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МІНІСТЕРСТВО ОСВІТИ І НАУКИ УКРАЇНИ
Криворізький фаховий коледж
Державного некомерційного підприємства
«Державний університет «Київський авіаційний інститут»

ЗАТВЕРДЖУЮ
Заступник начальника коледжу
з навчально-методичної роботи
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«04» 09 2025 р.

МЕТОДИЧНІ ВКАЗІВКИ
ДО ВИКОНАННЯ САМОСТІЙНОЇ РОБОТИ

з навчальної дисципліни «Іноземна мова (за професійним спрямуванням)»
(назва навчальної дисципліни)

спеціальності D3 Менеджмент
(код та назва спеціальності)

освітнього ступеня бакалавр

Кривий Ріг
2025

Методичні вказівки до виконання самостійної роботи для здобувачів освіти денної форми навчання з навчальної дисципліни «Іноземна мова (за професійним спрямуванням)»,
(назва навчальної дисципліни)

складені на основі навчальної програми, затвердженої «04» 09 2025 р.
та навчального плану Н6(ЛТ)-03.05.02-073/25,
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Укладач: викладач, спеціаліст вищої категорії Квітко Ганна Олександрівна
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Методичні вказівки до виконання самостійної роботи обговорено на засіданні циклової комісії іноземної мови
(повна назва циклової комісії)

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«04» 09 2025 р.

1 Пояснювальна записка

Самостійна робота здобувачів освіти є складовою навчального процесу, важливим чинником, який формує вміння навчатися, сприяє активізації засвоєння знань.

Самостійна робота здобувачів освіти є основним засобом опанування навчального матеріалу у позааудиторний час.

Дані методичні вказівки призначені для самостійної роботи здобувачів освіти ІІ курсу спеціальності D3 Менеджмент відповідно до програми, розрахованої на 52 годин.

Основною метою даних методичних вказівок є навчити майбутніх спеціалістів самостійно користуватися спеціальною літературою, розвинути практичні навички читання, перекладу та розуміння літератури за фахом англійською мовою, збагачення запасу фахової лексики та розширення кругозору читача.

Методичні вказівки включають самостійні роботи, що містять тексти, до- та післятекстові вправи, вправи з граматики, фахову лексику, вирази. Від здобувача освіти вимагається вживання активної лексики за спеціальністю шляхом відповідей на поставлені питання, переклад, продовження речень, складання діалогів, анотацій та доповідей.

Методичні вказівки спрямовані на закріплення лексичного та граматичного матеріалу.

2 Загальні методичні вказівки

Самостійна роботи з навчальної дисципліни «Іноземна мова (за професійним спрямуванням)» спрямована на розширення знань здобувачів вищої освіти стосовно розвитку практичних навичок читання, перекладу та розуміння літератури за фахом англійською мовою, збагачення запасу фахової лексики та розширення кругозору читача.

Виконання вказаних у даних методичних вказівках завдань передбачає самостійне їх вивчення здобувачами вищої освіти, керуючись рекомендованими літературними джерелами.

3 Орієнтований тематичний план з тем, які винесені на самостійну роботу

№ розділу, теми	Назва розділу і теми	Кількість годин на самостійну роботу
1	2	3
3 семестр		
Розділ №1. «Транспортна інфраструктура»		
3.1	Робота з текстом: «Mesures of Activities and Performance 1»	4
3.2	Робота з текстом: «Mesures of Activities and Performance 2»	4
3.3	Робота з текстом: «Commercial Air Transport»	4
3.4	Лексико-граматичні вправи за темою	4
3.5	Робота з текстом: «Air Carrier Accounting»	4
3.6	Лексико-граматичні вправи за темою	4
3.7	Робота з текстом: «Certificates Required for International Shipment»	4
3.8	Лексико-граматичні вправи по тексту	4
3.9	Робота з текстом: «Transport Documentation»	4
3.10	Робота з текстом: «World Biggest Cargo Airports».	4
3.11	Лексико-граматичні вправи по тексту: «World Biggest Cargo Airports»	4
3.12	Робота з текстом: «The Airport Security System»	4
3.13	Лексико-граматичні вправи по тексту	4
	Всього за розділом №3	52
Всього за 3 семестр		50

4 Методичні вказівки до самостійної роботи

Розділ №3. «Транспортна інфраструктура»

Тема №3.1. «Робота з текстом: «Mesures of Activities and Performance 1»

inventory	матеріально-технічні запаси
supply chain	ланцюг постачання
destination	місце призначення
interchangeable	взаємозамінний
maintenance (of goods)	супровід (товарів), технічне обслуговування
to apply to	стосуватися; поширюватися; застосовуватися
shipment	відвантаження, відправлення (вантажів)
raw material	сировина
packaging	пакування
consumer	споживач
customer	замовник
performance measurement	оцінка якості роботи
procurement	закупівля
manufacturing	виробництво
objective	завдання, мета
competitive advantage	конкурентна перевага, конкурентноспроможність
inbound transportation	ввезення товару
outbound transportation	вивезення товару
fleet management	керування парком транспортних засобів
warehousing	складування, зберігання на складі
warehouse provider	надавач складських послуг
material handling	вантажно-розвантажувальні роботи, обробка (для транспортування матеріалів)
demand	1. вимога; запит; потреба 2. попит

Text

Speaking about logistics we should differentiate the terms "logistics" and "supply chain management". They are often used interchangeably, but different in their objectives and applications.

Logistics is a part of supply chain management that integrates the movement and maintenance of goods in and out of the organization. It applies to the purchase and delivery of raw materials, packaging, shipment, and transportation of goods to distributors, customers, consumers or users.

Supply chain management covers a vast network of outside organizations involved in product development, performance measurement, customer service, procurement, manufacturing, inventory.

The objective of logistics management is customer satisfaction, while that of supply chain management is competitive advantage. In its performance, logistics management usually involves a single organization, while the supply chain management has a vast network of multiple organizations.

The other functions of I logistics management are inbound transportation, outbound transportation, fleet management, warehousing, materials handling, order fulfillment, inventory management, demand planning, etc.

Exercise 1. Give Ukrainian equivalents

raw materials; combat environment; destination; customer; maintenance; fleet management; ancient; interchangeable; packaging; academia; inventory; supply chain, inbound transportation; carrier; to originate; computation; consumer; warehouse provider; shipment; performance measurement: procurement; manufacturing; apply to; competitive advantage; to calculate; material handling; demand; outbound transportation.

Exercise 2. Give English equivalents

стародавній; розрахунок; керування парком транспортних засобів; бойова обстановка; розраховувати; походити; наукове середовище; стосуватися, поширюватися; місце призначення; ввезення товару; підраховувати; стислий; взаємозамінний; закупівля; виробництво; матеріально-технічні запаси: оцінка якості роботи: супровід (товарів); відвантаження; вивезення товару; замовник; пакування; сировина; споживач; вантажно-розвантажувальні роботи; попит; надавач складських послуг; складування, зберігання на складі.

