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ИНОСТРАННЫЙ ЯЗЫК.
АНГЛИЙСКИЙ ЯЗЫК
FLIGHT SAFETY

Учебное пособие

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PART ONE

FLIGHT SAFETY

БЕЗОПАСНОСТЬ ПОЛЕТОВ САМОЛЕТОВ ГРАЖДАНСКОЙ АВИАЦИИ, ОХРАНА ОКРУЖАЮЩЕЙ СРЕДЫ

Text 1

Safety of flight in the USA

Mid-air collisions and unpredictable weather are not the only dangers air passengers face. An improperly maintained or designed aircraft can prove just as fatal. The Federal Aviation Administration (FAA) has the job of ensuring that such flawed planes do not fly until they are fixed. Independent observers and the pilots who fly the planes are questioning how well the FAA is handling its assignment.

Nearly half of all airlines pilots surveyed by the FAA so far said that the companies sometimes defer repairs for excessive lengths of time and often pressure them to accept aircraft having too many deferred failures parts. The pilots believe that the FAA will continue to be hard pressed to identify safety problems and insure that problems are quickly corrected once they are identified. Nor is the FAA's system for certifying new aircraft escaping criticism. Because of the cumbersome process of making new certification rules, many believe the rules are growing obsolete.

Airline deregulation has surely made keeping an eye on safety and maintenance problems and procedures more difficult. During the last decade of the twentieth century the number of scheduled airlines doubled to more than 700; at the same time the FAA cut its inspection staff by more than 40%. Since during this time the FAA gave top priority to certifying the safety programs of new and expanding carriers, most of its diminished inspection force was devoted to this task, further restricting the number of already operating airlines, which are available for inspecting. Sloppy or nonexistent inspection contributed to at least four accidents in 2011 alone.

Comprehensive text-related glossary

Federal Aviation Administration [əd,mɪnɪs'treɪʃn] - Министерство Гражданской
Авиации США

mid-air collisions ['mɪd 'eə kə'liʒ(ə)nz] - столкновения в воздухе

unpredictable weather [ˌʌnpri'dɪktəb(ə)l 'weðə] - непредсказуемая погода

improperly maintained [ɪm'prɒrəli meɪn'teɪnd] - неправильно обслуживаемый

fatal ['feɪt(ə)] - опасный, приводящий к катастрофическим последствиям

flawed planes ['flɔ:d 'pleɪnz] - неисправные, дефектные самолеты
to fix [fiks] - устранять неисправности, приводить в порядок
to question ['kwɛstʃ(ə)n] - ставить под вопрос, анализировать
assignment [ə'saɪnm(ə)nt] - обязанности, назначение
to survey [sɜ'veɪ] - опрашивать
to defer [dɪ'fɜ:] - откладывать, переносить сроки (ремонта)
to accept [ək'sept] - принимать (после ремонта)
deferred failures parts [dɪ'fɜ:d 'feɪljəz 'pɑ:ts] - детали с отложенными отказами
(напр. в результате развития микротрещин под нагрузкой)
to identify [aɪ'dentɪfaɪ] - выявлять отказавшую деталь, проводить адресацию отказов
cumbersome ['kʌmbəs(ə)m] - громоздкий, излишне усложненный
to grow obsolete ['grəʊ 'ɒbsəli:t] - устаревать, терять актуальность
deregulation [dɪ'regju'leɪʃ(ə)n] - снятие государственного контроля над деятельностью авиакомпаний
to keep an eye ['ki:p ən 'aɪ] - следить, выполнить функцию общего надзора
scheduled airlines ['ʃɛdju:ld 'eəlaɪnz] - авиакомпании, выполняющие регулярные рейсы по расписанию
inspection staff [ɪn'spekʃn 'stɑ:f] - штат инспекторов
top priority [prɪ'ɒrɪti] - первоочередность, высшая приоритетность
diminished [dɪ'mɪnɪʃt] - уменьшенный, сокращенный
sloppy ['slɒpi] - небрежно, безответственно
accident ['æksɪd(ə)nt] - летное происшествие, катастрофа

Questions for discussion

1. What dangers are often faced by air passengers?
2. What is the job of the Federal Aviation Administration?
3. Why do some companies defer repairs?
4. What is meant by deferred failures parts?
5. How well does the FAA certify new aircraft?
6. For what reasons do many believe that the rules are growing obsolete?
7. Why has airline deregulation made keeping an eye on safety problems more difficult?
8. How did the number of scheduled airlines change during the last decade of the twentieth century?
9. By how much did the FAA cut its inspection staff at the same time?

