by CXC for moderation purposes. These assignments will be re-assessed by CXC Examiners who moderate the School-Based Assessment. Teachers' marks may be adjusted as a result of moderation. The Examiners' comments will be sent to schools. All samples must be delivered by the stipulated deadlines.

Copies of the students' assignments that are not submitted must be retained by the school until three months after publication by CXC of the examination results.

## ASSESSMENT DETAILS

### External Assessment by Written Papers (80 per cent of Total Assessment)

#### Paper 01 (1 hour 30 minutes – 30 per cent of Total Assessment)

#### 1. Composition of Paper

This paper will consist of forty-five (45) multiple-choice items. There will be fifteen (15) items based on each Module. All items are compulsory.

#### 2. Syllabus Coverage

- (a) Knowledge of the entire syllabus is required.
- (b) The intention of this paper is to test candidates' knowledge across the breadth of the syllabus.

#### 3. Question Type

Questions may be presented using diagrams, data, graphs, prose or other stimulus material.

#### 4. Mark Allocation

- (a) One mark will be assigned for each item.
- (b) The total number of marks available for this paper is 45.
- (c) This paper contributes 30 per cent towards the final assessment.

#### 5. Use of Calculators

Candidates may use silent non-programmable calculators.

## **Paper 02 (2 hours 30 minutes – 50 per cent of Total Assessment)**

This paper will be divided into three sections, each section corresponding to a Module of the Unit.

### **1. Composition of Paper**

- (a) This paper will consist of six structured essay questions.
- (b) There will be two questions based on each Module of the Unit.
- (c) All questions are compulsory.

### **2. Syllabus Coverage**

- (a) Each question requires a greater depth of understanding than those questions in Paper 01.
- (b) The intention of this paper is to test candidates' in-depth knowledge of the syllabus.

### **3. Question Type**

Paper 02 consists of six structured essay type questions which require candidates to provide an extended response involving higher order thinking skills such as application, analysis, synthesis and evaluation.

### **4. Mark Allocation**

- (a) Each question is worth 20 marks.
- (b) The total number of marks available for this paper is 120.
- (c) This paper contributes 50 per cent towards the final assessment.

## **SCHOOL-BASED ASSESSMENT (20 per cent)**

School-Based Assessment is an integral part of student assessment in the course of study covered by this syllabus. It is intended to assist the students in acquiring certain knowledge, skills and attitudes that are associated with the subject. The activities for the School-Based Assessment are linked to the syllabus and should form part of the learning activities to enable the student to achieve the objectives of the syllabus.

During the course of study for the subject, students obtain marks for the competencies they develop and demonstrate in undertaking their School-Based Assessment assignments. These marks contribute to the final marks and grades that are awarded to the students for their performance in the examination.

The guidelines provided in this syllabus for selecting appropriate tasks are intended to assist teachers and students in selecting assignments that are valid for the purpose of School-Based Assessment. The guidelines provided for the assessment of these assignments are also intended to assist teachers in awarding marks that are reliable estimates of the achievements of students in the School-Based Assessment component of the course. In order to ensure that the scores awarded are in line with the

CXC standards, the Council undertakes the moderation of a sample of the School-Based Assessment assignments marked by each teacher.

School-Based Assessment provides an opportunity to individualise a part of the curriculum to meet the needs of the student. It facilitates feedback to the student at various stages of the experience. This helps to build the self-confidence of the students as they proceed with their studies. School-Based Assessment also facilitates the development of the critical skills and abilities emphasised by this CAPE subject and enhances the validity of the examination on which the students' performance is reported. School-Based Assessment, therefore, makes a significant and unique contribution to both the development of the relevant skills and the testing and rewarding of the student for the development of those skills. Note that group work should be encouraged and employed where appropriate.

## **REQUIREMENTS OF THE SCHOOL-BASED ASSESSMENT**

School-Based Assessment marks are NOT transferable across Units. The School-Based Assessment for each Unit is based on skills and competencies related specifically to the Modules of that Unit. However, students who repeat the same Unit in a subsequent sitting may reuse their School-Based Assessment marks.

### **Skills to be assessed**

- |                                       |  |
|---------------------------------------|--|
| 1. Knowledge and Understanding:       | candidate's ability to demonstrate knowledge and understanding of the objectives being assessed in the Modules.                            |
| 2. Application:                       | candidate's ability to collect, classify and communicate information.  |
| 3. Analysis:                          | candidate's ability to distinguish relationships among components of logistics and supply chain operations.                                |
| 4. Evaluation and Reasoned Judgement: | candidate's ability to interpret, make judgements and recommendations appropriate to the entity under investigation.                       |
| 5. Presentation:                      | candidate's ability to present the report in a logical and accurate format using, where necessary, the relevant charts, tables and graphs. |

### **Aims of the Project**

The aims of the project are to:

1. promote self-learning;
2. allow teachers the opportunity to engage in the formative assessment of their students;
3. allow students to enhance their understanding of the nature and impact of logistics and supply chain operations through local and international studies;

4. develop in students, an awareness of the links and interrelationships among the various components and stakeholders in logistics and supply chain operations;
5. encourage students to become creative problem-solvers;
6. allow students to analyse information gathered and make practical recommendations;
7. foster the development of critical thinking skills among students.

## **Requirements of the Project**

### **Unit 1**

Candidates are required to select a company of their choice and assess how logistics and supply chain operations have impacted the environs. The research project will require them to visit to the organisation and conduct research.

The report should include the following:

1. A profile of the organisation.
2. Clear identification of where the organisation fits in the logistics and supply chain network including the extent to which the organisation integrates with other members of the logistics and supply chain.
3. Identification of the gaps in the logistics and supply chain operations.
4. Recommendations for improvement.

### **Sources of Data**

Data for the research project can be gathered through a combination of methods including primary sources such as interviews, site visits, questionnaires and secondary sources such as newspapers, academic journals and scholarly magazines.

### **Management of the Project**

**The research project is worth 20% of the candidate's total mark.** The teacher is expected to provide guidance at all stages of the project. Each candidate should know the requirements of the project and the assessment criteria should be discussed. They should offer guidance in selecting the appropriate methodology and data collection techniques. Adequate class time should be allocated to the teaching and reinforcement of key components to be included in the project. The project should be integrated in the teaching of the subject and assessment should be conducted on a continuous basis and feedback given to students for further improvement.

### **Planning**

An early start to planning project work is highly recommended. A schedule of the dates for submitting project work (agreed by both teachers and candidates) should be established.

## **Length of the Report**

The length of the report should not exceed 1500 words, not including bibliography, charts, graphs, tables, pictures, references and appendices.

## **Authenticity**

Teachers should ensure that the project presented is the work of the student. This can be achieved by systematic monitoring and evaluation of student's work throughout the development of the project. This will guard against plagiarism and ensure that the work is the intellectual property of the student.

Authenticity can also be ensured by:

1. discussing the project and creating an outline with timelines;
2. offering guidance and timely feedback to students;
3. allocating some class time for students to work on the projects.

## **Format of the Report**

The candidate's project should be presented in a soft folder bearing the candidate's number, name of subject and date of submission. The research report should comprise:

1. Cover page (Title, Name, Date); Acknowledgements.
2. Table of contents.
3. Introduction:
  - (a) topic statement/aim of the project;
  - (b) brief description of the organisation.
4. Profile of Business.
5. Methodology.
6. Presentation of Data.
7. Analysis and Interpretation of Data.
8. Conclusions and recommendations.
9. References and citations.

The report (approximately 1500 words) should be typed or double-spaced or hand-written legibly. The report can also be submitted electronically.

**MARK SCHEME FOR THE SCHOOL-BASED ASSESSMENT – UNIT 01**

	<b>Criteria</b>	<b>Marks</b>	
1.	<p><b>Introduction</b></p> <p>Topic Statement/Aim of the project</p> <ul style="list-style-type: none"> <li>• Thesis statement is concise</li> <li>• Gives clear direction to the project</li> </ul>	1 1	[6 marks]  2
	<p><b>Brief description of the Organisation</b></p> <ul style="list-style-type: none"> <li>• History</li> <li>• Mission</li> <li>• Type of company (Public/Private/Partnership/Sole Proprietorship)</li> <li>• Type of product (manufacturing/service)</li> </ul>	1 1 1 1	4
2.	<p><b>Profile of Business</b></p> <ul style="list-style-type: none"> <li>• Logistics components (at least 3 components – 1 mark each)</li> <li>• Dominant economic activity</li> <li>• At least 2 supporting economic activities</li> </ul>	3 1 2	[6marks]
3.	<p><b>Methodology</b></p> <ul style="list-style-type: none"> <li>• Methods of data collection clearly described</li> <li>• Methods of data collection adequately justified</li> <li>• Limitations of the methods clearly stated</li> </ul>	2 2 2	[6 marks]
4.	<p><b>Presentation of Data</b></p> <ul style="list-style-type: none"> <li>• Data presented are relevant to the aims of the project</li> <li>• Data is accurately coded and systematically organised to facilitate data analysis</li> <li>• Data presented in an appropriate form using tables, charts and graphs</li> </ul>	2 2 2	[6 marks]
5. (a)	<p><b>Analysis of Data</b></p> <ul style="list-style-type: none"> <li>• Data are summarised accurately</li> <li>• Relevant Statistics used</li> <li>• Related to findings</li> </ul>	2 2 2	[12 marks]

(b)	<b>Interpretation of Data</b> <ul style="list-style-type: none"> <li>• Interpretation of results is consistent with findings</li> <li>• Results are interpreted in light of logistics and supply chain concepts <ul style="list-style-type: none"> <li>○ At least two related concepts – 4 marks</li> <li>○ One related concept – 2 marks</li> <li>○ Mention of one concept – 1 mark</li> </ul> </li> </ul>	2 4	
6.	<b>Conclusions and Recommendations</b> <ul style="list-style-type: none"> <li>• Conclusions are logical and based on findings</li> <li>• Recommendations are realistic and informed by findings</li> <li>• Recommendations contribute to a better understanding of the topic and general principles of logistics and supply chain operations</li> </ul>		[6 marks]  2 2 2
7.	<b>References and Citations</b> <ul style="list-style-type: none"> <li>• Acknowledges sources throughout the project</li> <li>• Bibliography for publications written in alphabetical order and includes names of authors, publishers, and dates of publication</li> <li>• Bibliography for internet sites includes address of website, names of authors or organisation and date of access/retrieval</li> </ul>		[6 marks]  2 2  2
8.	<b>Communication of Information</b> <ul style="list-style-type: none"> <li>• Consistently used correct spelling</li> <li>• Consistently used correct grammar</li> <li>• Expression of ideas is clear, unambiguous and in a logical manner</li> </ul>		[6 marks]  2 2 2
9.	<b>Overall Presentation of Report</b> <ul style="list-style-type: none"> <li>• Report is well within the recommended word limit</li> <li>• Layout of report follows the correct format, and includes a cover page and table of contents with relevant information</li> <li>• Report is neat, legible and coherent</li> </ul>		[6 marks]  2 2  2
	<b>Total</b>		<b>60</b>

## Unit 2

Candidates are required to identify a problem at a port in their country and use their knowledge of logistics and port operations to formulate a plan of action that could be used to resolve the problem.

The report should include the following:

1. A profile of the port
2. Review of the operational system of the port
3. Clear identification and assessment of the problem
4. Comparative analysis with a model port
5. Plan of action to resolve the problem
6. Recommendations for improvement

### **Sources of Data**

Data for the research project can be gathered through a combination of methods including primary sources such as interviews, site visits, questionnaires and secondary sources such as newspapers, academic journals and scholarly magazines.

### **Management of the Project**

**The research project is worth 20% of the candidate's total mark.** The teacher is expected to provide guidance at all stages of the project. Each candidate should know the requirements of the project and the assessment criteria should be discussed. They should offer guidance in selecting the appropriate methodology and data collection techniques. Adequate class time should be allocated to the teaching and reinforcement of key components to be included in the project. The project should be integrated in the teaching of the subject and assessment should be conducted on a continuous basis and feedback given to students for further improvement.

### **Planning**

An early start to planning project work is highly recommended. A schedule of the dates for submitting project work (agreed by both teachers and candidates) should be established.

### **Length of the Report**

The length of the report should not exceed 1500 words, not including bibliography, charts, graphs, tables, pictures, references and appendices.

### **Authenticity**

Teachers should ensure that the project presented is the work of the student. This can be achieved by systematic monitoring and evaluation of student's work throughout the development of the project. This will guard against plagiarism and ensure that the work is the intellectual property of the student.

Authenticity can also be ensured by:

1. discussing the project and creating an outline with timelines;
2. offering guidance and timely feedback to students;
3. allocating some class time for students to work on the projects.



## **Format of the Report**

The candidate's project should be presented in a soft folder bearing the candidate's number, name of subject and date of submission. The research report should comprise:

1. Introduction.
2. Profile of port.
3. Review of operational systems/processes.
4. Comparative analysis of model port.
5. Identification and assessment of the problem.
6. Plan of action.
7. Recommendations.

The report (approximately 1500 words) should be typed or double-spaced or hand-written legibly. The report can also be submitted electronically.

**MARK SCHEME FOR THE SCHOOL-BASED ASSESSMENT – UNIT 02**

	<b>Criteria</b>	<b>Marks</b>	
<b>1.</b>	<p><b>Introduction</b></p> <p>Topic Statement/Aim of the project</p> <ul style="list-style-type: none"> <li>• Thesis statement is concise</li> <li>• Gives clear direction to the project</li> </ul>	<p align="center"><b>1</b></p> <p align="center"><b>1</b></p>	<b>[2 marks]</b>
<b>2.</b>	<p><b>Profile of the Port</b></p> <ul style="list-style-type: none"> <li>• History</li> <li>• Mission</li> <li>• Type of port (Public/Private/Partnership)</li> <li>• Type of service (cargo/cruise)</li> </ul>	<p align="center"><b>1</b></p> <p align="center"><b>1</b></p> <p align="center"><b>1</b></p> <p align="center"><b>1</b></p>	<b>[4 marks]</b>
<b>3.</b>	<p><b>Review of Operational Systems/Processes</b></p> <ul style="list-style-type: none"> <li>• Port side operations</li> <li>• Cargo/passenger handling</li> <li>• Documentation</li> <li>• Technological capabilities</li> </ul>	<p align="center"><b>2</b></p> <p align="center"><b>2</b></p> <p align="center"><b>2</b></p> <p align="center"><b>2</b></p>	<b>[ 8 marks]</b>
<b>4.</b>	<p><b>Comparative Analysis of a Model Port</b></p> <ul style="list-style-type: none"> <li>• Port side operations</li> <li>• Cargo/passenger handling</li> <li>• Documentation</li> <li>• Technological capabilities</li> </ul>	<p align="center"><b>2</b></p> <p align="center"><b>2</b></p> <p align="center"><b>2</b></p> <p align="center"><b>2</b></p>	<b>[ 8 marks]</b>
<b>5.</b>	<p><b>Identification and Assessment of Problem</b></p> <ul style="list-style-type: none"> <li>• Problem clearly identified</li> <li>• Root cause of problem</li> <li>• Impact of the problem</li> </ul>	<p align="center"><b>2</b></p> <p align="center"><b>2</b></p> <p align="center"><b>2</b></p>	<b>[ 6 marks]</b>
<b>5.</b>	<p><b>Plan of Action</b></p> <ul style="list-style-type: none"> <li>• Feasibility</li> <li>• Cost implications</li> <li>• Implementation</li> <li>• Sustainability</li> </ul>	<p align="center"><b>2</b></p> <p align="center"><b>2</b></p> <p align="center"><b>2</b></p> <p align="center"><b>2</b></p>	<b>[ 8 marks]</b>

6.	<b>Recommendations</b>  Recommendations are : <ul style="list-style-type: none"> <li>• logical</li> <li>• realistic</li> <li>• sustainable</li> </ul>	   2 2 2	<b>[6 marks]</b>
7.	<b>References and Citations</b> <ul style="list-style-type: none"> <li>• Acknowledges sources cited</li> <li>• Bibliography for publications written in alphabetical order and includes names of authors, publishers, and dates of publication</li> <li>• Bibliography for internet sites includes address of website, names of authors or organisation and date of access/retrieval</li> </ul>	   2 2 2	<b>[6 marks]</b>
8.	<b>Communication of Information</b> <ul style="list-style-type: none"> <li>• Consistently used correct spelling</li> <li>• Consistently used correct grammar</li> <li>• Expression of ideas is clear, unambiguous and in a logical manner</li> </ul>	   2 2 2	<b>[6 marks]</b>
9.	<b>Overall Presentation of Report</b> <ul style="list-style-type: none"> <li>• Report is within the recommended word limit</li> <li>• Layout of report follows the correct format, and includes a cover page and table of contents with relevant information</li> <li>• Report is neat, legible and coherent</li> </ul>	   2 2 2	<b>[6 marks]</b>
	<b>Total</b>		<b>60</b>

## ◆ REGULATIONS FOR PRIVATE CANDIDATES

Private candidates will be required to write Papers 01, 02 and 032. Detailed information on Papers 01 and 02 is given on pages 28–29 of this syllabus.