Exercise 3. Complete the sentences

1. The term "logistics" originates from combat environments, but not from 2. Logistics is the process of and resources from one location to the desired .... 3. The first book on logistics "Summary of the Art of War" was written in ... by ... 4. Logistics applies to the purchase and delivery of ... . 5. Supply chain management covers a vast network of outside organizations involved in 6. In its performance logistics management usually involves... 7. The other functions of logistics management are ...

Exercise 4. Open the brackets and use the verb in the correct form of Present Simple (V(s), is, am, are)

1. Logistics (to be) a word of Greek origin. 2. Logistics (to originate) from combat environment. 3. Logistics (to coordinate) and (to move) resources, from one location to the desired destination. 4. Logistics (to be) a part of supply chain management. 5. Logistics (to integrate) the movement and maintenance of goods in and out of the organization. 6. It (to apply) to the purchase and delivery of raw materials, packaging. shipment, and transportation of goods to distributors, customers, consumers or users. 7. The objective of logistics management (to be) customer satisfaction, while that of the supply chain management (to be) competitive advantage. 8. In its performance logistics management usually (to involve) single organization, while the supply chain management (to have) a vast network of multiple organizations. 9. Logistics and supply chain management (to differ) in their objectives and applications.

Тема №3.2. «Робота з текстом: «Measures of Activities and Performance 2»

pipeline	1. система постачання, канал (постачання); 2. трубопровід
to secure	гарантувати безпеку, забезпечувати
to emerge	виявлятися; з'ясовуватися
to facilitate	полегшувати; сприяти
utility	корисність, вигідність
forward flow	прямий потік
reverse flow	зворотний потік
point of origin	місце відправлення, місце походження
point of consumption	місце споживання
to meet requirements	задовольняти вимоги
to position	1. розміщувати, розташовувати; 2. визначати місцеположення

to execute	виконувати, реалізовувати
explicit definition	точне (чітке, однозначне) визначення
value chain	виробничо-збутовий ланцюг
transshipment	перевалка (вантажів), перевантаження
added value	додана вартість, сукупна вигода
cross-functional	міжфункціональний, багатофункціональний
cross-sectional	різнопрофільний

Exercise 1. Read and translate text 2

Text 2

DEFINITION OF LOGISTICS HISTORICAL TRACK

Since the beginning of human civilization, there has always been movement of goods. Logistics is a unique continuously operated global pipeline, i.e. 24 hours a day, seven days a week and 52 weeks a year, to secure product and service planning, coordination, transportation and delivery to customers worldwide.

Logistics tasks and activities within this economic process were first systematically termed in the mid-twentieth century. Logistics as a business concept was emerged in 1950s to manage the flow of goods, information and resources between the point of origin and the point of consumption in the increasingly globalized supply chain. Complex logistical processes required qualified experts who are called logisticians.

The most common definitions of logistics are the following:

(a) Logistics is the management of all activities which facilitate supply and demand movement, coordinates and creates the utility of time and place;

(b) Logistics management plans, controls and implements efficient and effective forward and reverse flow, storage of goods, services and related information between the point of origin and the point of consumption in order to meet customer requirements:

(c) Logistics positions resources at the right time, in the right place, at the right cost, and at the right quality;

(d) In business terms, logistics means the physical movement of goods from the supplier point to the receiver point.

As you see, there are not any explicit definitions of logistics. It comes out from the particular logistical task, i.e. from the products, the quantity, the spatial relations, the customer requirements etc.

The standard definition given by the European Committee for Standardization describes logistics as the process of planning, executing and controlling the movement and placement of people and/or goods, and as the supporting activities to secure such movement and placement and achieve the established objectives.

Exercise 2. Give Ukrainian equivalents

explicit definition: forward flow; to meet requirements; cross-sectional; pipeline; disposal; point of origin; transshipment; reverse flow; value chain; to facilitate; to incorporate; material handling; time utility; place utility: cross-functional; to execute; added value; to position.

Exercise 3. Give English equivalents

полегшувати, сприяти; корисність часу; реалізація; перевалка (вантажів); виробничо-збутовий ланцюг; об'єднувати; система постачання, канал (постачання); виконувати; розміщувати; зворотний потік; додана вартість; місце відправлення; прямий потік; корисність місця; міжфункціональний, багатофункціональний; виконувати; розміщувати; задовольняти вимоги; місце відправлення; різнопрофільний; однозначне визначення, місце споживання.

Exercise 4. Find in text 2 synonyms to the following words:

integrate, channel, backward, continuity, origination, accomplish, complicated, expedite,

movement, onward, usefulness, condition, satisfy, clear-cut, profit.

Exercise 5. Answer the questions on text 2

1. When can we trace the movement of goods from? 2. Why is logistics considers a continuously operated process? 3. When were logistics tasks and activities first systematically termed? 4. What business drivers led to logistics incorporation into business? 5. What are the most common definitions of logistics? 6. What is the standard definition of logistics given by the European Committee?

Тема №3.3. «Робота з текстом: «Commercial Air Transport»

Exercise 1. Memorize the active vocabulary to text 1

amount of traffic - інтенсивність руху
advent - виникнення, поява; створення
depress - ослаблювати, знижувати
evolution - розвиток
exhibit - показувати, проявляти (ся)
imply - мати на думці (на увазі); припускати
impact - вплив
driver - стимул, рухома сила, фактор
medium capacity plane - літак середньої місткості
high capacity plane - літак великої місткості
constraint - обмеження, стримування
range - дальність (польоту)

Exercise 2. Read, translate and give the gist of the text

Text 3. Commercial Air Transport

The International Civil Aviation Organization (ICAO) defines air commerce or commercial air transport operations as scheduled or non- scheduled air transport services provided for pay or hire.

Commercial air transport is any movement of goods and/or passengers on a commercial aircraft and their usage depends on what it will carry (passengers, freight or both), the amount of traffic, the capabilities of airports and the implied distances.

Since the advent of commercial air transport, overall air traffic has shown continuous growth. Even the worldwide impact of such conflicts as the Gulf War of 1991 and the events of 11 September 2001 have significantly affected air traffic for several months only.

The demand for air transport is the driver for traffic growth that is heavily influenced by the economy and demographic evolution and exhibits a strongly positive trend regardless of environmental, infrastructure and other constraints.

Medium capacity planes have become dominant in domestic services along with the high capacity planes such as Boeing-747, Boeing- 777, Airbus A 380 which are chiefly employed for intercontinental distances.