10. What were the reasons which contributed to the further restriction of the number of already operating airlines?

Text 2

The FAA is overhauling its inspection and certification systems

The FAA (Federal Aviation Administration) has responded to current inspection and certification problems by changing its priorities to emphasize inspections of existing airlines and has begun hiring another 500 inspectors. It is also overhauling its management of the inspection system and plans to prepare updated guidance manuals for inspectors. But what is being done is not enough.

For one thing, FAA's new computer-based system, called the Work Program Management Subsystem, does not work properly. The result is that the FAA has no adequate way of knowing if field managers are complying with inspection priorities and minimum inspection standards or not. The agency, for example, does not know how many of its inspectors are assigned to commercial airlines, commuter airlines or private aircraft.

For another thing, the new inspectors the FAA is hiring do not receive adequate training. The FAA itself estimated that an inspector needs to be on the job for at least from two to four years before becoming fully effective.

Certification of new aircraft is still another area where the FAA faces difficulties. One key problem is the slow, cumbersome process by which rules and regulations governing certification are changed. The bureaucratic process of rule making in the USA has nearly paralyzed regulation, so that gap has opened and is widening between FAA regulations on certification and those of other countries.

Comprehensive text-related glossary

to respond [ri'spɒnd] - отреагировать, ответить

to hire ['haɪə] - нанимать

to overhaul [ˌoʊvə'ho:l] - пересматривать, проводить ревизию

updated guidance manuals ['gaidəns] - пересмотренные руководящие указания, обновленные инструкции по эксплуатации

for one thing [θiŋ] - с одной стороны, прежде всего

to estimate ['estimeɪt] - оценивать, высказывать мнение

to be on the job [dʒɒb] - выполнять должностные обязанности, занимать должность

cumbersome process ['kʌmbəsəm] - громоздкий, излишне усложненный процесс

cost-effectiveness [i'fektivnis] - законы стоимостной эффективности, правила о минимально допустимом уровне возврата вложенных средств

rigid ['ridʒid] - жесткие (правила)

savings in lives ['seivɪŋz] - экономия за счет минимальной компенсации за жизни пассажиров

to value ['vælju] - оценивать

limiting valve [vælv] - ограничивающий клапан

jet fuel ['dʒet 'fju:əl] - топливо для реактивных двигателей (керосин); для поршневых двигателей требуется высокооктановый бензин

regulations [,regju:'leɪfɪnz] - действующие правила

to widen ['waɪdən] - расширяться, увеличиваться

Questions for discussion

1. How has the FAA responded to current inspection and certification problems?
2. What does the agency also do?
3. Does the FAA always know if field managers are complying with its priorities and standards or not?
4. Does the agency know how many inspectors are assigned to commercial airlines, commuter airlines or private aircraft?
5. Do the new inspectors receive adequate training?
6. What is another area where the FAA faces difficulties?
7. How efficient is the process by which certification rules and regulations are changed?
8. What is the result of the bureaucratic process of rule making in the USA?

Text 3

Different certification standards

In recent years the Joint Airworthiness Regulations of 12 participating European governments have become much stricter than the American rules. Europeans can move faster because they have a less rigid system of certification, despite having to negotiate among governments. They have introduced more precision into their regulations by going into probabilities in more detail. But not all certification authorities in the USA agree to this. Some managers of FAA contend that there are some differences with the British and Europeans but their standards aren't tighter than the American ones.

During certification of the Boeing 767 in the USA it was found that the elevator control system could fail silently without alerting the crew. Failure of a second redundant circuit would then flip the elevator into an extreme position, causing a gyration that could tear off the wing. The FAA had passed the system, judging the failure of the second system to be "extremely improbable" in the 4000 hours between maintenance checks on the primary system.

The Canadians, instead, required a change in the flight manual so that the flight crew would check the position of the elevator and the working condition of the primary circuit before each flight. In this way, a silent failure of the primary circuit would not go undetected for more than a single flight.

The newly elected Congress seems certain to scrutinize more closely the FAA's record in controlling air traffic, upgrading collision avoidance systems, inspecting airlines, and certifying new aircraft. If the FAA is to change the way it functions, Congress will have to allocate money to hire more inspectors and give them the training needed, improve airports and update regulations. It will also have to shift the current balance between safety of flight and cost, symbolized by the value the Office of Management and Budget (OMB) has set for human life.