Paper 032 is the alternative paper to the School-Based Assessment. This paper is worth 20 per cent of the total mark for the Unit.

### **Paper 032 (1 hour 30 minutes – 20 per cent of Total Assessment)**

#### **Unit 01 and Unit 02**

##### **1. Composition of Paper**

Paper 032 is a written paper consisting of a case study based on the three modules of the Unit. The paper consists of three compulsory questions which are divided into parts. The questions test skills similar to those in the School-Based assessment (Paper 031).

##### **2. Syllabus Coverage**

This paper is intended to test the knowledge and skills contained in Modules 1, 2 and 3 of each Unit as outlined in the syllabus.

##### **3. Question Type**

Questions in this paper may be short answer or essay type, based on the case study.

##### **4. Mark Allocation**

- (i) This paper is worth 60 marks.
- (ii) Each question is worth 20 marks and contributes 20 per cent toward the final assessment.

## ◆ REGULATIONS FOR RESIT CANDIDATES

Resit candidates must complete Paper 01 and 02 of the examination for the year for which they re-register. A candidate who rewrites the examination within two years may reuse the moderated School-Based Assessment score earned in the previous sitting within the preceding two years.

School-Based Assessment marks are NOT transferable across Units. A separate School-Based Assessment must be completed for each Unit.

Candidates are no longer required to earn a moderated score that is at least 50 per cent of the maximum possible score; any moderated score may be reused.

Candidates reusing SBA scores in this way must register as 'Resit candidates' and provide the previous candidate number. (In order to assist candidates in making decisions about whether or not to reuse a moderated SBA score, the Council will continue to indicate on the pre-slip if a candidate's moderated SBA score is less than 50 per cent).

Resit candidates must be registered through a school, a recognised educational institution, or the Local Registrar's Office.

## ◆ ASSESSMENT GRID

The Assessment Grid for each Unit showing marks assigned to each papers and to each Module, and the percentage contribution of each paper to the total scores.

<b>Papers</b>	<b>Module 1</b>	<b>Module 2</b>	<b>Module 3</b>	<b>Total</b>	<b>(%)</b>
<b>External Assessment</b> Paper 01 (1 hour 30 minutes)	30 [15]	30 [15]	30 [15]	90 [45]	(30)
Paper 02 (2 hours 30 minutes)	50 [40]	50 [40]	50 [40]	150 [120]	(50)
<b>School-Based Assessment</b> Paper 3(1) or Paper 3(2) (1 hour 30 minutes)	20	20	20	60	(20)
<b>Total</b>	100	100	100	300	(100)

## ◆ GLOSSARY OF EXAMINATION TERMS

WORD	DEFINITION
<b>Analyse</b>	Examine methodically and in detail the elements of a process, a situation or a theory, and then draw (a) conclusion(s).
<b>Apply</b>	Use knowledge and/or principles, approaches or theories to solve problems.
<b>Assess</b>	Present reasons for the importance of particular structures, relationships, processes or approaches.
<b>Comment</b>	State opinion or view with supporting reasons.
<b>Compare and Contrast</b>	State, describe and elaborate on the similarities and differences.
<b>Define</b>	Provide a precise statement giving the <b>nature</b> or the <b>scope</b> or the <b>meaning</b> of a term; or use the term in one or more sentences so that the meaning is clear and precise.
<b>Describe</b>	Provide a detailed account, including significant characteristics or elements of an issue or situation.
<b>Develop</b>	Elaborate on or expand an idea or argument with supporting reasons.
<b>Differentiate or Distinguish</b>	State or explain briefly those differences between or among items or situations which can be used to define them or place them into separate categories.
<b>Discuss</b>	Write an extended answer defining key concepts, stating what is, exploring <b>related</b> concepts and issues, present reasoned arguments for and against, using detailed examples but <b>not</b> necessarily drawing a conclusion.
<b>Evaluate</b>	Weigh evidence and make judgements based on given criteria.  The use of logical supporting reasons for a particular point is more important than the view held; usually both sides of an argument should be considered.
<b>Examine</b>	Write an extended answer defining key concepts, stating what is and exploring <b>related</b> concepts and issues.
<b>Explain</b>	Provide statements on <b>what</b> happened, <b>how</b> it happened and <b>why</b> it happened. Provide elaboration of particular terms, concepts, approaches.

<b>WORD</b>	<b>DEFINITION</b>
<b>Formulate</b>	Develop a hypothesis.
<b>Give/State</b>	Provide short, concise statements.
<b>Identify</b>	Name specific components or features. Point out, indicate without explanation or recognise and select.
<b>Interpret</b>	Explain the meaning of.
<b>Investigate</b>	Use appropriate procedures to observe, research, record data, analyse and draw logical conclusions.
<b>Justify</b>	Explain the correctness of/give reasons for the selection of.
<b>List</b>	Use headings only.
<b>Name</b>	Provide actual names (but no other details).
<b>Outline</b>	Provide main points, or features only without details.
<b>Plan</b>	Prepare to conduct an investigation.
<b>Suggest</b>	Offer an explanation deduced from information provided or previous knowledge and consistent with subject knowledge.



# CARIBBEAN EXAMINATIONS COUNCIL

Caribbean Advanced Proficiency Examination®



## LOGISTICS AND SUPPLY CHAIN OPERATIONS

### Specimen Papers and Mark Schemes/Keys

**Specimen Papers:** - Unit 1, Paper 01  
Unit 1, Paper 02  
Unit 1, Paper 032  
Unit 2, Paper 01  
Unit 2, Paper 01  
Unit 2, Paper 032

**Mark Schemes and Keys:** - Unit 1, Paper 01  
Unit 1, Paper 02  
Unit 1, Paper 032  
Unit 2, Paper 01  
Unit 2, Paper 01  
Unit 2, Paper 032



TEST CODE **02166010**

**SPEC 2015/02166010**

**C A R I B B E A N E X A M I N A T I O N S C O U N C I L**  
**C A R I B B E A N A D V A N C E D P R O F I C I E N C Y E X A M I N A T I O N<sup>®</sup>**

**LOGISTICS AND SUPPLY CHAIN OPERATIONS**

**SPECIMEN PAPER**

**Unit 1 – Paper 01**

*1 hour 30 minutes*

**READ THE FOLLOWING INSTRUCTIONS CAREFULLY.**

1. This test consists of 45 items. You will have 90 minutes to answer them.
2. Each item in this test has four suggested answers lettered (A), (B), (C), (D). Read each item you are about to answer and decide which choice is best.

Sample Item

Which of the following utilities are factors of logistics?

- (A) Place and form
- (B) Time and place
- (C) Form and place
- (D) Position and time

Sample Answer

Ⓐ ● Ⓒ Ⓓ

The best answer to this item is “time and place”, so (B) has been shaded.

**DO NOT TURN THIS PAGE UNTIL YOU ARE TOLD TO DO SO.**

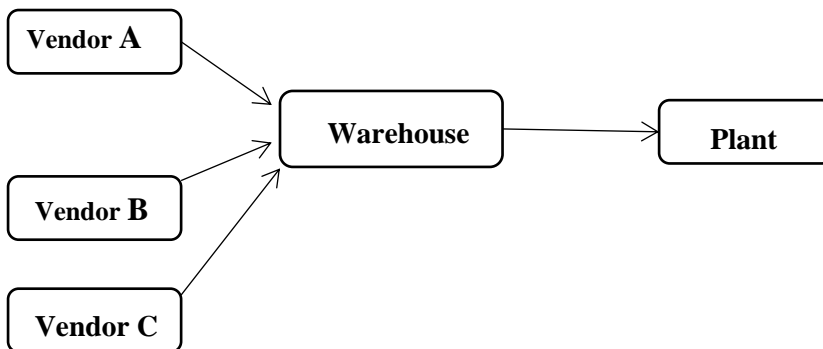
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1. Logistics, as currently practised, has its origin in
  - (A) biblical times
  - (B) World War I
  - (C) World War II
  - (D) suburbanization
  
2. Which of the following categories can logistics be divided into?
  - (A) Business, Military, Events, Services
  - (B) Business, Military, Events, Planning
  - (C) Business, Events, Services, Production
  - (D) Business, Events, Services, Procurement
  
3. Which of the following illustrates the logical flow of materials and information?
  - (A) Plant → Market → Warehouse
  - (B) Plant → Warehouse → Market
  - (C) Warehouse → Plant → Market
  - (D) Warehouse → Market → Plant
  
4. Modern logistics management strongly emphasizes the
  - (A) integration of all organizational functions
  - (B) use of electronic data interchange
  - (C) management of logistics performance
  - (D) re-engineering of business processes
  
5. Which of the following can dry van containers be used to transport?
  - (A) Frozen poultry
  - (B) Bituminous coal
  - (C) General cargo goods
  - (D) Agricultural products
  
6. Which of the following BEST illustrates a major barrier to information visibility as experienced by some developing countries?
  - (A) Poor appreciation of current technologies
  - (B) A critical shortage of logistics understanding
  - (C) A reluctance towards the sharing of information requirements
  - (D) The high cost of maintaining logistics information technology systems

7. Electronic data interchange (EDI) is commonly used to
- (A) make purchase orders
  - (B) facilitate electronic payments
  - (C) support letter of credit systems
  - (D) make business to business transactions
8. Economies of scale is of growing importance in containerized shipping as it enables
- (A) less income for the port
  - (B) increased port calls for the vessel
  - (C) an improvement in port productivity
  - (D) larger amounts of cargo on fewer vessels thus reducing operating costs

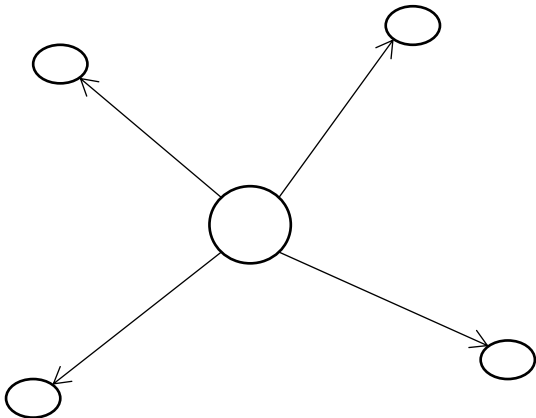
Item 9 refers to the following diagram.



9. Which of the following types of warehouses is illustrated in the diagram above?
- (A) Break bulk
  - (B) Consolidated
  - (C) Cross docking
  - (D) Order assembly
10. In scoping the activity of procurement, which of the following activities is relevant?
- (A) The work breakdown structure of the procurement team
  - (B) Details relating to what is required in the project
  - (C) The minimum standards of work for the project
  - (D) The major participants in the project

11. In the procurement process, the abbreviation RFP means
- (A) request for payment
  - (B) request for proposal
  - (C) request for permission
  - (D) request for presentation
12. Pipeline transport is unpopular in Caribbean islands because
- (A) it incurs high fixed costs and by virtue of the small size of the islands, they are unable to recover this cost
  - (B) the products that are best associated with this mode of transport are not commonly utilized
  - (C) this mode of transport is highly problematic and its maintenance costs are very high
  - (D) road transport is much cheaper and preferred across the Caribbean region
13. In logistics, a competitive advantage can be created by
- (A) offering more products
  - (B) competing with similar products
  - (C) providing superior value to customers
  - (D) undertaking an analysis of competitors' weaknesses

Item 14 refers to the following diagram.



14. Which of the following does the diagram BEST depict?
- (A) Routing through a hub and spokes
  - (B) Routing between modes of transport
  - (C) Communication among feeder vessels
  - (D) Communication among vessels and ports

15. In the delivery of transportation services, the demand for transport is considered a derived demand. This statement means that the demand is a result of
- (A) the quality of the service over the distance travelled
  - (B) the demand for the goods/passengers that it carries
  - (C) the price of competing modes of transport
  - (D) the price of transport services
16. Which of the following is the BEST definition of a supply chain?
- (A) A trade and freight distribution
  - (B) The source of raw materials for a manufacturing plant
  - (C) The transportation network for getting goods between countries
  - (D) An integrated network of activities from transformation of raw materials to final consumer
17. Which of the following BEST describes the impact of spatial relationships on logistics?
- (A) The nature of the product may increase or decrease the value of spatial relations.
  - (B) The demand and supply of logistics systems respond strongly to location points.
  - (C) The sphere of influence of a product is vital in the determination of success.
  - (D) The transportation cost is the most important component in a spatial relation.
18. Economies of distance refer to that feature in transportation costs which seeks to explain
- (A) that industrial activities require varying types of location
  - (B) the adverse effect that transportation costs may have on location
  - (C) the impossibility of locating certain businesses at certain locations
  - (D) while transportation costs increase with distance, the increase is less than proportionate
19. Which of the following types of utility refers to having products where they are needed by customers?
- (A) Possession
  - (B) Place
  - (C) Form
  - (D) Time
20. The term 'landed costs' refers to
- (A) the cost inclusive of the price and freight of an item
  - (B) the cost associated with a prepaid shipment
  - (C) a quote which is cash on delivery (COD)
  - (D) the cost of shipping by ground transport

21. In warehousing, the acronym FIFO means
- (A) forklifts in forklifts out
  - (B) first in first out
  - (C) free in free out
  - (D) file in file out
22. One of the major factors that has contributed to the globalization of the supply chain process is the
- (A) willingness to cooperate
  - (B) increase in income and wealth
  - (C) effective utilization of resources
  - (D) rapid advancements in technology
23. Which of the following cultural differences can hamper a supply chain network?
- I. Child labour laws
  - II. Different work methods
  - III. Communication barriers due to language
- (A) I and II only
  - (B) I and III only
  - (C) II and III only
  - (D) I, II and III
24. A formal agreement among two or more countries, in which customs duties and nontariff trade barriers among members are eliminated, but individual tariff schedules are maintained for non-members is referred to as a
- (A) Common Market
  - (B) Monetary Union
  - (C) Free Trade Area
  - (D) Customs Union

Item 25 refers to the following scenario.

A production company has a recycling program whereby it accepts returns of obsolete models of its product, to reuse some of the components for current models.