The commercial jets can be regional, e.g. Airbus A320, with a range of 3,700 km, and destinations within North America, South America, European continent, East Asia and Africa, e.g. Boeing-777-100 ranging of 7,400 km and linking one continent to another, for example, from New York to Western Europe and most of South America. In addition, Boeing-747-400 ranging of 11,400 km for any destination around the world, except for Australia, South and Southeast Asia, is exploited.

Exercise 3. Match the English-Ukrainian equivalents

1) depress	a) розвиток
2) evolution	b) мати на увазі
3) exhibit	c) ослаблювати, знижувати

4) imply	d) обмеження, стримування
5) medium capacity plane	e) літак великої місткості
6) advent	f) великий попит
7) trend	g) літак середньої місткості
8) airport capability	h) використовувати
9) high demand	1) тенденція
10) high capacity plane	j) показувати, проявляти(ся)
11) constraint	k) виникнення, створення
12) employ	l) пропускна спроможність аеропорту

Exercise 4. Give Ukrainian equivalents to the following words and word combinations

Medium capacity plane; high demand; airport capability; implied distances; demographic evolution; trend; exhibit; depress; advent; non-scheduled transport; traffic growth; depend on; constraint; employ.

Exercise 5. Find English equivalents in the text

Літак середньої місткості; великий попит; пропускна спроможність аеропорту; обмеження, стримування; мати на увазі; літак великої місткості; виникнення, створення; використовувати, задіювати; ослаблювати, знижувати; проявляти (ся); тенденція; розвиток; вплив; дальність польоту; стимул.

Exercise 6. Guess the terms through the definition

1. To reduce the amount of activity in something, especially a business operation -
2. Something that limits your freedom to do what you want -
3. To use something -
4. A need for something to be sold or supplied -
5. Indicated or suggested without being directly or explicitly stated -
6. Process of growth or formation -
7. Scheduled or non-scheduled air transport services provided for pay or hire -

Exercise 7. Give opposites to the following words

Evolution, scheduled, employ, depress, advent, growth, dependence, constraint, capability, domestic, exhibit.

Exercise 8. Fill in the blanks with the words in the box

evolution, capabilities, intercontinental, depress, capacity, traffic, commercial air transport, domestic, implied, regional, traffic growth, non-scheduled

1. Global or internal conflicts may ... air traffic. 2. The International Civil Aviation Organization (ICAO) defines air commerce or ... operations as scheduled or air transport services... for pay or hire. 2. Types of commercial aircraft depend on what is carried, the amount of..., the ... of airports and the ... distances. 3. The demand for air transport is the driver for … heavily influenced by the economy and demographic...4. Medium... planes have become dominant in …services. 5. Commercial aviation employs... aircraft within a continent for high demand services, while ... jets link one continent to another.

Exercise 9. Work with a partner. Answer the questions on the text

1. How does ICAO define air commerce? 2. When was air traffic depressed amid continuing growth? 3. What influenced air traffic development? 4. What planes does commercial air transport employ? 5. How are they classified?

Тема №3.4. «Лексико-граматичні вправи за темою»

Text 4. CLASSIFICATION OF AIR TRANSPORTATIONS.

carriage- перевезення
international transportation - лпжнародш перевезення
territorial sign - територіальна ознака
direction - напрям
non-stopover flight - прямий рейс
round trip - рейс туди й назад
onward journey - рейс з пересадкою
departure - направления, вилгг
point of destination - пункт призначення

Air transportation is the carriage of passengers, mail and freight by aircraft or helicopters. All air transportations are classified according to the territorial sign, to the objects of transportation and to the direction of transportation.

By the territorial division they are defined as domestic and international transportations. Domestic and international transportations are divided into scheduled and non-scheduled flights. Scheduled flights are performed due to the definite traffic schedule. Non-scheduled flights are operated according to special agreements or orders. On international routes they are known as charter flights. In summer or during holidays there may be additional flights to the schedule.

Depending upon the objects of transportation we define passenger, mail and freight transportations.

As to their direction the transportations differ as non-stopover flights, i.e. from the point of departure to the point of destination, round trips, i.e. from the point of departure to the point of destination and back to the starting point, and onward journey with the transfer from one airplane to another.

TEXT 4.1. AIRPORT

There are airports in every country.

In theory, an aircraft can fly an infinite number of paths through the air from any surface point to any other. In practice, paths of flight lead from airport to airport. Aircraft not only need proper landing and take off facilities. Moreover, those who use aircraft need services and accommodations which the airport must provide.

In the early days of aviation when airplanes were small a cow pasture could be used as a "flying field". But with the continuous increase of air traffic and the introduction of high-capacity aircraft it became necessary to expand airport facilities, to build new terminal buildings and to construct new airports.

In the interest of aviation safety and air traffic assistance and control air traffic rules were established. The rules relate chiefly to weather minima, flight altitudes and traffic patterns which are to be used under different circumstances. Much can be learned about the nature of a specific airport from aeronautical charts which pilots use. For example, the chart reveals the type and size of an airport, the radio facilities it uses and its altitude and location.

The modern airport is a complex structure, a centre of most diversified services. Millions of passengers and thousands of tons of airfreight are handled by modern airports. Thousands of people are working at airports.

In practical any airport can be divided into two main parts: the landing area (runways and taxiways) and the terminal area (aprons, buildings, car parking areas, hangars, etc.). There is also a third part - terminal air traffic control. The landing area includes runways and taxiways. The number of runways, their length and location depend on the volume and character of traffic, the prevailing wind direction and other factors.

The runways and taxiways should be arranged so that to prevent delays on landing, taxiing and

take off operations.

Aprons are required for aircraft to make final checks prior to departure.

The main function of the terminal buildings is to handle the departing and arriving passengers and their baggage.

Among the airport services are: flight assistance service, air traffic control services - airport traffic control, approach control, air route traffic control, radio communications and weather observation and forecasting service.

At every airport there is a number of supplementary services such as rescue and security services, an airport clinic, a fire brigade, special vehicles and equipment units (water trucks, tow tractors, etc.).

Other services include maintenance, overhaul and repair of stationary and mobile equipment, the supply of electricity, water, heat and air conditioning.

The facilities include runways, air navigational aids, passenger and cargo terminals. The airport has a hotel, a post office, bank offices, restaurants, car rental firms, etc. In the terminal there is everything for quick passenger handling: check-in desks, electronic flight information board of departure and arrival times, the baggage claim carousel and many others.

Nowadays there exists one more pressing problem - that of air piracy. The number of acts of unlawful interference resulted in deaths and injures of some hundreds of persons. So the ICAO Council has adopted Amendment 8 to Annex 17 (Security). The Amendment covers security screening and inspecting passengers, checked baggage, security control over cargo, courier and express parcels and mail. Every airport has new specific detection systems capable to screen airline passengers and their baggage within less than 8 seconds.

EXERCISES

Exercise 1. Answer the questions:

Why was it necessary to build new terminal buildings and construct new airports?
Why were air traffic rules established?
What do these rules relate to?
What does the aeronautical chart reveal?
What are the main two parts of the airport?
What is the third part of the airport?
What factors influence the number of runways, their length and location?
What does the aircraft crew do on the apron?
What is the main function of the terminal building?
What airport services do you know?
What supplementary services are there at the airport?
What does the electronic information board indicate?
What equipment is used at the airport for preventing piracy?
How many airports are there in Petersburg?
What is the distance between the center of the city and Pulkovo-1?
How can you get to the airport?
Is there an airport in your native city?
Is it an international or domestic?

Exercise 2. Translate the words

continue – continuation – continuous – continuously
introduce – introduction – introductory
necessary – necessity – necessitate
divide – division – divider
depend – dependent – dependence
prevent – prevention – preventive
detect – detection – detective – detector
depart – departure

arrive –arrival

Exercise 5. Find English equivalents in the text

засоби посадки та зльоту, правила управління повітряним рухом, схема руху, радіозасоби, зона посадки, переважне напрямки вітру, служби аеропорту, контроль підходу, спостереження за погодою, служба пошуку та рятування, обслуговування пасажирів, вантажний термінал.

Exercise 6. Translate

1. Майже у кожному місті є аеропорт, великий чи маленький.
2. Розмір аеропорту залежить від обсягу пасажирів, що перевозяться, і вантажу.
3. Сучасні аеропорти обслуговують мільйони пасажирів та перевозять величезну кількість вантажу.
4. Зі збільшенням повітряного транспорту та з введенням нових сучасних літаків старі аеропорти розширюються та реконструюються.
5. Для безпеки польотів існують правила повітряного руху.
6. Пасажири, що прибувають і убувають, обслуговуються в будівлі аеровокзалу.
7. Число ЗПС залежить від обсягу перевезень.
8. Розташування ЗПС залежить від превалюючих напрямків вітру.
9. Пілот користується аеронавігаційними картами.
10. Ці карти вказують тип і розмір аеропорту, його радіозасоби, довжину та розташування ЗПС тощо.

Тема №3.5. «Робота з текстом: «Air Carrier Accounting»

PRE-TEXT ASSIGNMENT

Try to recollect and write down all words (nouns, verbs, adjectives) you know from your previous language practice denoting any process, thing or person concerning finances, financial activities, banking and monetary systems.

TEXT 5. AN ACCOUNTING OVERVIEW. AIRLINE FINANCIAL ACTIVITIES

Accounting is frequently called the «language of business» because of its ability to communicate financial information about an organization. Various interested parties such as managers, potential investors, creditors, and the government depend on a company's accounting system to help them make informed financial decisions. An effective accounting system, therefore, must include accurate collecting, recording, classifying, summarizing, interpreting, and reporting of information on the financial status of an organization.

In order to achieve a standardized system, the accounting process follows accounting principles and rules. Regardless of the type of business or the amount of money involved, common procedures for handling and presenting financial information are used.

Incoming money (revenues) and outgoing money (expenditures) are carefully monitored, and transactions are summarized in financial statements, which reflect the major financial activities of an organization.

Two common financial statements are the balance sheet and the income statement. The balance sheet shows the financial position of a company at one point of time, while the income statement shows the financial performance of a company over a period of time. Financial statements allow interested parties to compare one organization to another and/or to compare accounting periods within one organization. For example, an investor may compare the most recent income statements of two corporations in order to find out which one would be a better investment.

VOCABULARY CHECK

Pick out financial and monetary terms and use them in sentences of your

Exercise 1. Answer the following questions:

1. Why is accounting called the «language of business»?
2. How is a standardised accounting system achieved?
3. What are revenues and expenditures?
4. What do the balance sheet and the income statement have in common? How are they different?

Тема №3.6. «Лексико-граматичні вправи за темою»

TEXT 6. ACCOUNTING SERVICES

People who specialize in the field of accounting are known as accountants. In the US, accountants are usually classified as public, private, or governmental. Public accountants work independently and provide accounting services such as auditing and tax computation to companies and individuals. Public accountants may earn the title of CPA (Certified Public Accountant) by fulfilling rigorous requirements. Private accountants work solely for private companies or corporations that hire them to maintain financial records, and governmental accountants work for governmental agencies or bureaus. Both private and governmental accountants are paid on a salary basis, whereas public accountants receive fees for their services.

Through effective application of commonly accepted accounting systems. private, public, and governmental accountants provide accurate and timely financial information that is necessary for organizational decision-making. l

GRAMMAR CHECK

Find and analyse all -ing forms. Find and analyse words having final -ly.

Find and translate all attribute subordinate clauses.

UNDERSTANDING CHECK

Answer the following questions: 1. How are accountants classified in the US? 2. What kinds of services do public accountants provide? 3. What is a CPA?

FOLLOW-UP ACTIVITIES

The following questions cannot be answered directly from the two previous texts. Think and answer them:

1. How might the information contained in financial statements be useful to managers? 2. How might creditors use this information? 3. Which type of accounting- public, private, or governmental - appeals to you the most? Why? 4. What are some management decisions that might be based on accounting information?

Тема №3.7. «Робота з текстом: «Certificates Required for International Shipment»

Exercise 1. Memorize the basic terminology to the text

bill of lading – коносамент bearer

bill of lading – накладна на пред'явника

combined transport bill of lading – коносамент на змішане (мультимодальне) перевезення

house bill of lading – коносамент експедитора, внутрішній коносамент non-negotiable bill of lading – необоротний коносамент (який не може передаватися іншій особі)

order bill of lading – ордерний коносамент

received for shipment bill of lading – коносамент на вантаж, прийнятий для завантаження

shipped on board bill of lading – бортовий коносамент

short form bill of lading – коротка / скорочена вантажна накладна

straight bill of lading – іменний коносамент

blank – пропуск (незаповнене місце)

waybill – накладна

air waybill (AWB) – авіавантажна накладна
master air waybill (MAWB) – головна (консолідована) авіанакладна
house air waybill (HAWB) – експедиторська авіанакладна, внутріншя авіанакладна
sea waybill – морська накладна
sample – зразок
freight forwarder – експедитор, експедиційне агенство
booking form – лист бронювання
invoice – рахунок-фактура
commercial invoice – комерційна фактура
certificate of origin (C/O) – сертифікат походження товару
insurance certificate – страховий сертифікат, свідоцтво про страхування packing list – пакувальний реєстр
negotiable instrument – оборотний інструмент (інструмент, що перебуває у вільному обігу)

Exercise 2. Read and translate the text

Text 7. Transport and Commercial Documentation

Transport documents include bills of lading, airway bills, insurance details and export booking forms while commercial documents include the documents you need to get paid and the invoices you produce.