25. Which of the following BEST describes the approach adopted by the company?
- (A) Reverse logistics
  - (B) Financial prudence
  - (C) Social responsibility and ethics
  - (D) Reverse logistics and environmental responsibility

26. Which of the following supply chain activities helps to ensure that customers receive material when and where they require it?
- (A) Scheduling
  - (B) Order processing
  - (C) Customer service
  - (D) Inbound transportation
27. The elapsed time between issuing a replenishment order and receiving the material in stock is referred to as
- (A) lay time
  - (B) idle time
  - (C) lead time
  - (D) stocking time
28. Which of the following is NOT a component of a supply chain management system?
- (A) Information flow
  - (B) Manufacturer
  - (C) Marketing
  - (D) Supplier
29. Which of the following BEST describes a criterion for the choice of location of supply chain management facilities?
- (A) A stable, pro-democracy government with cheap labour
  - (B) Access and proximity to suppliers and markets
  - (C) A major harbour and friendly workforce
  - (D) Good airport facilities
30. Logistics costs include expenses associated with transportation, materials handling and
- (A) customer complaints, cost of fuel and highway usage taxes
  - (B) warehousing, inventory, stock outs and order processing
  - (C) stock outage control with sales forecasting
  - (D) inventory control with forecasting
31. Which of the following statements about customer service is true?
- (A) Good customer service is inexpensive.
  - (B) Average customer service will always be sufficient.
  - (C) Businesses must provide excellent service or expect failure.
  - (D) Customers lost through poor customer service are easy to replace.



32. How can excellent customer service help to retain current customers?
- I. Customer challenges are recognized.
  - II. Productive solutions are developed in response to customer challenges.
  - III. Customer service philosophies focus on satisfying customers.
- (A) I and II only
  - (B) I and III only
  - (C) II and III only
  - (D) I, II and III
33. Which of the following statements about customer service is correct?
- (A) Excellent customer service results in a more positive business reputation.
  - (B) Excellent customer service results in more promises and lawsuits.
  - (C) Excellent customer service results in fewer loyal customers.
  - (D) Excellent customer service results in lower wages.
34. Which of the following is a benefit of excellent customer service?
- (A) Profit goals are more likely to be reached.
  - (B) Customers are not treated as co-producers.
  - (C) Work environments deteriorate because of the added pressure.
  - (D) The emphasis is on gaining new customers, not retaining old ones.
35. A supply chain is essentially a sequence of linked
- (A) events and marketing processes
  - (B) suppliers and manufacturers
  - (C) customers and prospects
  - (D) suppliers and customers
36. What effect does poor supply chain management practices have on an excellent marketing strategy?
- (A) They can make SWOT analyses difficult.
  - (B) They facilitate a review of the strategy.
  - (C) They can result in serious damage.
  - (D) They keep people employed.
37. Total logistics cost factors need to be balanced against
- (A) lead time expectations
  - (B) customer service factors
  - (C) supply chain operations
  - (D) total expected transport needs

38. Order cycle time is the same as

- (A) customer service time
- (B) replenishment time
- (C) service time
- (D) real time

39. Which of the following should a seller concentrate on in order to remove unnecessary barriers?

- (A) A quick response
- (B) Transportation modes
- (C) Customer convenience
- (D) A piggy back operation

40. In transportation, what does the term 'TOFC' mean?

- (A) Piggyback
- (B) Tri-optic float carrier
- (C) Total fleet command
- (D) One way dispatching

41. Air freight is costly, but its speed may create savings as a result of

- (A) lower costs created by FIFO
- (B) the extensive availability of airports
- (C) other transportation modes that take more time
- (D) lower inventory and Just in Time delivery

42. What are the seven P's of service marketing?

- (A) Product, price, place, promotion, people, process, planning
- (B) Product, price, place, promotion, people, practice, planning
- (C) Product, price, place, promotion, people, process, physical evidence
- (D) Product, price, place, promotion, provision, process, physical evidence

43. Which of the following is NOT an example of a third-party logistics provider?

- (A) Federal Express
- (B) Express mail
- (C) UPS
- (D) DHL

44. What are the seven C's of a proper customer interface?

- (A) Context, content, commerce, connection, communication, customization, community
- (B) Context, content, commerce, connection, character, customization, community
- (C) Context, content, commerce, connection, communication, client, community
- (D) Context, content, commerce, connection, communication, client, cost

45. The physical characteristics of a product will often dictate the

- (A) forms of sales promotion to be used
- (B) geographic regions for distribution
- (C) type of transportation to be used
- (D) type of sales that can be made

**END OF TEST**

CAPE LOGISTICS AND CHAIN SUPPLY OPERATIONS UNIT 1 PAPER 01			
ITEM NO.	MODULE	SYLLABUS REFERENCE	KEY
1	M1	1.1	C
2	M1	1.1	A
3	M1	1.3	B
4	M1	1.6	A
5	M1	1.7	C
6	M1	1.4	D
7	M1	1.4	A
8	M1	1.5	D
9	M1	1.3	D
10	M1	1.3	B
11	M1	1.3	B
12	M1	1.7	A
13	M1	1.5	C
14	M1	1.8	A
15	M1	1.3	B
16	M2	2.3	D
17	M2	2.1	B
18	M2	2.2	D
19	M2	2.4	B
20	M2	2.8	A
21	M2	2.4	B
22	M2	2.5	D
23	M2	2.5	D
24	M2	2.7	C
25	M2	2.7	D
26	M2	2.4	B
27	M2	2.3	C
28	M2	2.3	C
29	M2	2.5	B
30	M2	2.2	B
31	M3	3.1	C
32	M3	3.1	D
33	M3	3.2	A
34	M3	3.2	A
35	M3	3.3	D
36	M3	3.3	C
37	M3	3.3	C
38	M3	3.6	B
39	M3	3.6	C
40	M3	3.6	A
41	M3	3.6	D
42	M3	3.5	C
43	M3	3.5	B
44	M3	3.4	A
45	M3	3.6	C



TEST CODE **02166020**

**SPEC 2015/02166020**

**CARIBBEAN EXAMINATIONS COUNCIL**  
**CARIBBEAN ADVANCED PROFICIENCY EXAMINATION®**

**LOGISTICS AND SUPPLY CHAIN OPERATIONS**

**SPECIMEN PAPER**

**Unit 1 – Paper 02**

*2 hours 30 minutes*

**READ THE FOLLOWING INSTRUCTIONS CAREFULLY.**

1. This paper consists of **THREE** sections. Each section consists of **TWO** questions.
2. Candidates **MUST** answer **ALL** questions.
3. Write your answer in the spaces provided in this booklet.
4. You are advised to take some time to read through the paper and plan your answers.

**DO NOT TURN THIS PAGE UNTIL YOU ARE TOLD TO DO SO.**

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**SECTION A**

**MODULE 1: LOGISTICS AND ITS ROLE IN THE ECONOMY**

**Answer ALL questions.**

1. (a) Explain the concept of ‘competitive advantage’.

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**(3 marks)**

- (b) List FOUR types of competitive advantage.

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**(4 marks)**

- (c) Briefly explain TWO reasons why competitive advantage is important to the logistics manager.

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**(4 marks)**



2. (a) Outline TWO strengths and TWO weaknesses of the following modes of transport to international business logistics.

(i) Road

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(ii) Water

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(iii) Pipeline

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**(12 marks)**



- (b) Discuss the impacts of high transportation costs on Just in Time delivery and the distribution operations of a food processing plant.

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**(8 marks)**

**[Total 20 marks]**

**SECTION B**

**MODULE 2: SUPPLY CHAIN AND THE GLOBAL ECONOMY**

**Answer ALL questions.**

- 3.** (a) Define the term 'globalization'.

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**(3 marks)**

- (b) Define the term 'trade bloc' and state THREE examples of a 'trade bloc'.

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**(5 marks)**



4. (a) (i) State the meaning of EACH of the following supply chain acronyms:

- KPI

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- ERP

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- MRP

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**(3 marks)**

(ii) Explain any ONE of the terms listed in (a) (i) as it relates to supply chain operations.

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**(5 marks)**

- (b) (i) Outline FOUR factors that can determine the choice of location for a warehouse.

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**(8 marks)**

- (ii) Briefly discuss TWO factors, other than location, which could affect the effectiveness and efficiency of a warehouse in the delivery of goods to customers.

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**(4 marks)**

**[Total 20 marks]**

**SECTION C**

**MODULE 3: CUSTOMER SERVICE IN SHIPPING AND PORT OPERATIONS**

**Answer ALL questions.**

- 5.** (a) Outline THREE ways in which effective communication can be used to enhance customer service.

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**(6 marks)**

- (b) Explain FOUR approaches that can be used to improve customers' wait time in an organization or business.

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**(8 marks)**

- (c) Describe THREE strategies that can be implemented to improve the overall quality of telephone use within an organization.

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**(6 marks)**

**[Total 20 marks]**

6. 'Customer service is paramount to the success of any company; the customer base must be identified and strategies established to properly serve customers.'

(a) Define the concept of 'customer service'.

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**(4 marks)**

(b) Discuss the factors that should be considered by a company wishing to establish a level of customer service which is appropriate for the market it desires to serve.

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**(6 marks)**



(c) Explain how such a service level can be used to gain a competitive advantage.

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**(10 marks)**

**[Total 20 marks]**

**END OF TEST**

02166020/KMS 2015/SPEC

C A R I B B E A N            E X A M I N A T I O N S            C O U N C I L

CARIBBEAN ADVANCED PROFICIENCY EXAMINATION®

LOGISTICS AND SUPPLY CHAIN OPERATIONS

UNIT 01 - PAPER 02

KEY AND MARK SCHEME

MAY/JUNE 2015

SPECIMEN PAPER

## LOGISTICS AND SUPPLY CHAIN OPERATIONS

## PAPER 02

## KEY AND MARK SCHEME

## Question 1

Specific Objectives: 1.5, 1.6

(a) **Concept of competitive advantage:**

Competitive advantage is the advantage that one firm has over its competitors **(1)** which allows it to generate greater sales or a profit margin **(1)** and retain more customers **(1)**.

**1 mark for EACH point given**

**(3 marks)**

(b) **Types of competitive advantage:**

- Cost leadership
- Product differentiation
- Distribution differentiation
- Promotion differentiation
- Brand differentiation
- Price differentiation

**Any FOUR listed, 1 mark EACH**

**(4 x 1 = 4 marks)**

(c) **Reasons why competitive advantage is important to the logistics manager:**

- **Timely delivery of the service (1):** The firm is able to land goods at the market at a quicker time than its competitor **(1)**.
- **Quality of product/service (1):** The firm is able to produce a better range and higher quality of products than its competitor **(1)**.
- **Differentiation focus:** The firm is able to produce a greater variety of products to meet the demands of the customer **(1)**. In addition, the firm seeks to be unique in its industry along some dimensions that are widely valued by buyers **(1)**.
- **Increased sales (1):** The firm is able to produce a higher volume of goods than its competitor **(1)**.
- **Cost of delivery (1):** The firm is able to produce and deliver the product to the consumer at a lower cost than its competitor **(1)**.

**LOGISTICS AND SUPPLY CHAIN OPERATIONS****PAPER 02****KEY AND MARK SCHEME****Question 1 Cont'd**

- Leadership and strategy **(1)**: Competitive advantage enables the firm to make critical management decisions regarding the positioning of the company **(1)**.

**Any TWO reasons fully explained, 2 marks EACH**

**(2 x 2 = 4 marks)**

**1 mark for partial explanation**

**(d) Ways the managers of BVC Ltd can utilize logistics:**

- The managers of BVC should acquire warehouse space **(1)** through the use of distribution networks in the Northern Caribbean islands **(1)** as this will allow the company to package, store and make the product ready for timely delivery **(1)**.
- The managers should acquire an integrated IT system **(1)** which will allow all documentation to be processed in a timely and seamless manner **(1)** from the point of order to delivery to the consumer **(1)**.
- The managers can outsource the supply chain management functions to a 3PL subsidiary **(1)** which will enable the firm to focus on its core business **(1)** and meet technical requirements in a cost efficient manner **(1)**.
- The managers can employ the Just in time approach in its production **(1)**. This is a production strategy that helps the company to improve on its business return **(1)** while reducing its process inventory and associated carrying cost **(1)**.

**EACH way fully discussed, 3 marks EACH**

**(3 x 3 = 9 marks)**

**1 mark for EACH point given**

**Total: 20 marks**

## LOGISTICS AND SUPPLY CHAIN OPERATIONS

## PAPER 02

## KEY AND MARK SCHEME

## Question 2

Specific Objectives: 1.7, 1.8

(a) Strengths and Weaknesses of the Modes of Transport:

Mode	Strength	Weakness
(i) Road	<ul style="list-style-type: none"> <li>• Enables full and consolidated shipment (LTL and TL).</li> <li>• Quick movement of cargo</li> <li>• Door to door shipment</li> <li>• Highly competitive</li> <li>• Less damage to cargo</li> </ul>	<ul style="list-style-type: none"> <li>• Unit costs compared to other modes of transport are high</li> <li>• Insurance costs per unit are high</li> <li>• Traffic congestion and damage to road infrastructure.</li> </ul>
(ii) Water	<ul style="list-style-type: none"> <li>• Can move high volumes of cargo.</li> <li>• Suitable for bulk shipment.</li> <li>• Suitable for multimodality or intermodality.</li> <li>• Cost per unit is inexpensive.</li> </ul>	<ul style="list-style-type: none"> <li>• Relatively slow when compared with other modes of transport.</li> <li>• Requires double handling.</li> <li>• Capital, insurance and operating costs are high.</li> <li>• Prone to natural and man-made risks.</li> <li>• Stricter certification measures are necessary to operate vessels.</li> </ul>
(iii) Pipeline	<ul style="list-style-type: none"> <li>• Suitable for inhospitable terrain</li> <li>• Suitable for carrying certain types of cargo such as gas, oil, slurry.</li> <li>• Suitable for transporting cargo in difficult climate, for example, extreme winters.</li> <li>• Suitable for transporting cargo over long distances.</li> </ul>	<ul style="list-style-type: none"> <li>• Start up, maintenance and capital costs are high.</li> <li>• Not suitable for operation in small countries where the distances are short.</li> <li>• If there is damage to any part of the pipeline, it affects the entire system.</li> </ul>

For EACH mode of transport:

1 mark for EACH of any TWO strengths identified (2 marks)

1 mark for EACH of any TWO weaknesses identified (2 marks)

(4 x 3 = 12 marks)

**LOGISTICS AND SUPPLY CHAIN OPERATIONS****PAPER 02****KEY AND MARK SCHEME****Question 2 Cont'd****(b) Impacts of high transportation costs:**

- **Just in Time:** High transportation costs will have a negative effect on the ability of the various stakeholders to have a seamless collaboration along the supply chain **(1)** and this is essential for a successful Just in Time delivery **(1)**. High transportation costs also affects the seamless collaboration between the Just in time delivery **(1)** which depends heavily on the ability to efficiently receive goods at the date and time the plant requires **(1)**. It is an inventory management system **(1)** which seeks to minimize inventory costs through an efficient inventory ordering process **(1)**. JIT is only possible with an efficient and relatively low cost transport system **(1)**.
- **Distribution:** If transport costs are high, then distribution costs will increase **(1)** and this limits the ability of the plant to expand **(1)**. This will add to the overall cost of the products **(1)** and the demand for the products will diminish **(1)**. In the case of the production of bulky goods, high transport costs will have a negative effect on the distribution of goods **(1)**.

**For EACH point fully discussed, 4 marks EACH (4 x 2 = 8 marks)**

**For EACH point, 1 mark EACH for any FOUR points given.**

**Total: 20 marks**

## LOGISTICS AND SUPPLY CHAIN OPERATIONS

## PAPER 02

## KEY AND MARK SCHEME

## Question 3

## Specific Objectives: 2.6, 2.7

(a) **Definition of globalization:**

Globalization is a term which broadly defines how the world has evolved due to advances in technology **(1)** and advancements in mobility **(1)** which have resulted in the whole world being regarded as one single market **(1)**.