The documents required for all commercial shipments, irrespective of value or mode of transportation, are: a commercial invoice, a certificate of origin, an airway bill, an airlines company certificate, an insurance certificate (if goods are insured by the exporter) and a packing list. Depending on the nature of goods being shipped, or upon certain requests from the importer specific additional documents may also be required.

Bill of Lading. Bills of lading are transport documents that, in general, cover movement by sea or where the major portion of the total distance covered is by sea. The standard bill of lading is evidence of the contract of carriage of goods between the owner of the goods and the carrier and it serves a number of purposes: it is evidence that a valid contract of carriage exists; it is a receipt signed by the carrier confirming whether goods matching the contract description have been received in good condition; and it is also a document of transfer, and a negotiable instrument, i.e. it governs all the legal aspects of physical carriage.

In most national and international systems, a bill of lading is not a document of title and does not identify an individual's right to possession at the time when delivery is to be made. There are three main types of a bill of lading: straight bill of lading, order bill of lading, and bearer bill of lading. Straight bill of lading states that the goods are consigned to a specified person and it is not negotiable free from existing equities. It is also known as nonnegotiable bill of lading. Order bill of lading states that delivery is to be made to the further order of the consignee. It is also known as a negotiable bill of lading. Bearer bill of lading states that delivery shall be made to whoever holds the bill. Such bill may be created explicitly or it is an order bill that fails to nominate the consignee whether in its original form or through an endorsement in blank. A bearer bill can be negotiated by physical delivery.

Marine or ocean bills of lading are, as the name implies, bills covering shipment by sea. Marine Bills of Lading can be issued by the shipping company (carriers), the captain or master of the vessel, or a party acting as agents for the carrier.

A received for shipment bill of lading is one that merely evidences receipt of the goods by the issuer. It does not, therefore, evidence that the goods are en route. The date of the document is the date on which the issuer accepts responsibility for the goods.

Shipped on board bills of lading are bills that evidence, either in the wording of the document itself or by means of a signed and dated annotation to the document, the date on which the goods were loaded on board the vessel. By their nature these are accepted as evidence that the goods are actually en route.

Most bills of lading will show the full terms and conditions of carriage on the reverse of the

document. A bill of lading that only makes reference to the terms and conditions of carriage by referring the holder to another document or set of conditions is known as a 'short form bill of lading'.

Where not all of the journey on which the goods are being taken by the carrier is by one mode of transportation, the carrier will usually issue a combined transport bill of lading. Combined transport bills of lading are extensively used in connection with container shipments and are, consequently, the most common forms of bills of lading that the average exporter is likely to see. House bills of lading are bills of lading issued by a freight forwarder and not the actual carrier. The freight forwarder will have possession of the bill of lading issued by the carriers and will then issue his own bills of lading to cover the various goods that make up the total 'groupage shipment' made up by them.

Тема №3.8. «Лексико-граматичні вправи по тексту»

Exercise 1. Memorize the basic terminology to the text

document of title – товаророзпорядчий документ

to consign – 1) передавати; 2) відправляти на консигнацію

equity – 1) власний капітал; 2) акціонерний капітал; 3) звичайна акція explicitly – точно, ясно endorsement – індосамент, передавальний напис (на векселі, чеку)

to imply – 1) значити, означати; 2) розуміти; припускати

receipt – квитанція

dock receipt – докова квитанція

warehouse receipt – складська квитанція, розписка

issuer – емітент, особа яка випускає (боргові зобов'язання)

en route – дорогою; в дорозі; на маршруті

groupage shipment – комплектування окремих партій вантажу в єдиний вантаж

railway consignment note – залізнична накладна

road consignment note – автодорожна накладна

CMR (Convention on the Contract for the International

Exercise 2. Read and translate the text

Text 8. Air waybill (AWB)

Air waybill (AWB). Air freight shipments are handled by air waybills, which can never be made in negotiable form. The AWB is non-negotiable. The AWB has a tracking number which can be used to check the status of delivery, and current position of the shipment.

Air Waybills make sure that goods have been received for shipment by air. A typical air waybill sample consists of three originals and nine copies. The first original is for the carrier and is signed by an export agent; the second original, the consignee's copy, is signed by an export agent; the third original is signed by the carrier and is handed to the export agent as a receipt for the goods. The first three copies are classified as originals.

The principal requirements for an air waybill are: the proper shipper and consignee must be mentioned; the airport of departure and destination must be mentioned; the goods description must be consistent with that shown in other documents; any weight, measure or shipping marks must agree with those shown in other documents; it must be signed and dated by the actual carrier or by the named agent of a named carrier; it must mention whether freight has been paid or will be paid at the destination point.

International AWBs that contain consolidated cargo are called master air waybills (MAWB). MAWBs have additional papers called house air waybills (HAWB). Each HAWB contains information of each individual shipment (consignee, contents, etc.) within the consolidation. International AWBs that are not consolidated (only one shipment in one bill) are called simple AWBs. A house air waybill can also be created by a freight forwarder. When the shipment is booked, the airline issues a MAWB to the forwarder, who in turn issues their own house air waybill to the

customer.

Тема №3.9. «Робота з текстом: «Transport Documentation»

Exercise 1. Memorize the basic terminology to the text.

Carriage of Goods by Road) note – товарно-транспортна накладна
mainland – континент predominantly – переважно, зокрема
tracking number – номер відслідковування
consignor – вантажовідправник, адресант вантажу; консигнант
consigne – отримувач вантажу
consistent (with) – що узгоджується (з)
consolidated cargo – об'єднаний; консолідований вантаж
letter of credit (L/C) – акредитив
to itemize – 1) перераховувати по пунктах; 2) розбивати по позиціях
crate – ящик, тара для пакування
drum – циліндричний ящик або коробка
stationer – торговець канцелярськими товарами
port of embarkation – порт завантаження

Exercise 2. Read and translate the text

Text 9. Transport Documentation

A Sea Waybill covers the transport of goods by sea but, unlike a bill of lading, it is not a 'document of title' and is merely evidence that the carrier has taken over the goods for transportation. It is, in effect, a 276 receipt for the goods, showing the details of the agreed shipping arrangement, i.e. the route, vessel, goods description etc.

Road Consignment Notes evidence transport by road. They are, usually used for goods that are destined for mainland Europe and the near Middle East. As with all other types of transport document, except bills of lading, they are evidence of receipt of the goods by the carrier. The most widely seen Road Consignment Note is the 'CMR Note'. "CMR" is an abbreviation of the French title of the CMR convention, Convention relative au contrat de transport international de marchandises par route.