**1 mark for EACH point given. (3 marks)**

(b) **Definition of 'trade bloc':**

An intergovernmental agreement among states, regions, or countries **(1)**, to reduce barriers to trade **(1)**.

**1 mark for EACH point given (2 marks)**

**Examples of a 'trade bloc':**

- North American Free Trade Agreement (NAFTA)
- Caribbean Community (CARICOM)
- Southern Common Market (MERCOSUR),
- ASEAN Free Trade Area (AFTA).

**Any THREE stated, 1 mark EACH (3 x 1 = 3 marks)**

**(2 + 3 = 5 marks)**

(c) **Factors that pertain to sustainable procurement:**

- Value for money consideration **(1)**: Traditional procurement focuses upon value for money consideration. Potential benefits include, long term efficiency savings **(1)**, efficient and effective use of natural resources **(1)** and innovativeness **(1)**.
- Life cycle of products **(1)**: The impact of shorter products life cycles in turn creates environmental pollution **(1)**. This is evident in the stress placed on the availability of natural resources such as water and land use **(1)**.
- Environmental issues **(1)**: Procurement can play an integral role in promoting sustainable production and consumption patterns **(1)**. The growing attention to issues of sustainable production and consumption is a natural outcome of decades of work on cleaner production **(1)** and eco-efficient industrial systems **(1)**.

**LOGISTICS AND SUPPLY CHAIN OPERATIONS****PAPER 02****KEY AND MARK SCHEME****Question 3 Cont'd**

- Social issues **(1)**: The aim and challenge of sustainable procurement focuses on the social consideration into the procurement process **(1)** with the goal of reducing adverse impacts on health **(1)** and social conditions **(1)**, thereby saving valuable costs for public sector organisations and the community **(1)** at large.

**1 mark for identifying EACH of FOUR factors**

**2 marks for full discussion of EACH factor**

**1 mark for partial discussion**

**(4 x 3 = 12 marks)**

**Total: 20 marks**



## LOGISTICS AND SUPPLY CHAIN OPERATIONS

## PAPER 02

## KEY AND MARK SCHEME

## Question 4

## Specific Objectives: 2.4, 2.2

(a)

- KPI- Key Performance Indicator
- ERP- Enterprise Resource Planning
- MRP - Materials Requirement Planning

**1 mark for EACH term stated****(3 x 1 = 3 marks)**

- Just in Time (JIT) inventory management is the process of ordering and receiving inventory for production **(1)** and customer sales only as it is needed and not before **(1)**. This means that the company does not hold safety stock **(1)** and operates with low inventory levels **(1)**. This strategy helps companies lower their inventory carrying costs **(1)**. JIT inventory management is a cost-cutting inventory management strategy **(1)**, though it can lead to stock outs **(1)**. The goal of JIT is to improve return on investment by reducing non-essential costs **(1)**. JIT also means there is very little need for utilizing warehousing space **(1)**; it also suggests that there is a great deal of efficiency in inventory management systems **(1)**, that is, in countries/companies that there are inventory inefficiencies it is not advisable to use JIT **(1)**.
- Enterprise resource planning (ERP) is a suite of software **(1)** that is used for planning and managing across an enterprise or company **(1)**. ERP software covers sales, accounting, production, inventory management, quality, plant maintenance, transportation and other business processes **(1)**. Every company that embarks on the implementation of an ERP project hopes that the implementation be a success, on time **(1)** and on budget **(1)**.
- Materials requirement planning (MRP) is a form of inventory management system **(1)** in which the supplier plays a critical role in inventory control **(1)**, that is, the supplier is allowed to look inside the inventory system to see the level of inventory **(1)** and to top it up if it is below the required level **(1)**. It requires that the supplier has an IT system **(1)** which is linked to that of his customer **(1)** so that he is able to see what the levels of inventory are **(1)**.

**For any ONE term explained,  
1 mark EACH for any FIVE points given.**

**(5 marks)**

**LOGISTICS AND SUPPLY CHAIN OPERATIONS**  
**PAPER 02**  
**KEY AND MARK SCHEME**

**Question 4 Cont'd**

(b) (i) **Factors that determine location of a warehouse:**

- Customer lead times, that is, the proximity of your product to your intended customer can influence warehouse location.
- Closeness to ports and highways can lead to greater efficiency.
- Congestion both at the port of choice and traffic on highways to and from the warehouse.
- Local regulations such as permits and speed of obtaining them.
- Workforce availability (population demographics) -where workers are readily available.
- Ownership - whether the warehouse is private, public or contracted.
- Cost of inbound and outbound transportation, of port services, of the land - for example, owning/leasing/renting of buildings, labour costs relative to other regions, utilities.

**For any FOUR factors fully outlined, 2 marks EACH**  
**(4 x 2 = 8 marks)**  
**1 mark for partial outline**

(ii) **Factors (other than location) which affect the effectiveness and efficiency of warehouse delivery:**

- **Effective use of labour:** These ultimately result in reduction in costs. There are several factors that influence labour within the warehouse including data entry, picking and packing.
- **Space availability:** Reduces congestion and allows for easy access to cargo and makes for seamless workflow.
- **Services offered:** Modern warehouses have evolved from mere receiving and storage of cargo to consolidation, break-bulk, cross-docking, value added and distribution.
- **Potential to work with more customers:** With a better managed and more efficient warehouse, more inventories, more orders and more customers
- **Planning and forecasting:** Being able to plan ahead in the warehouse and forecast inventory demands is one of the biggest cost-reducing benefits of a warehouse management system. By keeping track of the inventory and sales data, you can plan ahead for high volume products at all times of the year and focus what areas of the warehouse need to be freed up or what additional staff will be needed.

**LOGISTICS AND SUPPLY CHAIN OPERATIONS****PAPER 02****KEY AND MARK SCHEME****Question 4 Cont'd**

- **Inventory management:** With digital tracking of products, inventory management is made much easier. Exact location of products are known, as well as the number of products available for order fulfilments (MRP). If inventory is low for a product the system can automatically reorder the product up to quota (EOQ)
- **Integration with accounting:** A warehouse management system that integrates with your enterprise resource planning (ERP) makes business flow much smoother and allows costs to be traced more easily and accurately
- **Customer service:** Whether your business sells directly to customers or to retailers or both, being able to provide quality customer service is the deciding factor for repeat business. With a warehouse management system, orders are more accurate, filled faster and there are less back orders.

**For any TWO factors, (2 x 2 = 4 marks)**  
**1 mark for identifying the factor**  
**1 mark for brief discussion**

**Total: 20 marks**

**LOGISTICS AND SUPPLY CHAIN OPERATIONS****PAPER 02****KEY AND MARK SCHEME****Question 5****Specific Objective: 3.3****(a) Ways effective communication can be used to enhance customer service:**

- **Be aware of interrupting:** Be careful about interrupting customers while they are explaining a problem.
- **Listen actively:** When communicating with customers it is just as important that they be aware that you are listening actively.
- **Use positive instead of negative statements:** Customers are more interested in your capabilities than in your limitations, that is, what you can do rather than what you cannot do.
- **Be careful of using words and phrases which can be misinterpreted:** Sometimes we may say something with innocent intent but the customer may misinterpret it. We mean to say something, but our pronunciation may cause us to convey something else.
- **Keep the customer informed:** Keep your customers informed of any developments that may involve them, particularly with regard to technical problems.

**For any THREE ways fully outlined, 2 marks EACH**

**(3 x 2 = 6 marks)**

**1 mark for partial outline**

**(b) Approaches to improve customer wait time:**

- **Employee training:** Employees on the front-line are the ones who can help make a great customer experience. Employees need to be trained and equipped on how to manage customers, communicate information and resolve issues. Well-trained employees can help turn a negative customer experience into a positive one.
- **Set standards and expectations:** Organizational standards, expectations and policies indicate to the frontline employee what his/her productivity ought to be and how he/she should serve the customers.
- **Pleasant waiting area:** Reception areas and waiting rooms should be clean, well maintained and aesthetically pleasing. If someone is waiting on a service they should at least have a comfortable place to wait.
- **Create a contingency plan:** The plans and actions that an organization puts into place so that it can meet the customers' requirements and its own standards.
- **Provide distractions:** Typical waiting room distractions are magazines and sometimes televisions, but it is important that the magazines are current and that the television is on an appropriate channel for the client.

**LOGISTICS AND SUPPLY CHAIN OPERATIONS****PAPER 02****KEY AND MARK SCHEME****Question 5 Cont'd**

- Have the right team of persons: To ensure minimum waiting time, a highly productive team must be at the customer service desk.

**For any FOUR approaches fully explained, 2 marks EACH**

**(4 x 2 = 8 marks)**

**1 mark for partial explanation**

(c) **Strategies to improve overall quality of telephone usage**

- Create first impression: Lower your voice if it is normally loud, be polite and focus on the caller, smile and answer with a friendly greeting.
- Communicate effectively: Be an active listener, speak slowly and clearly, express interest, and address the customer's concerns first, stay calm and stay focused. Say please and thank you.
- Hold and transfer: When transferring a call, tell the customer what you are doing and give him/her a new number in case you get disconnected.
- Write it down: Rather than rely on memory, always document your telephone conversation so messages can be passed on accurately. Also, get customer contact information so that the receiver can follow up with the customer if necessary.
- A great finish: Let the customer know when is the best time to call back if necessary and always end the conversation on a positive note.

**For any THREE strategies fully described, 2 marks EACH**

**(3 x 2 = 6 marks)**

**1 mark for partial description**

**Total: 20 marks**

## LOGISTICS AND SUPPLY CHAIN OPERATIONS

## PAPER 02

## KEY AND MARK SCHEME

## Question 6

## Specific objectives: 3.1

## (a) Concept of customer service:

Customer service is the process of ensuring customer satisfaction with a product or service (1). Often, customer service takes place while performing a transaction for the customer (1), such as making a sale or returning an item (1). Customer service can take the form of an in person transaction, a phone call, self-service systems, or by other means (1).

**1 mark for EACH point given (4 marks)**

## (b) Factors when establishing a level of customer service:

The primary factors of customer service include costs, delivery, stock/inventory control and warehousing (1). It is how these factors are deployed which determines the specific level of customer service and its effectiveness (1). This then brings into play the notion of how appropriate the service level is to the market it seeks to serve (1). Factors concerning the market (size, type and location) must be considered (1), the type of product (1) and the nature of the competition should also be considered (1).

The level of service that a company decides to apply to its customers is one of the most important marketing decisions it must make. It comprises detailed analysis of what the customer requires (1) and how well the company is equipped to provide this (1). Whatever level of service is decided upon, this must be a level that provides profits (1).

**1 mark EACH for any SIX points given (6 marks)**

## (c) Gaining a competitive advantage:

The establishment of a service level as a function of the marketing objectives the company sets (1). In setting service levels, organizations must consider:

- The service level as a function of the type of market in which the company operates (1).
- That service level considerations are strategic (1).
- In markets where delivery is very important it is often service levels rather than price (1) that can influence customers to consider long term relationships (1).
- The market requirements (1).
- The marketing objectives that have been set to accommodate this market (1).
- Marketing objectives set to achieve profits (1).
- Resources the company have with which to implement marketing objectives (1).
- The inherent characteristics of the service industry (1).

**1 mark for EACH point given (10 marks)**

**Total: 20 marks**



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**C A R I B B E A N E X A M I N A T I O N S C O U N C I L**  
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**LOGISTICS AND SUPPLY CHAIN OPERATIONS**

**SPECIMEN PAPER**

**Unit 1 – Paper 032**

*1 hour 30 minutes*

**READ THE FOLLOWING INSTRUCTIONS CAREFULLY.**

1. This paper consists of a case study and THREE questions.
2. Answer ALL questions.
3. Write your answer in the space provided in this answer booklet.
4. You are advised to take some time to read through the paper and plan your answers.

**DO NOT TURN THIS PAGE UNTIL YOU ARE TOLD TO DO SO.**

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**Read the following case study and answer ALL the questions.**

**CASE STUDY**

House Depot in Pine Grove, Florida, receives an order from one of its leading customers in the Eastern Caribbean. The order is for a combination of hardware items that include paint, finger blocks, parquet tiles and lighting fixtures, and must be delivered within twelve days of the date of placement of the order.

House Depot chooses to place the order with a company called Beautiful Homes Ltd, also in Pine Grove, Florida. This choice was made because Beautiful Homes is one of the leading suppliers with an excellent track record of delivering on orders that have a short lead time.

This order proves to be particularly challenging for the freight forwarder, as one of the requirements stipulated is that the cargo be consolidated and redistributed through the deep water port in St John's, Antigua.

Currently, the number of international or regional feeder lines that call at the Port of St John's is limited and calls occur every five to ten days.

Seaboard's weekly service will be used once the load is approximately a twenty-foot equivalent unit (TEU). On arrival in St John's, Antigua, the cargo will be warehoused, consolidated and redistributed to its final customers who are located in the islands of Dominica, St Kitts, Montserrat and Anguilla.



1. Discuss FIVE strategies that the freight forwarders can implement to ensure

(a) the timely delivery of the goods

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**(10 marks)**

(b) quality customer service.

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**(10 marks)**

**[Total 20 marks]**

2. (a) State FOUR transportation challenges normally experienced by ports in the Eastern Caribbean.

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**(4 marks)**

(b) Explain FOUR ways in which the transportation challenges experienced in the Eastern Caribbean may impact on

(i) the timely delivery of the goods

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**(8 marks)**

(ii) the final cost of the goods.