The CMR convention (full title **Convention on the Contract for the International Carriage of Goods by Road**) is a United Nations convention signed in Geneva on 19 May 1956. It relates to various legal issues concerning transportation of cargo, predominantly by lorries, by road. It has been ratified by the majority of European states.

Railway Consignment Note. As the name suggests it covers shipment by rail. It is rarely used in Europe, with regard to international transactions, as most of the traffic taken by rail to the continent is loaded upon lorries anyway. These documents are more likely to be used on transcontinental shipments.

Packing List includes names and addresses of consignor and consignee, description and value of the exported goods, net and total weight, number of packages and their contents, number of containers and contents, numbers of seals, and number of letters of credit (L/C). Export Packing List is considerably more detailed and informative than a standard domestic packing list. It itemizes the material in each individual package and indicates the type of package, such as a box, crate, drum, or carton. Both commercial stationers and freight forwarders carry packing list forms.

Import Licenses are the responsibility of the importer. Including a copy with the rest of documentation, however, they can sometimes help avoid problems with customs in the destination country.

Dock Receipt and Warehouse Receipt are used to transfer accountability when the export item is moved by the domestic carrier to the port of embarkation and left with the ship line for export.

Тема №3.10. «Робота з текстом: «World Biggest Cargo Airports»

Vocabulary

capacity	– місткість; обсяг; пропускна здатність
carrier	– перевізник; фрахтувальник; транспортний літак
centerpiece	– основа; базовий вузол
contend	– протистояти; конкурувати
cutback	– скорочення
demise	– припинення діяльності
deterioration	– погіршення, псування, руйнування; погіршення якості
foster	– заохочувати; сприяти
freight handler	– вантажоперевізник
freighter	– фрахтувальник; наймач (власник) вантажного судна; відправник вантажу; вантажний літак
freighter operator	– оператор вантажоперевезень
gateway	– ворота; великий міжнародний аеропорт; передатний пункт (*пункт перевантаження з однієї транспортної лінії на іншу*)
gauge	– розмір; масштаб; калібр
hosting	– послуги з розміщення
hub	– вузловий аеропорт; центр
infield cargo terminal	– вантажний термінал на льотному полі
nighttime flight restriction	– обмеження польотів у нічний час
onerous	– обтяжливий; скрутний, тяжкий
plummet	– швидко падати
precipitous	– стрімкий
runway	– злітно-посадкова смуга
second-tier airport	– аеропорт другого рівня
shipping	– відвантажування, перевезення вантажу
slash	– скорочувати, знижувати
taper off	– поступово послаблюватись, спадати
tonnage	– тоннаж; вантажомісткість
traffic	– фрахт; вантажі; вантажообіг; перевезення
transit point	– транзитний пункт

Exercise 2. Read and translate the text

Text 10. Transport Documentation

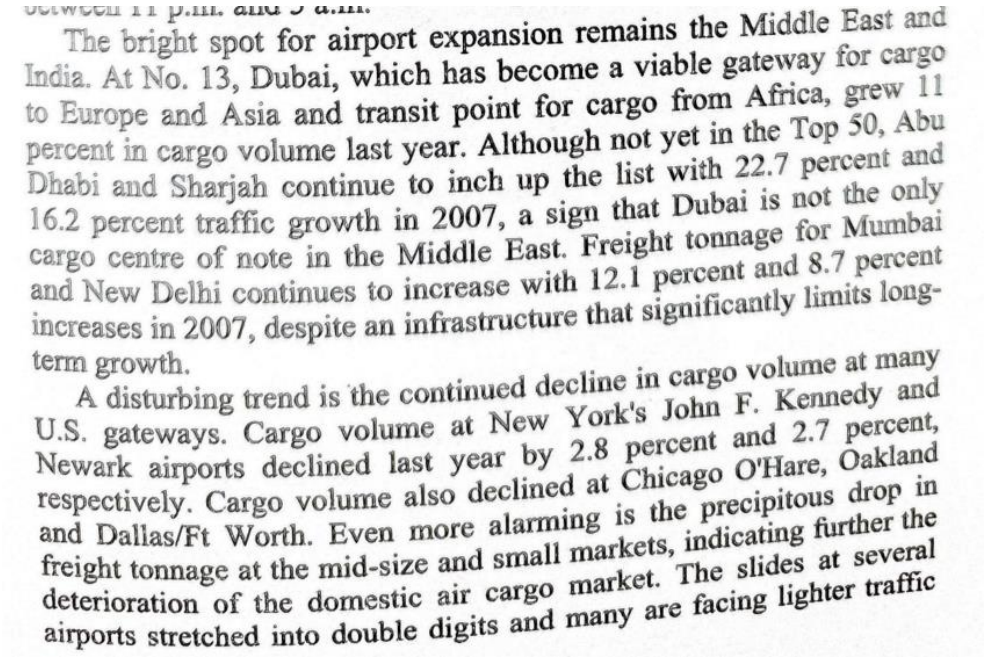
The rapid growth in cargo traffic at airports in Asia and the Middle East may be slowing down, but the expansion remains the dominant feature on a world cargo trading map that is tilting decidedly toward the regions. The shifting global landscape comes as the cargo map in the United States is showing the impact of big changes in both the international arena and domestic shipping, leaving many second-tier airports facing declining freight numbers in the wake of an economic slowdown and capacity cutbacks by belly carriers.

The latest Air Cargo World list of the world's largest cargo airports, compiled from data from Airports Council International and the airports, shows Memphis International, home to FedEx, still at No. 1 in the world. But Hong Kong International remains No. 1 for international air transport, and Hong Kong is edging closer to Memphis. Hong Kong's growth outpaced Memphis again last year and it was even ahead of the FedEx hub in the first few months of 2008, putting Hong Kong in reach of surpassing the world's longtime top cargo airport. Hong Kong's expansion comes even as government and carrier attention increasingly flows toward Hong Kong's closest competitors, the airports of Mainland China.

In Southern China, a short drive from Hong Kong, Baiyun Guangzho grew 6.4 percent last year and nearby Shenzhen was up 10.1 percent, but both will see still greater growth soon enough. FedEx's hub at Guangzho has been under construction and UPS announced this spring that it will move its intra-Asia hub to Shenzhen. At No. 5 overall, Shanghai Pudong remains the top growth market by cargo volume, with a 15.5 percent growth, reflecting the continued potential of the world's most populated country.

Seoul Incheon remained No. 4, despite a slowdown from its primary carrier, Korean Air, as well as the threat posed by Chinese airports as alternative gateways for North-East Asia. China figures strategically in Incheon's fortunes. Last year, transshipment traffic for the first time surpassed origin/destination cargo, and China accounted for a large portion of that cargo.