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**(8 marks)**

**[Total 20 marks]**





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**Logistics and Supply Chain Operations  
Specimen Paper  
Unit 1 - Paper 032  
Key and Mark Scheme**

Ques.	Possible Response	Instructions or Comments	Total
1. (a)	<p><b>Strategies to ensure on-time delivery:</b></p> <ul style="list-style-type: none"> <li>• Integrate modes of transport in efficient and seamless ways. This includes integrating respective documentation.</li> <li>• Employ an end-to-end logistics service and where necessary outsource supporting services.</li> <li>• Develop close relationships with logistics service providers and port operators. This will serve to enhance the speed of operation.</li> <li>• Use a line haul system to move cargos. This will facilitate ease of consolidation and improve the movements of the truck or trailer carrying the cargo.</li> <li>• Aggregate inventory to the Eastern Caribbean in a manner that will reduce supply chain costs. That is, if the product has high value to weight, it should be mixed with products with low value to weight.</li> <li>• Maximize the use of information technology or GPS tracking system.</li> </ul>	<p><b>2 marks for EACH strategy discussed</b></p> <p><b>(5 x 2 = 10)</b></p> <p><b>1 mark for partial discussion</b></p>	10

**Logistics and Supply Chain Operations**  
**Specimen Paper**  
**Unit 1 – Paper 032**  
**Key and Mark Scheme**

Ques.	Possible Response	Instructions or Comments	Total
1. (b)	<p><b>Strategies to ensure quality customer service:</b></p> <ul style="list-style-type: none"> <li>• Give all of the employees excellent product knowledge: When everyone in the company can act as support, customers can get their questions answered promptly. Saving your customers a call to the help desk goes a long way toward making them happy.</li> <li>• Train employees in customer empathy: Customer interactions are emotional exchanges as well as factual ones, so give your employees the tools to share a happy customer's enthusiasm or reduce a frustrated customer's tension. When your staff members make customers feel truly listened to and not simply heard, customer satisfaction rises.</li> <li>• Build infrastructure that supports great customer service: That means offering cargo tracking, streamlined self-help options on your website and call back instead of lengthy hold times. Customers perceive looking up a tracking number as less effort than calling a customer care centre, so offering these options increases satisfaction.</li> <li>• Empower your employees to make customers happy: To your customers, any member of your staff becomes the face of the company. When your employees have the power to please customers, they make your whole organization shine. Instead of focusing on speed and productivity, give your frontline employees permission to take the time they need to make each customer feel valued.</li> </ul>	<p><b>2 marks for EACH strategy fully discussed</b></p> <p><b>(5 x 2 = 10)</b></p> <p><b>1 mark for partial discussion</b></p>	10

**Logistics and Supply Chain Operations  
Specimen Paper  
Unit 1 - Paper 032  
Key and Mark Scheme**

Ques.	Possible Response	Instructions or Comments	Total
<p>1. (b)</p> <p><b>Cont'd</b></p>	<ul style="list-style-type: none"> <li>• <b>Deliver on your promises:</b> Every package that arrives on time or product that works as intended reinforces your customers' trust in you. Customers don't want you to promise them the moon as much as they want you to deliver it on time and with a smile.</li>   <li>• <b>Make it personal:</b> Apologize quickly and sincerely if you're unable to meet your promises for any reason. Make the apology personal and not just a form letter. Setting things right quickly for your customer will go a long way towards restoring the low-effort experience your clientele prefers. If you give your customers the most effortless experience, they'll choose you over the competition every time.</li> </ul>		
<b>TOTAL</b>			<b>20</b>

**Logistics and Supply Chain Operations  
Specimen Paper  
Unit 1 - Paper 032  
Key and Mark Scheme**

<b>Ques.</b>	<b>Possible Response</b>	<b>Instructions or Comments</b>	<b>Total</b>
2. (a)	<p><b>Transportation challenges:</b></p> <ul style="list-style-type: none"> <li>• Problems meeting certification standards by International Maritime Organization (IMO) including vessel safety and training and certification of crew to meet IMO STCW 95 standards.</li> <li>• Lack of training and certification of crew to meet IMO Standards of Training, Certification and Watchkeeping for Seafarers (STCW) 95 standards.</li> <li>• Age of vessels and poor maintenance.</li> <li>• Inability to access insurance for cargo and vessel.</li> <li>• Inability to meet regional and international standards and export regulations.</li> <li>• Inability of schooner owners to organize themselves into an organized industry with lobby powers.</li> <li>• Lack of supporting infrastructure, including storage of cargo.</li> <li>• Shortage of dry dock and maintenance facilities, as boats have to go to Trinidad or the French Island of Martinique and Guadeloupe for which payment has to be in Euros.</li> </ul>	<p><b>1 mark for EACH challenge stated</b></p> <p><b>(4 x 1 = 4)</b></p>	<b>4</b>

**Logistics and Supply Chain Operations  
Specimen Paper  
Unit 1 - Paper 032  
Key and Mark Scheme**

Ques.	Possible Response	Instructions or Comments	Total
(b) (i)	<p><b>How transportation challenges impact on the timely delivery of goods:</b></p> <ul style="list-style-type: none"> <li>• When a vessel is aged and the supporting infrastructure is poor, productivity is low and this adversely affects the timely delivery of goods.</li> <li>• Where there are no repair facilities, the quality of the vessel declines, as such the vessel is unable to perform effectively and hence a delay in timely delivery.</li> <li>• Inadequacy of trained personnel to man vessels sometimes causes delay in moving cargos between some of the Eastern Caribbean islands.</li> <li>• Untrained port workers to handle, discharge and unload vessels may cause vessels to stay longer at ports.</li> <li>• Problem of priority berthing between cruise ship and cargo vessels causes cargo vessels to stay longer than expected at some ports especially during the cruise season.</li> </ul>	<p><b>Any FOUR challenges fully explained,</b></p> <p><b>2 marks EACH</b></p> <p><b>(4 x 2 = 8)</b></p> <p><b>1 mark for partial explanation.</b></p>	<b>8</b>

**Logistics and Supply Chain Operations  
Specimen Paper  
Unit 1 – Paper 032  
Key and Mark Scheme**

<b>Ques.</b>	<b>Possible Response</b>	<b>Instructions or Comments</b>	<b>Total</b>
(b) (ii)	<p><b>How transportation challenges impact on the final cost of the goods:</b></p> <ul style="list-style-type: none"> <li>• When vessel owners are unable to access insurance due to the age of the vessel, this invariably adds to the cost of the shipment.</li> <li>• Where the vessel has to be taken to either Trinidad and Tobago; Martinique or Guadeloupe for repairs, the cost to the vessel owner becomes high and this in effect affects the cost of shipment in the region.</li> <li>• Interconnectivity in the Eastern Caribbean is poor and costly due to inaccessibility of large ocean going vessels for which there are no adequate facilities to accommodate.</li> <li>• There is limited back haul from some of the smaller islands. For example, where there are shipments from Antigua to St Kitts, there is no corresponding shipment from St Kitts to Antigua.</li> <li>• The issue of priority berthing between cruise ship and Cargo vessels causes cargo vessels to stay longer than expected at some ports especially during the cruise season. This factor creates increases in fuel cost and other supplies.</li> </ul>	<p><b>Any FOUR challenges fully explained,</b></p> <p><b>2 marks EACH</b></p> <p><b>(4 x 2 = 8)</b></p> <p><b>1 mark for partial explanation.</b></p>	<b>8</b>
<b>TOTAL</b>			<b>20</b>

**Logistics and Supply Chain Operations  
Specimen Paper  
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Ques.	Syll. Ref.	Possible Response	Instructions or Comments	Total
3(a)		<p><b>Logistic issues (other than those in Question 1 and 2):</b></p> <ul style="list-style-type: none"> <li>• <b>Archaic payment systems or methods:</b> Where payment systems or methods are dated, this may cause delays in successful delivery of cargos.</li> <li>• <b>Packaging and repackaging:</b> Some products are fragile and hazardous; as such many of the port workers are not trained to handle these types of products. This may lead to accidents and/or delays in delivery.</li> <li>• <b>Inadequate warehouse facilities:</b> This may hamper the quick identification of cargo. There may also be congestion in the warehouse due to poor arrangement. In many cases, cargos are stored outside of the warehouse and exposed to different weather conditions. Where the warehouse is clustered, cargo may get damaged.</li> <li>• <b>Communication system:</b> Lack of proper communication equipment or systems is a hindrance to cargo delivery. This may stem from infrastructure problems, outdated communication equipment and poor customer service.</li> <li>• <b>Contracting with carriers:</b> There are times where there is infrequency of well-connected Caribbean Feeder Services (CFSs). This infrequency in service leads to unnecessary delays in getting cargos from one island to the other.</li> </ul>	<p><b>2 marks for EACH issue fully discussed</b></p> <p><b>(5 x 2 = 10)</b></p> <p><b>1 mark for partial discussion.</b></p>	10

**Logistics and Supply Chain Operations  
Specimen Paper  
Unit 1 – Paper 032  
Key and Mark Scheme**

Ques.	Syll. Ref.	Possible Response	Instructions or Comments	Total
3 (b)		<p><b>Strategies in (a) to mitigate logistic issues:</b></p> <ul style="list-style-type: none"> <li>• Every port should equip itself with a modern system of payment such as an electronic payment system, letter of credit and drafts.</li> <li>• Packaging should be based on product type, quantity and efficiency. Both fragile and hazardous goods should be properly labelled and separated from other bulk.</li> <li>• Warehouses should be redesigned to facilitate all types of cargo. Warehouse space should be examined and if it can be expanded, this should be done. Management of warehouses should also avoid the clustering of cargo.</li> <li>• There is need for freight forwarders to constantly upgrade their communication equipment, facilitate cargo tracking by customers and quick responses to customer complaints through quality customer care.</li> <li>• Employment of a slot charter on a vessel; since the number of vessels visiting the different islands is limited. This therefore requires developing a good relationship with the carrier.</li> </ul>	<p><b>2 marks for EACH strategy fully outlined</b></p> <p><b>(5 x 2 = 10)</b></p> <p><b>1 mark for partial outline</b></p>	10
			<b>TOTAL</b>	<b>20</b>





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**LOGISTICS AND SUPPLY CHAIN OPERATIONS**

**SPECIMEN PAPER**

**Unit 2 – Paper 01**

*1 hour 30 minutes*

**READ THE FOLLOWING INSTRUCTIONS CAREFULLY.**

1. This test consists of 45 items. You will have 90 minutes to answer them.
2. Each item in this test has four suggested answers lettered (A), (B), (C), (D). Read each item you are about to answer and decide which choice is best.

Sample Item

Which of the following cargo commodities is NOT considered general cargo?

- (A) Sugar
- (B) Appliances
- (C) Electronics
- (D) Crude petroleum

Sample Answer

(A) (B) (C) ●

The best answer to this item is “Crude petroleum,” so (D) has been shaded.

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1. Which of the following cargo commodities is NOT considered a major dry-bulk trade?
  - (A) Coal
  - (B) Grain
  - (C) Cement
  - (D) Iron ore
  
2. Liner shipping is the type of commercial shipping in which vessels
  - I. operate under fixed and advertised freight rates
  - II. are hired for a particular period, voyage or cargo
  - III. ply between predetermined ports on set schedules and routes
  - (A) I and II only
  - (B) I and III only
  - (C) II and III only
  - (D) I, II and III
  
3. Which of the following aspects is NOT a major division of shipboard management?
  - (A) Environmental
  - (B) Commercial
  - (C) Operating
  - (D) Technical
  
4. Whose responsibility is it to source a suitable vessel, available at the required time, for a shipping fixture?
  - (A) Shipowner's broker
  - (B) Charterer's broker
  - (C) Port's agent
  - (D) Ship's agent
  
5. In a commercial shipping transaction, which of the following documents functions as a document of title by which goods may be transferred to a consignee or other party?
  - (A) Invoice
  - (B) Seaway bill
  - (C) Master's receipt
  - (D) Bill of lading
  
6. Tankers are specialized vessels which primarily convey cargo which is
  - (A) RO/RO
  - (B) dry-bulk
  - (C) break-bulk
  - (D) homogenous

7. Which of the following characteristics do ferry vessels display?
- I. Carry the navigation bridge, machinery, and crew accommodation aft
  - II. Operate in both the short sea and deep sea trades
  - III. Convey motorists and RO/RO units
- (A) I and II only
  - (B) I and III only
  - (C) II and III only
  - (D) I, II and III
8. Which of the following factors would NOT affect the rate interpretation in freight markets?
- (A) Area of trade
  - (B) Age of vessels
  - (C) Time of year
  - (D) Type of cargo
9. Which of the following are advantages of new tonnage to the shipowner?
- I. The vessel has the ideal ship specifications.
  - II. Timescale of the new tonnage project.
  - III. Lower maintenance, survey and operating costs.
- (A) I and II only
  - (B) I and III only
  - (C) II and III only
  - (D) I, II and III
10. Which of the following statements BEST describes the scheduling of cargo liners?
- (A) Schedules are set frequently and flexibly according to demand.
  - (B) Schedules are made available only to existing customers.
  - (C) Schedules are published months in advance.
  - (D) Cargo liners have no set schedules.
11. Which of the following load line zones is considered the safest for vessels?
- (A) Winter
  - (B) Tropical
  - (C) Summer
  - (D) Temperate
12. Why might it be necessary for a vessel to obtain a full load of bulk cargo at a second port before proceeding on its voyage?
- (A) Bunkers might be unavailable at the first port.
  - (B) Load line regulations at one port might be different from those at another.
  - (C) It is permissible to load more cargo in saltwater ports than freshwater ports.
  - (D) Shallow water on the outbound route from the previous port might prevent carrying the full load.

13. Which of the following codes is directly associated with transport and storage of noxious substances?
- (A) IMDG
  - (B) CCSS
  - (C) ISPS
  - (D) SCV
14. The imposition of penalties for infractions of IMO conventions committed in international waters is the responsibility of the
- (A) Port State
  - (B) Flag State
  - (C) ILO
  - (D) ICS
15. Which of the following organizations extends preferential status to developing countries by releasing them from making concessions not consistent with their individual development, financial and trade requirements?
- (A) UNCTAD
  - (B) OECD
  - (C) GATT
  - (D) WTO
16. Which of the following BEST describes the intention of European nations in establishing Caribbean ports?
- (A) To aid the development of cities
  - (B) To serve as an administrative base
  - (C) To serve as an interface between land and sea
  - (D) To facilitate the trans-shipment of primary products
17. Which of the following had a transformational impact on port infrastructure over the last four decades?
- (A) Chemicals and petroleum products
  - (B) Containerization
  - (C) Bulk loading
  - (D) Pallets
18. Which of the following is a major trans-shipment port in the Caribbean?
- (A) Nassau
  - (B) Kingston
  - (C) St. Georges
  - (D) Georgetown

19. The annual cargo throughout a port generally refers to the
- (A) volume of bulk and liquefied cargo
  - (B) volume of bulk cargo transiting the port
  - (C) total tonnage of imported and exported cargo
  - (D) total number of containers imported and exported
20. Large stacker cranes are mainly used as a replacement for a ship's gear to load and unload which of the following types of cargo?
- (A) Bulk
  - (B) Liquid
  - (C) Fertilizer
  - (D) Containerized
21. Which of the following BEST describes the management type of a seaport in the Caribbean?
- (A) Ports authority
  - (B) Joint stock company
  - (C) Public/ private partnership
  - (D) Private company operated
22. Which of the following is NOT critical in planning port infrastructure development?
- (A) Dredging service
  - (B) The location of the port
  - (C) The types of vessels calling the port
  - (D) The number of ships in the shipping registry
23. A port could be blacklisted from international trade for any of the following reasons EXCEPT
- (A) poor pilotage and aids to navigator
  - (B) non-compliance with the ISPS code
  - (C) unmarked wrecks in the ships channel
  - (D) restrictive draught in the ships channel
24. Compulsory government services in the seaport are health, customs, immigration, and
- (A) cargo handling
  - (B) facility inspection
  - (C) freight forwarding
  - (D) stevedoring services
25. Which of the following cargo types has had the greatest impact on multimodal transport?
- (A) Containers
  - (B) Passengers
  - (C) Break-bulk
  - (D) Bulk

26. A substandard ship was discovered at the main seaport of your country. Which of the following officers would you engage for possible action?
- (A) Flag State Inspector
  - (B) Port Security Officer
  - (C) Wharf Superintendent
  - (D) Port State Control Officer
27. All of the following agencies must be consulted when a port facility is being constructed EXCEPT the
- (A) Harbour Authority
  - (B) Shipping Association
  - (C) Sea and River Defense Department
  - (D) Environmental Protection Authority
28. Which of the following would have the greatest impact on the number of outbound containers from an international port?
- (A) Improved customs and immigration service
  - (B) Advanced port equipment and facilities
  - (C) The establishment of economic zones
  - (D) A modern port administration
29. Which of the following is an invisible import to a country in the Caribbean?
- (A) Customs duties
  - (B) Freight charges
  - (C) Passenger head taxes
  - (D) Harbour and Light dues
30. Based on established ports and harbour regulations, which of the following may NOT remove a wreck from the ships channel?
- (A) A contractor on the basis of no cure no pay
  - (B) The Harbour Authority
  - (C) A certified dockyard
  - (D) The owner
31. Which resource factor has contributed MOST to the economic growth of model countries that have used logistics to reposition their economies?
- (A) Abundance of arable land
  - (B) Reliable amount of rainfall
  - (C) Variety of natural resources
  - (D) Access to important waterways
32. In many Caribbean Countries, a MAJOR economic problem has been the lack of
- (A) skilled labour
  - (B) natural resources
  - (C) investment capital
  - (D) experienced management