Anchorage International, a transit stop for East-West traffic and a maintenance centre for North-West Airlines, remains at the No. 3 spot and all signs point to further growth in cargo volume at this Alaska gateway. At No. 38, Liege, the main hub for TNT, and transit point for Atlas Air, leads year-over-year growth among the Top 50 cargo airports, with 20.6 percent increase in cargo volume, followed by Milan Malpensa Airport (16 percent) and Beijing Capital Airport (15.8 percent). Frankfurt came in at No. 7, despite only posting a 1.9 percent growth in tonnage last year. Lufthansa and DHL Express are moving cargo to Leipzig and elsewhere and Frankfurt must contend with onerous nighttime flight restrictions that allow for only 17 flights between 11 p.m. and 5 a.m.



between 11 p.m. and 5 a.m.

The bright spot for airport expansion remains the Middle East and India. At No. 13, Dubai, which has become a viable gateway for cargo to Europe and Asia and transit point for cargo from Africa, grew 11 percent in cargo volume last year. Although not yet in the Top 50, Abu Dhabi and Sharjah continue to inch up the list with 22.7 percent and 16.2 percent traffic growth in 2007, a sign that Dubai is not the only cargo centre of note in the Middle East. Freight tonnage for Mumbai and New Delhi continues to increase with 12.1 percent and 8.7 percent increases in 2007, despite an infrastructure that significantly limits long-term growth.

A disturbing trend is the continued decline in cargo volume at many U.S. gateways. Cargo volume at New York's John F. Kennedy and Newark airports declined last year by 2.8 percent and 2.7 percent, respectively. Cargo volume also declined at Chicago O'Hare, Oakland and Dallas/Ft Worth. Even more alarming is the precipitous drop in freight tonnage at the mid-size and small markets, indicating further the deterioration of the domestic air cargo market. The slides at several airports stretched into double digits and many are facing lighter traffic

Тема №3.11. «Лексико-граматичні вправи по тексту: «World Biggest Cargo Airports»

Exercise 1. Answer the following questions

1. What is the dominant feature on a world cargo trading map? 2. What cargo airport is No. 1 in the world? 3. Which airport is the maintenance centre for North-West Airlines? 4. How much did the cargo volume at New York's John F. Kennedy decline? 5. What must Frankfurt contend with? Why? 6. Why did UPS announce that it will move its intra-Asia hub to Shenzhen? 7. Why has Dubai become No. 13 among the world's biggest cargo airports?

Exercise 2. Match the terms with their definitions

1) expansion	a) the rounded underside of a ship or aircraft
2) competitors	b) an area or arena in which commercial dealings are conducted
3) market	c) the transport of goods by air or some other means
4) cargo	d) the action of building something, typically a large structure
5) volume	e) companies who are trying to sell similar goods or services to the same people
6) tonnage	f) goods carried on a ship, aircraft, or motor vehicle
7) belly	g) an amount or quantity of something, especially when great
8) flight	h) the process of becoming greater in size, number, or amount
9) construction	i) the size or carrying capacity of a aircraft measured in tons
10) shipping	j) an act of flying; a journey made through the air or in space, especially a timetabled journey made by an airline

Exercise 3. Translate into English

1. Аеропорт Мемфіс (Сполучені Штати Америки) посідає перше місце у рейтингу п'ятдесяти найбільших аеропортів світу.

2. В аеропорту Токіо Ханеда, який до 2009 року обслуговував переважно внутрішні рейси, було збудовано четверту злітно-посадкову смугу для міжнародних рейсів.
3. Останнім часом в Америці спостерігається тенденція зменшення обсягу вантажних перевезень через основні міжнародні аеропорти.
4. До десяти найбільших вантажних аеропортів світу належить німецький аеропорт Франкфурта-на-Майні основний вузловий вантажний аеропорт Люфтганзи та UPS.
5. Останній перелік найбільших вантажних аеропортів світу показав, що зростання вантажних перевезень в аеропортах Азії та Близького Сходу уповільнилось, при цьому відбулися значні зміни в обсязі внутрішніх та зовнішніх вантажних перевезень Сполучених Штатів Америки.

Exercise 4. Mark sentences TRUE or FALSE according to the information in the text. Correct the false statements

1. The latest Air Cargo World list of the world's largest cargo airports, compiled from data from Airports Council International and the airports, shows Anchorage International, home to FedEx, still at No. 1 in the world.
2. The bright spot for airport expansion remains the Middle Asia and India.
3. The consolidation of DHL Express traffic onto the FedEx network also will consolidate that cargo volume at the airports served by UPS.
4. Toronto came in at No. 7, despite only posting a 1.9 percent growth in tonnage last year.
5. Anchorage International, a transit stop for East-West traffic and a maintenance centre for North-West Airlines, remains at the No. 3 spot and all signs point to further growth in cargo volume at this Alaska gateway.

Тема №3.12. «Робота з текстом: «The Airport Security System»

Text 12. Real Time Location System

The key objective transportation management is to track assets in a broad geographic area, typically outdoors. They broadly use satellite and cellular network-based technologies for real-time asset tracking outdoors. To track asset indoors, i.e. in factories, warehouses, or other controlled environments alternative techniques are employed, such as bar-code and RFID tags.

Until recently, manual, resource-intensive processes were typically used to track trailer and tractor location and status in the yard. Real-time location systems (RTLS) determine an object's current position based on real-time information gathered through a wireless system. Increasing demand for real-time visibility in today's globalized supply chains makes RTLS indispensable in logistics.

Using proven technologies, such as GPS, to monitor tractors' speed and position in the yard's outdoor environment eliminates the need to establish location-detecting infrastructure.

Having real-time electronic data for asset yard activities improves supply chain visibility at a particular location. Hence, corporations gain actionable data to facilitate process redesign, increase operational efficiency and drive best practices across all organizations and sites.

Moreover, sharing real-time data visibility within the enterprise and with supply chain partners is crucial for collaboration and more responsive and agile global supply chain.

Exercise 2. Answer the questions on the text

1. What is a key to transportation management? 2. What tools are often used for real-time asset tracking outdoors? 3. What alternative techniques are used for indoor asset tracking? 4. What are the drawbacks of the typically used tracking methods? 5. What does RTLS technology determine? 6. What can eliminate the need to establish location-detecting infrastructure? 7. What are RTLS advantages? 8. What other wireless means does the real-time location system include?

Exercise 3. Give Ukrainian equivalents

Outdoors; cellular network-based technology; transportation management; real-time tracking;

assets; infrastructure; bar-code; cellular network-based technologies; resource-intensive; actionable data; drive best practices; process redesign; status; yard; wireless system; indispensable; operational efficiency; proven technology; agile supply chain; crucial; collaboration; drive best practices.

Exercise 4. Guess the appropriate word

tessas; lyupsp; reliswes; laer; edco; dray; anihc; mnamaengte.