33. Which of the following statements BEST describes an effect that logistics has had on the Singapore economy?
- (A) Lack of natural resources has led to its dependence on logistics for trade facilitation.
  - (B) Small size makes economies of scale in manufacturing impossible.
  - (C) Location has encouraged great ethnic diversity within the nation.
  - (D) It has little agricultural potential.
34. A MAJOR effect of geography on Dubai is that the
- (A) export of oil and its logistics infrastructure have helped Dubai maintain a favourable balance of trade
  - (B) scarcity of natural resources has forced Dubai to obtain raw materials from other nations
  - (C) arid landscapes have prevented invasions of Dubai by foreign nations
  - (D) plains have enabled Dubai to keep food prices low
35. The Suez Canal, the Strait of Malacca, and the Panama Canal are important because they
- (A) limit access to trade routes
  - (B) prevent attacks from neighbouring countries
  - (C) control access to vital trade routes and facilitate trade
  - (D) prohibit the movement of ships carrying nuclear weapons
36. Environmental costs of transport and logistics are paid for by
- (A) the community
  - (B) the transport operator
  - (C) the transport passenger
  - (D) international transport organizations
37. In international trade, the acronym GATS stands for
- (A) General Agreement on Tourism and Services
  - (B) Global Agreement on Tourism and Services
  - (C) General Agreement on Trade and Services
  - (D) Global Agreement on Trade and Services
38. On 25 September 25 2001, AOL posted a record 280 million e-mails which nearly doubled that of the same day in the previous year. According to an environmental scan, which of the following forces reflects the growth in wireless messaging?
- (A) Social
  - (B) Cultural
  - (C) Logistics
  - (D) Economic
39. Which of the following types of infrastructure support logistics and supply chain development?
- (A) Health services
  - (B) Legal systems
  - (C) Utility services
  - (D) Transportation networks

40. Which of the following is NOT a reason why the Government of Dubai may get involved in the logistics and supply chain industry development?
- (A) Jobs can be created.
  - (B) Tax revenues can be enhanced.
  - (C) Additional funds can be injected into the economy.
  - (D) The cost of improving local superstructures can be decreased.
41. Which of the following is the MOST accurate statement about trade?
- (A) Trade can make every nation better off.
  - (B) Trade imbalance can make nations worse off.
  - (C) Trade helps rich nations and hurts poor nations.
  - (D) Trade makes some nations better off and others worse off.
42. A company's operations are MOST likely to be taken over by a host government when the
- (A) operations are relatively small and thus unlikely to incur the wrath of the company's home government
  - (B) operations are substantial and have a widespread effect on the country because of the company's size
  - (C) company produces discretionary rather than essential products
  - (D) host country becomes involved in a regional war
43. In terms of political risk, it is MOST accurate to state that high risk
- (A) affects all geographic regions of a country equally
  - (B) affects all foreign companies in the same manner
  - (C) if avoided, may lead to higher competitive risk
  - (D) triggers government turnovers

Item 44 refers to the following scenario.

Fidelity Manufacturing is considering expanding its operations into Trinidad and Tobago. A manager at Fidelity has the task of predicting political risk in Trinidad and Tobago.

44. Which of the following approaches should the manager LEAST use to accomplish the task?
- (A) Analysing the market share of competitors in the country
  - (B) Analysing the country's past political patterns and trends
  - (C) Examining social and economic conditions within the country
  - (D) Seeking and analysing the opinions of influential people in the country
45. Risks to companies from natural disasters and communicable diseases are
- (A) evenly distributed around the world
  - (B) more complicated today because of publicity
  - (C) a minor issue to global firms because of insurance
  - (D) most prevalent in the poorest countries of the world

**END OF TEST**



<b>CAPE                      LOGISTICS AND CHAIN SUPPLY OPERATIONS                      UNIT 2 PAPER 01</b>			
ITEM NO.	MODULE	SYLLABUS REFERENCE	KEY
1	M1	1.1	C
2	M1	1.1	B
3	M1	1.2	A
4	M1	1.2	B
5	M1	1.2	D
6	M1	1.4	D
7	M1	1.4	C
8	M1	1.3/1.5	C
9	M1	1.5	B
10	M1	1.6	C
11	M1	1.6	B
12	M1	1.6	D
13	M1	1.8	A
14	M1	1.7	B
15	M1	1.7	C
16	M2	2.2	D
17	M2	2.2	B
18	M2	2.1	B
19	M2	2.3	C
20	M2	2.3	D
21	M2	2.6	A
22	M2	2.4	D
23	M2	2.6	D
24	M2	2.6	B
25	M2	2.5	A
26	M2	2.8	D
27	M2	2.4	B
28	M2	2.3	C
29	M2	2.5	B
30	M2	2.8	C
31	M3	3.2	D
32	M3	3.2	B
33	M3	3.2	A
34	M3	3.2	A
35	M3	3.3	C
36	M3	3.3	A
37	M3	3.2	C
38	M3	3.3	A
39	M3	3.3	D
40	M3	3.2	D
41	M3	3.2	A
42	M3	3.5	B
43	M3	3.5	C
44	M3	3.5	A
45	M3	3.3	D



TEST CODE **02266020**

**SPEC 2015/02266020**

**C A R I B B E A N E X A M I N A T I O N S C O U N C I L**

**C A R I B B E A N A D V A N C E D P R O F I C I E N C Y E X A M I N A T I O N<sup>®</sup>**

**LOGISTICS AND SUPPLY CHAIN OPERATIONS**

**SPECIMEN PAPER**

**Unit 2 – Paper 02**

*2 hours 30 minutes*

**READ THE FOLLOWING INSTRUCTIONS CAREFULLY.**

1. This paper consists of THREE sections. Each section consists of TWO questions.
2. Candidates MUST answer ALL questions.
3. Write your answer in the spaces provided in this booklet.
4. You are advised to take some time to read through the paper and plan your answers.

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**SECTION A**

**MODULE 1: COMMERCIAL SHIPPING**

**Answer ALL questions.**

1. (a) Contrast THREE characteristics of tramp and liner shipping, including the vessel and cargo types associated with EACH of these types of commercial shipping.

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**(6 marks)**

- (b) List FOUR reasons why a shipping company would prefer to charter rather than own vessels.

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**(4 marks)**

(c) (i) Describe THREE characteristics of EACH of the following:

- A demise charter

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- A non-demise charter

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**(6 marks)**

(ii) Contrast TWO characteristics of time charter and voyage charter.

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**(4 marks)**

**[Total 20 marks]**

2. (a) (i) List FOUR major International Association of Classification Societies (IACS).

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**(4 marks)**

(ii) Discuss the role and relevance of the IACS to commercial shipping operations.

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**(10 marks)**

- (b) Explain the term 'entry into force' and outline TWO implications of entry into force of an International Maritime Organization (IMO) convention for a government.

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**(6 marks)**

**[Total 20 marks]**

**SECTION B**

**MODULE 2: PORT OPERATIONS**

**Answer ALL questions.**

3. (a) (i) Define 'public/private partnership'.

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**(2 marks)**

- (ii) Outline THREE merits of a public/private partnership for port operations.

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**(6 marks)**

(b) State THREE roles of the harbour master or port captain.

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**(3 marks)**

(c) The main port of a country has been labelled as inefficient and uncompetitive. Discuss THREE possible factors that might have aided this situation.

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**(9 marks)**

**[Total 20 marks]**



4. (a) Piracy and armed robbery of ships are major concerns in the Southern Caribbean. If you were the officer responsible for safety, state FOUR measures you would put in place to address this problem.

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**(4 marks)**

- (b) Discuss the importance of EACH of the following services to a port:

- (i) Port reception facilities

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- (ii) Aids to navigation

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(b) (iii) Harbour patrols

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**(9 marks)**

(c) Discuss the implications of an inefficient dredging service for the port administration of your country.

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**(7 marks)**

**[Total 20 marks]**

**SECTION C**

**MODULE 3: LOGISTICS TRANSFORMING ECONOMIES**

**Answer ALL questions.**

- 5.** (a) Analyse the development of logistics and supply chain operations in Dubai.

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**(8 marks)**



6. Compare the development of the logistics and supply chain industry in Trinidad and Tobago and Dubai using the following:

(a) Government policies

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**(10 marks)**

(b) Private sector policies

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**(10 marks)**

**[Total 20 marks]**

**END OF TEST**

C A R I B B E A N            E X A M I N A T I O N S            C O U N C I L

CARIBBEAN ADVANCED PROFICIENCY EXAMINATION®

LOGISTICS AND SUPPLY CHAIN OPERATIONS

UNIT 02 - PAPER 02

KEY AND MARK SCHEME

MAY/JUNE 2015

SPECIMEN PAPER

**LOGISTICS AND SUPPLY CHAIN OPERATIONS**  
**PAPER 02**  
**KEY AND MARK SCHEME**

**Question 1****Specific Objectives: 1.1, 1.2, 1.4****(a) Characteristics of tramp and liner Shipping**

<b>Tramp Shipping</b>	<b>Liner Shipping</b>
<ul style="list-style-type: none"> <li>• Vessels predominantly carry full shiploads of bulk cargo - homogeneous cargo transported in large consignments.</li> </ul>	<ul style="list-style-type: none"> <li>• Vessels predominantly carry passengers and/or general cargo - heterogeneous cargo includes bales and motor vehicles.</li> </ul>
<ul style="list-style-type: none"> <li>• No fixed schedules or routes - contract to carry goods between two ports or ranges.</li> </ul>	<ul style="list-style-type: none"> <li>• Vessels ply between predetermined ports on set schedules and routes.</li> </ul>
<ul style="list-style-type: none"> <li>• Freight rates are not advertised/published as a tariff as the freight market is regulated by supply and demand.</li> </ul>	<ul style="list-style-type: none"> <li>• Charging fixed advertised freight rates, and each shipping line has an established freight rate.</li> </ul>
<ul style="list-style-type: none"> <li>• Vessels are usually individually contracted under negotiated terms set out in a Charter Party for a particular period (time charter), voyage (voyage charter) or cargo.</li> </ul>	<ul style="list-style-type: none"> <li>• Agreement for hire of a cargo-liner is recorded in a contract of carriage (affreightment), and a Bill of Lading, which records details and may act as legal evidence of the existence of a contract of carriage, and a Seaway Bill are issued.</li> </ul>
<ul style="list-style-type: none"> <li>• Companies are comparatively smaller than liner companies and mostly individually owned and operated.</li> </ul>	<ul style="list-style-type: none"> <li>• Operated by large companies and may be within conferences.</li> </ul>
<ul style="list-style-type: none"> <li>• Mostly bulk carriers including tankers and the ships tend to be a little older.</li> </ul>	<ul style="list-style-type: none"> <li>• Mostly RO/RO, container and multipurpose vessels that are flexible enough for heterogeneous cargoes.</li> </ul>

**For any THREE contrasting points, 2 marks EACH (3 x 2 = 6 marks)**  
**1 mark for tramp shipping characteristic**  
**1 mark for liner shipping characteristic**



## LOGISTICS AND SUPPLY CHAIN OPERATIONS

## PAPER 02

## KEY AND MARK SCHEME

**Question 1 Cont'd****(b) Reasons for chartering rather than owning a vessel:**

- Reduces risks given that the shipping industry is prone to peaks and troughs
- Is a quicker way of replacement where there are tonnage requirements or out-of-service vessels
- Complies with a capital conservation policy to hire rather than own
- Avoids return ballast voyages (voyages without cargo that stabilize the vessel using ballast).

**For EACH reason listed, 1 mark EACH**

**(4 x 1 = 4 marks)**

**(c)****(i)****• Characteristics of demise (bare-boat) charter:**

A demise charter is the same as leasing the vessel. In a demise (bare-boat) charter:

- The charterer hires an unmanned vessel (bare vessel) and therefore provides the cargo and crew, and takes full responsibility for vessel operation.
- The ship owner pays only insurance and depreciation unless otherwise agreed in the charter party.
- A charter may range from a few weeks, months, years, or for the entire life of the vessel.
- Oftentimes, the charterer is given the option to buy the vessel at the end of the lease.

**Any THREE characteristics described, 1 mark EACH**

**(3 x 1 = 3 marks)**

## LOGISTICS AND SUPPLY CHAIN OPERATIONS

## PAPER 02

## KEY AND MARK SCHEME

**Question 1 Cont'd****• Characteristics of a non-demise charter:**

A non-demise charter is either a voyage charter or time charter. In a non-demise charter:

- Chartering is for a stated period for pre-arranged hire - freight money (charged per tonne dwt per calendar month)
- The ship owner provides the vessel and crew
- The ship owner continues to pay operating costs of vessel (crew, maintenance and repair, stores, lubricants, insurance and administration)
- Where the charterer breaches the contract, he must compensate the owner.

**Any THREE characteristics described, 1 mark EACH**

**(3 x 1 = 3 marks)**

**(6 marks)**

## LOGISTICS AND SUPPLY CHAIN OPERATIONS

## PAPER 02

## KEY AND MARK SCHEME

## Question 1 Cont'd

## (c) (ii) Characteristics of time and voyage charter

Time Charter	Voyage Charter
<ul style="list-style-type: none"> <li>• A contract where the charterer agrees to use the ship and her crew for a specific period of time within the agreed trading limit.</li> <li>• Charterer directs commercial operations of the vessel, and pays all voyage expenses and cargo handling costs.</li> </ul>	<ul style="list-style-type: none"> <li>• A contract to use the ship and her crew to carry a specific cargo under an agreed voyage; and where there is breach the charterer must compensate the owner.</li> <li>• Shipowner directs commercial operations on instructions of the charterer. Usually, except for freight charges, all costs are paid by the shipowner (gross terms), unless otherwise agreed in the charter party. For example, loading and discharge expenses (liner terms and f.i.o.).</li> </ul>
<ul style="list-style-type: none"> <li>• Vessels carry general cargo and shipowner is compensated with hire.</li> </ul>	<ul style="list-style-type: none"> <li>• Vessel is hired to carry specific cargoes between specific ports for a pre-arranged freight.</li> </ul>
<ul style="list-style-type: none"> <li>• Shipowner provides a warranty regarding the vessel's performance in terms of speed and fuel consumption and terms of hire will be adjusted if not met.</li> </ul>	<ul style="list-style-type: none"> <li>• Vessel owner is responsible for the operational conditions of the vessel and where the vessel is not sea-worthy or is less than it is contracted, the charterer may invoke the 'off-hire' clause.</li> </ul>
<ul style="list-style-type: none"> <li>• Charter party sets out 'off hire' (when not required to pay hire) when the charterer is not required to pay for the vessel, for example, emergency repairs.</li> </ul>	<ul style="list-style-type: none"> <li>• Charter party sets out 'off hire' (when not required to pay freight).</li> </ul>
<ul style="list-style-type: none"> <li>• Charterer is required to compensate vessel owners for damages to vessel beyond normal 'wear and tear'.</li> </ul>	<ul style="list-style-type: none"> <li>• Charterer required to compensate vessel owner demurrage (payment by charterer for exceeding lay time) or dispatch money (reimbursement by shipowner if less lay time is required).</li> </ul>

For any TWO contrasting points, 2 marks EACH (2 x 2 = 4 marks)

1 mark for time charter characteristic

1 mark for voyage charter characteristic

Total: 20 marks

**LOGISTICS AND SUPPLY CHAIN OPERATIONS**

**PAPER 02**

**KEY AND MARK SCHEME**

**Question 2.**

**Specific Objectives: 1.7, 1.8**

(a) (i) **Major International Classification Societies (IACS):**

- American Bureau of Shipping
- Bureau Veritas
- China Classification Society
- Ocean Registry of Shipping
- Lloyd Registry
- Korean Registry of Shipping
- Nippon Kaiji Kyokai
- Polish Registry of Shipping
- Registry of Italian Navale
- Russian Maritime Registry of Shipping
- Det Norske Veritas Germanischer

**1 mark for any FOUR societies stated (4 x 1 = 4 marks)**

(ii) **Role and relevance of IACS to commercial shipping operations:**

The International Association of Classification Societies (IACS) is a non-governmental association which consists of world's major classification societies **(1)**. The IACS exists to perform the following roles:

- Promote the highest standards in ship safety and the prevention of marine pollution **(1)**
- Establish, apply, monitor and update technical standards for hull structure and essential engineering systems **(1)**.
- Inspect ships during construction and trading life (operation) to ensure seaworthiness and safety **(1)**, and perform other surveys and inspections by arrangement **(1)**
- Maintain registers of tonnage, for example, Lloyd's Register **(1)**
- Represent governments in a safety surveillance role **(1)**
- Liaise with international organizations for exchange of information and consideration of industry views regarding matters of mutual interest **(1)**.
- IMO statutory safety certification is required for ships to legally operate internationally **(1)**, and is contingent upon compliance with IACS standards for hull structure and essential engineering systems **(1)**.
- Consultative status is maintained with IMO to ensure that detailed technical and procedural requirements of proposed standards are easily applicable and as unambiguous as possible **(1)**.

**1 mark for EACH of TEN points given (10 marks)**

## LOGISTICS AND SUPPLY CHAIN OPERATIONS

## PAPER 02

## KEY AND MARK SCHEME

**Question 2 Cont'd****(b) Entry into force:**

Entry into force is a specific date when a required number of states have ratified a convention **(1)**. Ratification requires government's obligations to put convention measures in place **(1)**. Possible implications of entry into force include:

- National law often has to be enacted or amended to enforce the provisions of the convention **(1)**.
- Special facilities may have to be provided in some cases **(1)**.
- An inspectorate may have to be appointed or trained to perform functions under the convention **(1)**.
- Adequate notice must be given to relevant stakeholders (shipbuilders, shipowners, and other interested parties) **(1)**.

**Explanation of entry into force, 2 marks (2 + 4 = 6 marks)**

**For any TWO implications fully outlined, 2 marks EACH**

**1 mark for partial outline**

**Total: 20 marks**

## LOGISTICS AND SUPPLY CHAIN OPERATIONS

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## KEY AND MARK SCHEME

**Question 3****Specific Objectives: 2.2, 2.7, 2.8****(a) (i) Definition of public/private partnership:**

Public/private partnership is a relationship between the public and private sector **(1)**, in which the private sector manages and operates the business that is normally owned by the government **(1)**.

**1 mark for EACH point given****(2 marks)****(ii) Merits of Public/Private Partnership for Port Operations:**

- Greater access to capital to aid investments **(1)**: expand and modernize the port so that greater efficiency can be achieved **(1)**.
- Retention of highly skilled and qualified staff with salaries based on industry standard **(1)**: better quality of service and high levels of productivity **(1)**.
- Allows the port administration to compete in international shipping **(1)**: better quality of shipping lines calling at the port **(1)**.
- The quality of port services would improve through the acquisition of quality equipment and services **(1)**: greater productivity and improved vessel turnaround time **(1)**.
- Reduction in industrial relations problems **(1)**: to have a more satisfied workforce which will improve efficiency and productivity and satisfy international customers **(1)**.

**For any THREE merits fully outlined, 2 marks EACH****(3 x 2 = 6 marks)****1 mark for partial outline**

**LOGISTICS AND SUPPLY CHAIN OPERATIONS****PAPER 02****KEY AND MARK SCHEME****Question 3 Cont'd**

(b) **Roles of harbour master/port captain:**

- Takes care of the ships and other customers, to make sure that the quays are used in the best way, without more delays than necessary for the customers.
- Supervises the official depths of the channel entrance and harbour basins.
- Supervises lights and buoys.
- Supervises the harbour areas and quays to keep the installation in good order, including safety equipment.
- Ensures that the harbour area is used according to the harbour regulations.
- Takes care of ships and commodity dues, and other port charges (light, harbour and tonnage dues).
- Supervises the pilots and hydrographic surveyors.

**Any THREE roles stated, 1 mark EACH (3 x 1 = 3 marks)**

**LOGISTICS AND SUPPLY CHAIN OPERATIONS**  
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**KEY AND MARK SCHEME**

**Question 3 Cont'd**

(c) **Factors aiding inefficiency and uncompetiveness of port:**

- Excessive Government control and bureaucracies **(1)** - slows down the rate at which work is done **(1)**; it adds to duplication, errors and costs **(1)**; and it discourages the private sector **(1)** and oftentimes promotes corruption (that is, it is anti-trade facilitation) **(1)**.
- Poor infrastructure development **(1)** - slows down the turnaround time of cargo and vessel through ports **(1)**. This significantly adds to the vessel cost **(1)**. This may serve as a deterrent to vessel call **(1)**.
- Weak institutional development and the non-implementation of key international maritime standards and customary practices **(1)** - exasperates low operating standards (that is, prevents conformity to national preventative practices **(1)** and prevents a port from being internationally competitive) **(1)**.
- Lack of effective channel maintenance and the provision of requisite port equipment **(1)**, high port charges such as light, harbour and tonnage dues **(1)**. This serves to repel international lines from using a port **(1)** as it means that calls to these ports are extremely high **(1)**.
- A heavy dependence on tidal conditions to facilitate the movements of ships in and out of the port **(1)** thereby resulting in unnecessary delays and the attracting of demurrage charges **(1)**. This serves to make time in port long and costly **(1)**, rendering such ports unattractive **(1)**.

**Any THREE factors fully discussed, 3 mark EACH**

**(3 x 3 = 9 marks)**

**For EACH factor, 1 mark for any THREE points given**

**Total: 20 marks**



**LOGISTICS AND SUPPLY CHAIN OPERATIONS**  
**PAPER 02**  
**KEY AND MARK SCHEME**

**Question 4.**

**Specific Objectives: 2.2, 2.4**

(a) **Measures to address problem of piracy and armed robbery:**

- The fostering of bi-lateral relations through collaboration for surveillance and information sharing.
- Increased surveillance in the territorial waters of the lateral and coastal state.
- Encourage inter-sector collaboration and information sharing.
- Inform IMO and solicit technical cooperation.
- Invert more sophisticated patrol boats and surveillance equipment.
- Improve the capability or capacity of the coast station by investing in more up-to-date technology.

**Any FOUR measures stated, 1 mark EACH**

**(4 x 1 = 4 marks)**

(b) **Importance of port services:**

(i) **Port reception facilities**

In keeping with international maritime standards as reflected in the MARPOL Convention **(1)**, the coastal state must provide reception facilities for garbage and other waste **(1)**. This facility is requested by ships calling the port **(1)**. In the absence of the facility, ships may be left with the only alternative which is to pollute the waterways by dumping garbage and other substances **(1)**.

(ii) **Aids to navigation**

Aids to navigation are essential for giving guidance to seamen as to the ship's channel and to serve as a guide **(1)**, whether it is a buoy or beacon to ships entering or leaving the port **(1)**. One of the principal navigational aids is the country's lighthouse **(1)**. Navigational aids are regarded as one of the critical port services **(1)** for the facilitation of domestic and international commercial shipping **(1)**.

**LOGISTICS AND SUPPLY CHAIN OPERATIONS****PAPER 02****KEY AND MARK SCHEME****Question 4 Cont'd****(iii) Harbour patrols**

Harbour patrols are important for the supplementing of the surveillance offered by the coast guard **(1)**. This is usually implemented by the Harbour of Ports Authority **(1)**, and it is often regarded as invaluable to the safety and security regimes **(1)**. They help in reducing incidents of petty theft and armed robbery **(1)**. It deters vandalism of navigational aids and ISPS initiatives **(1)**.

**For EACH service fully discussed, 3 marks EACH (3 x 3 = 9 marks)**

**1 mark for any THREE points given**

**(c) Implications of inefficient dredging service:**

The implications of an inefficient dredging service for a port are very serious **(1)**. In cases where there are estuarial ports, the situation is even worse **(1)**. The absence of scheduled maintenance dredging may lead to the port being marginalized **(1)**. It would prevent ship operators from benefitting from economies of scale **(1)**. Demurrage charges could be frequently very high **(1)**. It limits vessel size and types that call the port **(1)**. An inefficient dredging service makes the port uncompetitive **(1)** and hinders international trade **(1)**.

**Any SEVEN points given, 1 mark EACH**

**(7 marks)**

**Total: 20 marks**

## LOGISTICS AND SUPPLY CHAIN OPERATIONS

## PAPER 02

## KEY AND MARK SCHEME

## Question 5

## Specific Objectives: 3.1, 3.2

(a) **An Analysis of the development of logistics in Dubai:**

Strategies for economic growth adopted by Dubai (1) have varied over a period of time (1). During the last few decades, global trade policy has focused on outward-oriented growth policies (1) in which importance was given to the establishment of Special Economic Zones (1) as an instrument to boost employment, export and foreign exchange (1). These Special Economic Zones have been the catalyst that have transformed Dubai into a business hub (1), a key component of which is a logistics hub (1). Dubai's development as an integrated logistics hub has transformed it into a hub of business excellence (1) by raising the productivity of economic sectors (1) and maintaining high production quality standards (1).

**Any EIGHT points given, 1 mark EACH**

**(8 marks)**

(b) **Benefits of logistics development to Dubai's economy:**

- An economic environment that attracts foreign firms (1) - this has been the major catalyst for expanding Dubai's economy through foreign direct investment (FDI) (1), and by making the environment attractive to facilitate ease of doing business (1).
- The availability of a large free zone built around a world class port and airport (1) - this has helped to facilitate trade within and outside the United Arab Emirates (UAE) (1) and has helped to connect Dubai to the world through an effective and efficient transportation network (1).
- Provision of living standards to meet the demands of a large expatriate population (1) - a theory of society is that emerging economies and/or newly industrialized economy will attract or become attractive to different tourists (1) (business and non-business) alike. This one factor accounts for the reason why the tourism industry in Dubai has developed so well in the logistics and supply chain industry (1). There has been a high injection of capital into real estate in Dubai by investors from around the world (1).
- Highly competitive handling charges (1) - the presence of a global logistics and business centre in Dubai (1) has allowed for a regional headquarters and regional distribution centres of many multinational companies (1) as a result of handling charges which are highly competitive in comparison to other logistics and economic zones around the world (1).

**LOGISTICS AND SUPPLY CHAIN OPERATIONS**  
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**Question 5 Cont'd**

- Track record of port and airport operator managing complex processes **(1)** - This has resulted in the following:
  - Efficiency of the clearance process (that is, speed, simplicity and predictability of formalities) by border control agencies, including Customs **(1)**.
  - Quality of trade and transport related infrastructure (for example, ports, railroads, roads, information technology) **(1)**.
  - Ease of arranging competitively priced shipments **(1)**.
  - Competence and quality of logistics services (for example, transport operators, customs brokers) **(1)**.
  - Ability to track and trace consignments **(1)**.
  - Timeliness of shipments in reaching destination within the scheduled or expected delivery time **(1)**.

**Any FOUR benefits fully discussed, 3 marks EACH**

**(4 x 3 = 12 marks)**

**For EACH benefit, 1 mark EACH for any THREE points given**

**Total: 20 marks**

**LOGISTICS AND SUPPLY CHAIN OPERATIONS****PAPER 02****KEY AND MARK SCHEME****Question 6.****Specific Objectives: 3.2, 3.3, 3.4, 3.5****(a) Government policies:**

The development of the logistics and supply chain industry needs government attention as government policy needs to address identified deficiencies in market integrity, tax policy, and logistics park development **(1)**, and to eliminate administrative barriers and create policies that favour local logistics enterprises in order to get their buy in **(1)**. The areas of policy attention can be divided into infrastructure, market regulation, transport and logistics practices, and policy framework **(1)**. To support the development of the logistics industry, government policy would clarify regulatory functions and responsibilities among different agencies **(1)**, streamline interactions **(1)**, and integrate business processes as quickly as possible **(1)**. In addition, government policy should consider using financial incentives to promote logistics development **(1)**. Government policy should also introduce guidelines to promote the development of small and medium-sized logistics enterprises **(1)** and support development of logistics enterprises of all sizes so that they can be on an equal footing with large logistics companies **(1)**. Variations in logistics and supply chain between Dubai and Trinidad and Tobago stem from differences in the quality and cost of infrastructure services **(1)** as well as in government policies, procedures, and institutional frameworks **(1)**. These policies and procedures have a significant effect on trade competitiveness **(1)**. In Trinidad and Tobago for example, logistics performance is driven only in part by poor quality of physical infrastructure services such as road, lack of rail services, poor waterway network, and port services and interfaces **(1)**. These inadequacies are more often caused by policy and institutional constraints such as procedural red tape, inadequate enforcement of contracts, poor definition and enforcement of rules of engagement, delays in customs, delays at ports and border crossings, pilferage in transit and restrictive protocols on the movement of cargo **(1)**.

**1 mark for any TEN points given****(10 marks)**

**LOGISTICS AND SUPPLY CHAIN OPERATIONS****PAPER 02****KEY AND MARK SCHEME****Question 6 Cont'd****(b) Private sector policies:**

The private sector in logistics and supply chain is mostly composed of shippers, traders, manufacturers and consignees **(1)** who require access to efficient and effective logistics services to support their market competitiveness **(1)**. The logistics service industry is therefore critical to private sector competitiveness enhancement **(1)** as it offers optimal logistical solutions based on existing infrastructure and institutional framework **(1)**. Infrastructure and institutional framework is the context in which the logistics industry operates **(1)**. A supporting and facilitating context for the logistics industry will greatly benefit the private sector in terms of access to competitive logistics services **(1)**. Logistics services available in Dubai are a reflection of the economic development achieved by the country **(1)**, with more sophisticated services available in the country **(1)**. Logistics service providers in Dubai provide extensive logistical and supply chain services **(1)**, whereas providers in Trinidad and Tobago provide only basic logistics services such as trucking, warehousing, or customs brokerage **(1)**. Customers have also become more demanding in Dubai because of the availability of global logistics services providers offering their integrated services **(1)**.

**1 mark for any TEN points given****(10 marks)****Total: 20 marks**



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**C A R I B B E A N E X A M I N A T I O N S C O U N C I L**  
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**LOGISTICS AND SUPPLY CHAIN OPERATIONS**

**SPECIMEN PAPER**

**Unit 2 – Paper 032**

*1 hour 30 minutes*

**READ THE FOLLOWING INSTRUCTIONS CAREFULLY.**

1. This paper consists of a case study and THREE questions.
2. Answer ALL questions.
3. Write your answer in the space provided in this answer booklet.
4. You are advised to take some time to read through the paper and plan your answers.

**DO NOT TURN THIS PAGE UNTIL YOU ARE TOLD TO DO SO.**

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**Read the following case study and answer ALL the questions.**

**CASE STUDY**

M/V Oasis of the Caribbean is a cruise vessel owned and operated by Relaxing and Fun Shipping Ltd. Her home port is Basseterre St Kitts (St Christopher) where she receives supply chain deliveries from her third party logistics provider after which she set sails to Puerto Rico. Her routing commences in Puerto Rico and she sails mainly in the northeastern part of the Caribbean calling at ports in Anguilla and the British Virgin Islands.

While in her home port Basseterre, it is important that the third party logistics provider, responsible for receiving and clearing supplies before the ship sets sail, remains on schedule. It is also important that the third party logistics provider ensures that all supplies are delivered on time and within budget.

It is anticipated that M/V Oasis will NOT experience any significant operational delays; it is also anticipated that there will be no need to purchase supplies from other suppliers.

Should operational delays be experienced, or should there be a need to purchase supplies from other suppliers, the vessel operators will incur significant time and/or cost overruns which is not acceptable.