Exercise 5. Give English equivalents

Глобальна навігаційна супутникова система; керування перевезеннями, інформація в режимі реального часу; ресурсомісткий; система стільникового зв'язку; система позначення місце знаходження в режимі реального часу; виробничо-технічна база; актуальні дані; технології стільникового зв'язку; поза межами складської території; поточний стан; система бездротового зв'язку; впровадження найкращого досвіду; перепрофілювання процесу; відстеження під час транспортування; ефективність роботи; відстеження внутрішніх потоків; доступність даних, гнучкий ланцюг постачання.

Exercise 6. Find synonyms to the words in the text

Task; wide; different; apply; position; actual time; identify; data; collect; Wi-Fi; inventory; network; surroundings; get rid of; depot; raise; spot, dispense; lately; clarity; venture; cooperation; flexible.

Exercise 7. Translate the words in brackets and read the sentences in English

1. Alternative techniques, such as (штрих-кодування) and RFID tags (застосовують) to (відстежувати товари) (на виробничих об'єктах), i.e. in (заводах), (складах) warehouses, or other controlled environments. 2. The key (завданням) of (керування перевезеннями) is to track assets in a broad geographic area, typically (поза межами складської території). 3. They broadly use (супутникові) and (стільникові) technologies for (режим реального часу) real-time asset tracking outdoors. 4. (Ручні), (ресурсо-місткі) processes were typically used to track (вантажні фури) and tractor (місцезнаходження) and (поточний стан). 5. Corporations gain (актуальні дані) to facilitate (перепрофілювання процесу) and increase (ефективність роботи) and (впровадження найкращого досвіду) across all organizations and sites.

Тема №3.13. «Лексико-граматичні вправи по тексту»

TEXT 13. SAFETY

Safety is the most important problem in aviation. The prevention of collisions between aircraft in the air and on the ground is the main task of aviation specialists. The achievement of aviation safety is the result of progress in many sciences and disciplines including engineering, aerodynamics, meteorology, psychology, medicine and economics.

Safety is ensured by thousands of ICAO and governmental regulations, by high standards in the design and manufacture of an aircraft and by rigid (strict) procedures of airline safety practices.

The aviation industry is constantly taking steps to prevent accidents but the crashes do occur time after time. They result from different causes: failure in the aircraft structure, human errors, navigational failures, malfunctioning of airborne and ground aids, hazardous weather conditions and so on.

Poor knowledge of English can also contribute to or result in an accident or incident. Therefore ICAO revised the provisions related to the use of the language for radiotelephony communications and demands good discipline to follow more closely to standard phraseology in all air-ground exchanges.

Experience has shown that phraseology alone is not sufficient to cover all of the potential situations, particularly in critical or emergency situations. That’s why proficiency in common or plain language is also of great importance.

One of ICAO's chief activities is standardization in all spheres of aviation operations. The main ICAO document is SARPS (International Standards and Recommended Practices). Its main task is to provide the necessary level of standardization for safe and regular air operations.

EXERCISES

Exercise 1. Answer the questions on text 13

1. What is the most important problem in aviation?
2. What is the main task of aviation specialists?
3. By what means is safety ensured?
4. What factors may cause accidents?
5. What can you say about the role of language in the problem of safety?
6. Can radiotelephony alone cover all of the potential situations?
7. What is the main document ICAO?
8. What is the main task of SARPS?

Exercise 2. Translate

terror – terrible – terribly – terrific
danger – dangerous – dangerously
care – careful – careless – carelessness
safe – safety – unsafe
prevent – preventive – prevention
collide – collision
special – specially – specialist – speciality – specialize – specialization
achieve – achievement
ensure – insurance
govern – governor – government – governmental
regular – regularly – regulation – regularity – irregular
differ – different – differently –difference
fail – failure
navigate – navigator – navigation – navigational
hazard – hazardous
know – knowledge – unknown
provide – provision – provider
relate – relation – relative – relatively – relativity
communicate – communication – communicative – community
sufficient – sufficiently – sufficiency – insufficient
proficient – proficiently – proficiency
necessary – necessarily – necessity – unnecessary
critical – critically – criticize – criticism – uncritical
close – closely

Exercise 3. Translate

1. Найважливіша проблема в авіації – безпека.
2. Для забезпечення безпеки польотів ІКАО встановила спеціальні правила та процедури.
3. Усі держави-члени ІКАО повинні суворо дотримуватися всіх правил і процедур, прийнятих ІКАО.
4. Одне із самих завдань авіаційних фахівців – запобігати зіткненню літаків у повітрі та на землі.
5. Досягнення у техніці, аеродинаміці та інших науках підвищують авіаційну безпеку.
6. Ще однією умовою, що забезпечує авіаційну безпеку, є стандартизація у всіх авіаційних операціях.
7. Всім авіаційним спеціалістам дуже важливо знати англійську мову.
8. Хороше знання англійської мови необхідне забезпечення безпеки польотів.

9. Причина катастрофи – людська помилка.
10. Літак не зміг вилетіти через небезпечні погодні умови.
11. Відмова двигуна призвела до катастрофи.
12. У районі аеропорту є аварійна ситуація.
13. Одне з головних завдань ІКАО – забезпечувати необхідний рівень безпеки.

AVIATION AND ENVIRONMENT (Individual work)

Aircraft engines emit noise pollution, gases and particulate emissions, and contribute to global warming and global dimming.

Modern turbofan and turboprop engines are considerably more fuel-efficient and less polluting than earlier models. However, despite this, the rapid growth of air travel in recent years contributes to an increase in total pollution attributable to aviation, offsetting some of the reductions achieved by automobiles. In the EU greenhouse gas emissions from aviation increased by 87% between 1990 and 2006.

CO_2 emissions from the jet fuel burned per passenger on an average 3200 kilometers (1992 miles) airline flight is about 353 kilograms (776 pounds). Loss of natural habitat potential associated with the jet fuel burned per passenger on a 3200 kilometers (1992 miles) airline flight is estimated to be 250 square meters (2700 square feet).[verification needed]

In the context of purported climate change and peak oil, there is a debate about possible taxation of air travel and the inclusion of aviation in an emissions trading scheme, with a view to ensuring that the total external costs of aviation are taken into account.

The airline industry is responsible for about 11 percent of greenhouse gases emitted by the U.S. transportation sector. Boeing estimates that biofuels could reduce flight-related greenhouse-gas emissions by 60 to 80 percent. The solution would be blending algae fuels with existing jet fuel:

Boeing and Air New Zealand are collaborating with leading Brazilian biofuels maker Tecbio and Aquaflow Bionomic of New Zealand and other jet biofuel developers around the world.

Virgin Atlantic and Virgin Green Fund are looking into the technology as part of a biofuels initiative.

KLM has made the first commercial flight with bio-fuel in 2009.

5 Рекомендовані навчально-методичні матеріали

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