1. Discuss FIVE strategies that must be put in place in Basseterre to facilitate home porting.

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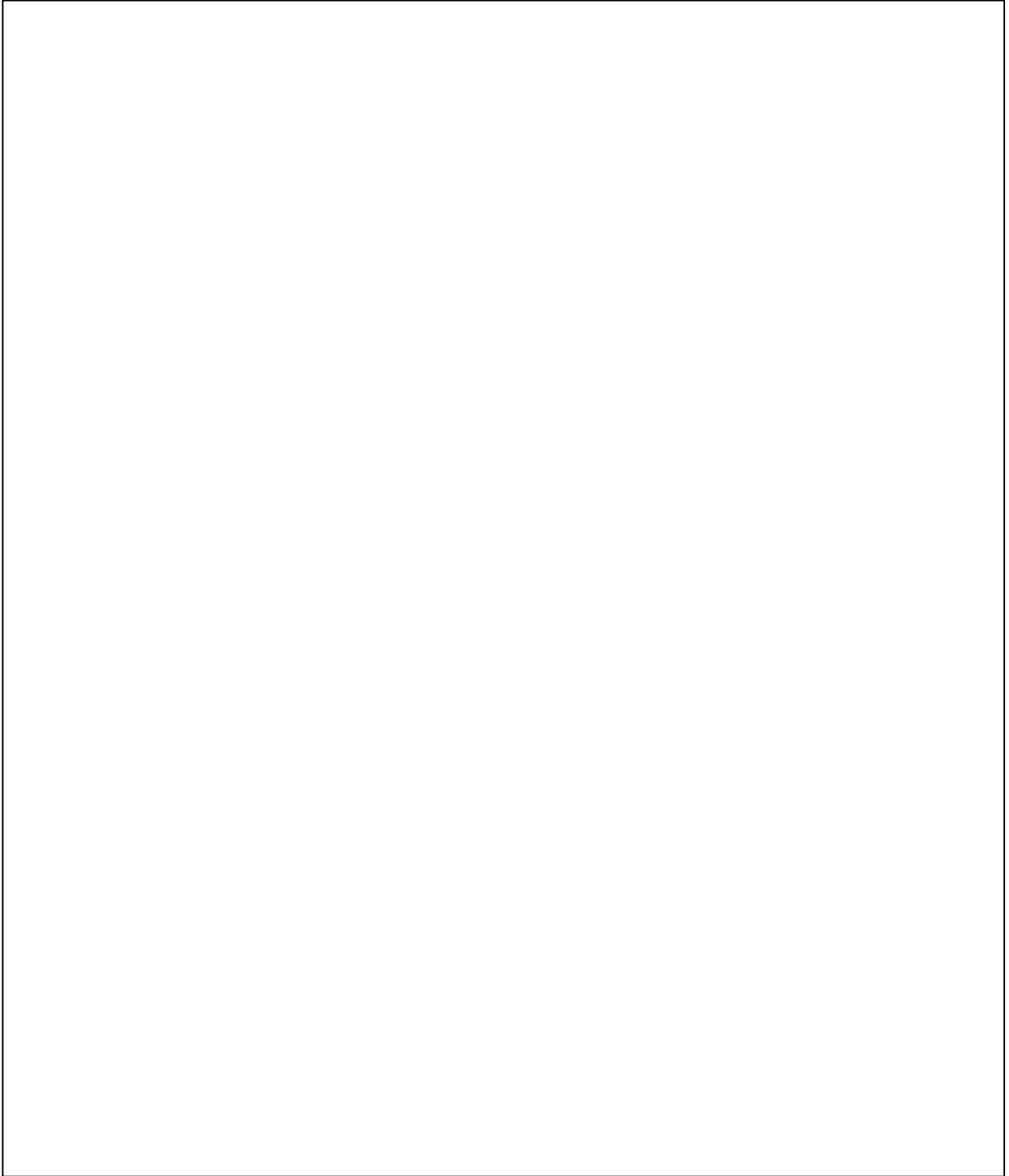
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2. Use a labelled diagram to outline SIX facilities that are required in the port to ensure that the cruise ship operators are efficient.

A large, empty rectangular box with a thin black border, intended for the student to draw a labelled diagram of six port facilities. The box is currently blank.





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**Logistics and Supply Chain Operations  
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Key and Mark Scheme**

<b>Ques.</b>	<b>Possible Response</b>	<b>Instructions or Comments</b>	<b>Total</b>
1.	<p><b>Strategies to facilitate home porting:</b></p> <ul style="list-style-type: none"> <li>• Adequate port infrastructure: The provision of adequate port infrastructure is one of several subsets of activities that are essential elements for port development, transformation and home porting. The existence of poor quality or inadequate infrastructure will inevitably impact negatively on port competitiveness and the ability to facilitate home porting.</li> <li>• Facilitating vessels of all sizes: Another characteristic of a port is its ability to receive and service mega cruise ships such as the Genesis Class vessels. The number and size of post-panamax cruise vessels will continue to grow. This will increase the transport of more people, and increase the number of private islands. Ship capacity will continue to rise, and ports will have to adjust to the sizes.</li> <li>• Deep channel and berth: These will allow the largest cruise ships access to the port at any given time. Cruise ship sizes have risen substantially in recent years, and in a highly competitive environment, in order to enable ports to compete with their regional peers, the port channel and berth must be adequate enough to accommodate vessels of different sizes.</li> </ul>	<p>1 mark for stating EACH strategy and 3 marks for discussing EACH strategy</p> <p>(5 x 4 = 20)</p> <p>1-2 marks for partial discussion.</p>	20

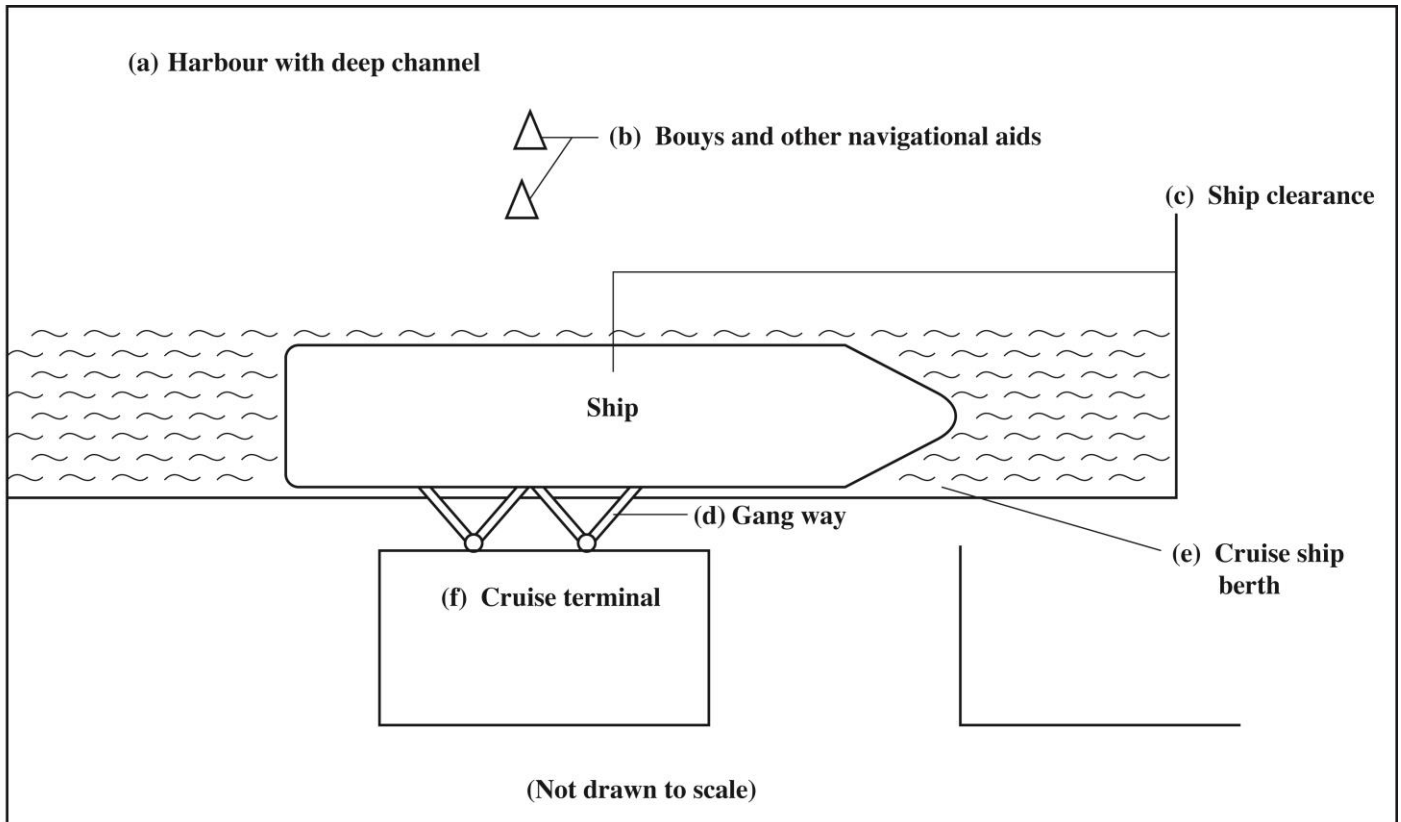
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Key and Mark Scheme**

Ques.	Possible Response	Instructions or Comments	Total
<p style="text-align: center;">1. Cont'd</p>	<ul style="list-style-type: none"> <li>• Facility for cruise ship supplies: Cruise ships consume vast amounts of supplies every day, and as such, many ports are chosen by cruise operators as home ports not necessarily because of the port facilities, but because of the attractions of the city and facility for cruise ship supplies. These supplies range from basic food items, water, fuel and a host of other sundry items.</li>   <li>• Adequate shopping facilities and entertainment: Where there are adequate shopping and entertainment facilities, cruise passengers would want to spend a few days either pre- or post-cruise immersing themselves in enjoying the facilities in the surrounding area of the port. This will help introduce additional money into the resort area.</li> </ul>		
<b>TOTAL</b>			<b>20</b>

Logistics and Supply Chain Operations  
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Key and Mark Scheme

Question 2.

Diagram of port facilities required for efficient cruise ship operations.





**Logistics and Supply Chain Operations  
Specimen Paper  
Unit 2 Paper 032 - Case Study  
Key and Mark Scheme**

**Question 2. Cont'd**

- (a) Harbour with deep channel: To enable vessels and cruise ships of certain drafts to safely use harbours and berths.
- (b) Buoys and other navigational aids: As required by international safety for ships.
- (c) Ship clearance: According to vessel's length overall (LOA) using the port.
- (d) Gang way: For easy passenger processing to embark and disembark vessels.
- (e) Cruise ship berth: The number of berths is dependent on volume.
- (f) Cruise terminal equipped with departure lounge, ticketing/queuing, baggage hall, customs and immigration clearance.

**1 mark for EACH facility correctly labelled.  
2 marks for EACH facility described.  
(6 x 3 = 18 marks)**

**2 marks for full illustration.**

**Total 20 marks**

**Logistics and Supply Chain Operations  
Specimen Paper  
Unit 2 Paper 032 – Case Study  
Key and Mark Scheme**

Ques .	Possible Response	Instructions or Comments	Total
3.	<p><b>Advantages of outsourcing logistics operations:</b></p> <ul style="list-style-type: none"> <li>• The ability to lower basic costs: When a company outsources, the company can avoid carrying costly overhead expenses associated with fleet maintenance and insurance costs, fluctuating equipment demands, and a fixed warehouse. With outsourcing, a company can also avoid the responsibility of employee wages, compensation, and liability that come with maintaining its own in-house staff.</li> <li>• Ability to offer more efficient operations: When a company outsources, the company can become more efficient because the company is able to leverage the proven processes and expertise of another company whose sole focus is on logistics. In addition, a 3PL provider can respond quickly to daily, weekly, and monthly volume demands. With outsourcing, a company can hold a 3PL provider completely accountable for handling transportation, deliveries, warehousing, installations, and aftermarket support to the standards set.</li> <li>• Better focus: When a company outsources, it means the business of the provider is 3PL. This is what the provider is an expert at, and what it is dedicated to do. When a company finds the right 3PL provider, business will improve, customers will be happier, and costs will go down because the company is able to focus on what it does best, and the 3PL provider is able to do what it does best, 'outsourcing'.</li> </ul>	<p><b>4 marks for EACH advantage fully discussed</b></p> <p><b>(3 x 4 = 12)</b></p> <p><b>2-3 marks for adequate discussion</b></p> <p><b>1 mark for partial discussion</b></p>	12

**Logistics and Supply Chain Operations  
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<p style="text-align: center;"><b>3.</b> <b>Cont'd</b></p>	<ul style="list-style-type: none"> <li>• High accountability: One of the concerns many companies have with outsourcing is the perceived loss of control and accountability. This can be overcome by hiring the right 3PL provider who will take a company's business seriously and be willing to be held accountable to the company's performance standards. A 3PL provider would take responsibility for the care of the company's products and customers.</li>   <li>• Greater innovation: A 3PL provider will team with another company specifically to accomplish that company's goals and objectives. The 3PL provider will apply its expertise in ways that improve that company's operations and satisfy its customers by bringing innovative ideas and technology to the table. The 3PL provider will commit its resources in ways a company might not be able to, and it will accurately track the movement of every product throughout the delivery cycle.</li> </ul>		
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**Logistics and Supply Chain Operations  
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Key and Mark Scheme**

<p style="text-align: center;"><b>3.</b> <b>Cont'd</b></p>	<p><b>Disadvantages of outsourcing logistics operations:</b></p> <ul style="list-style-type: none"> <li>• Loss of managerial control: Whether a company signs a contract to have another company perform the 3PL function of an entire department or a single task, the company is turning the management and control of that function over to another company. The same standards and mission that drives your company will not drive a 3PL provider. The 3PL provider will be driven to make a profit from the services that they are providing to you and other similar businesses.</li> <li>• Hidden costs: When a company signs a contract with an outsourcing company that will cover the details of the service that they will be providing, anything not covered in the contract will be the basis for the company to pay additional charges to the 3PL provider. Additionally, the company will experience legal fees to retain a lawyer to review the contracts before signing.</li> <li>• Threat to security and confidentiality - The lifeblood of any company is the information that keeps it running. If a company has payroll, medical records or any other confidential information that will be transmitted to the outsourcing company, there is a risk that confidentiality may be compromised. Therefore, a company must evaluate the outsourcing company carefully to make sure its data is protected and that the contract has a penalty clause should such an incident occur.</li> </ul>	<p><b>4 marks for EACH disadvantage fully discussed</b></p> <p style="text-align: center;"><b>(2 x 4 = 8)</b></p> <p><b>2-3 marks for adequate discussion</b></p> <p><b>1 mark for partial discussion</b></p>	<p style="text-align: center;"><b>8</b></p>
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**Logistics and Supply Chain Operations  
Specimen Paper  
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Key and Mark Scheme**

<p><b>3.</b> <b>Cont'd</b></p>	<ul style="list-style-type: none"> <li>• Quality problems: An outsourcing company will be motivated by profit. Since the contract will fix the price, the only way for the company to increase profit will be to decrease expenses. As long as the outsourcing company meets the conditions of the contract, your company will pay. In addition, the company will lose the ability to rapidly respond to changes in the business environment as the contract will be very specific and the company will pay extra for changes.</li>   <li>• Tied to the financial wellbeing of another company: Since a company will be turning over part of its operations to another company, the company will now be tied to the financial wellbeing of the 3PL provider. It wouldn't be the first time that an outsourcing company goes bankrupt and leaves another company holding-the-bag.</li> </ul>		
		<b>TOTAL</b>	<b>20</b>