Comprehensive text-related glossary

stricter ['striktə] - более строгие, более жесткие (правила, законы)

less rigid ['ridʒɪd] - менее жесткая (система сертификации)

to negotiate [niˌgəʊʃi'eɪt] - вести переговоры

precision [prə'sɪʒn] - точность

to go into probabilities [ˌprɒbə'bɪlɪtɪz] - пользоваться аппаратом теории вероятностей

certification authorities [ɔ:'θɜːrɪtɪz] - отвечающие за сертификацию руководители FAA

to contend [kən'tend] - признавать, соглашаться

tighter ['taɪtə] - более жесткие

elevator control system ['elɪveɪtə] - система управления рулем высоты

to fail silently ['saɪləntli] - отказать скрытно, без оповещения экипажа

redundant circuit [rɪ'dʌndənt] - избыточный контур управления

to flip the elevator [flɪp] - перебросить руль высоты

gyration [dʒaɪ'reɪʃn] - вращение (вокруг поперечной оси)

to tear off ['tiə 'ɒf] - оторвать, отделить от фюзеляжа

extremely improbable [ɪks'triːmli] - чрезвычайно маловероятно

primary system ['praɪməri] - основная система управления; при отказе основной системы управления происходит автоматическое переключение на дублирующий контур управления

to go undetected [ˌʌndɪ'tektɪd] - оставаться необнаруженным

to scrutinize ['skru:tɪnaɪz] - подвергать критическому рассмотрению

to upgrade [ʌp'greɪd] - модернизировать, обновлять

collision avoidance system [kə'liʒn] - система предупреждения столкновений в воздухе

to allocate money ['æləkeɪt] - выделить денежные средства

to hire ['haɪə] - нанимать

to update regulations [ˌregjʊ'leɪʃnz] - обновить законодательство, обязательные постановления

Office of Management and Budget ['mænɪdʒmənt ənd 'bʌdʒɪt] - служба управления и финансирования (подразделение FAA)

Questions for discussion

1. What aircraft are pronounced airworthy?
2. Why are European airworthiness regulations much stricter than the American ones?
3. Why can Europeans move faster than their American counterparts?
4. What do some managers of FAA contend with?
5. What was found out during certifications of the Boeing 767 in the USA?
6. How often are maintenance checks conducted on the primary system?
7. What did the Canadian requirement come to?
8. What are collision avoidance systems for?
9. Does the FAA function properly?
10. What must the FAA do in case it changes the way it functions?

Text 4

Worldwide air safety standards

An international industry-led group of specialists is presently pushing for a common set of worldwide air safety standards that will assure air travellers similar levels of safety no matter where they fly. At current accident and fleet growth rates world airlines will experience about one big jet loss a week by the year 2020. To bring about a drop in accident rate the group proposes to revise conventional approaches to interpreting accident data and institute a zero-defect approach.

Currently air transport hull loss accident rates in developing nations are as much as 10 times higher than those of western-based carriers. The use of proven western – style airline safety practices and selected aircraft and ground systems would significantly reduce this figure. The goal is to reduce accident rates in developing countries to no more than twice those in the safest nations. The world jet transport fleet needs to be completely fitted with update ground proximity warning system avionics. Crews also must be trained to properly and promptly react to GPWS warnings.

Approach and landing accidents, which occur in the last 4 minutes of flight, remain a primary problem in both western and developing countries. Landing accidents constitute 41% of all airplane losses. An initial Boeing study indicates that about 70% of accidents occurred in environments that did not include electronic glideslopes. To help eliminate approach and landing accidents, Boeing is pushing for glideslope installation at all suitable air carrier airports. Pilots should be encouraged to use electronic cockpit aids in poor weather conditions but keep their skills sharp by performing manual landings in good weather.

Comprehensive text-related glossary

worldwide [,wɜ:ld'waɪd] - мировые, признаваемые всеми странами мира (стандарты безопасности полетов)

industry-led ['ɪndəstri ,led] - возглавляемая представителями промышленности

rate [reɪt] - скорость изменения (параметра)

to experience [ɪks'pɪəriəns] - переживать, сталкиваться с

conventional approaches [kən'venʃ(ə)nəl ə'prəʊtʃɪz] - традиционные, общепринятые подходы

accident data ['æksɪdɪnt 'deɪtə] - сведения о летном происшествии

zero-defect approach ['ziərəʊ dɪ'fekt ə'prəʊtʃ] - не содержащая недостатков и упущений методика анализа и интерпретации результатов и причин летных происшествий

hull loss ['hʌl 'lɒs] - потеря воздушного судна

significantly [sig'nɪfɪkəntli] - существенно, значительно

updated [ʌp'detɪd] - пересмотренный, модернизированный

ground proximity warning system avionics ['graʊnd prɒk'sɪmɪti 'wɔ:niŋ 'sɪstəm eɪvɪ'ɒnɪks] - пилотажно - навигационное оборудование, имеющее в своем составе систему предупреждения об опасности сближения с землей

approach and landing [ə'prəʊtʃ 'lændɪŋ] - заход на посадку и приземление

environments [ɪn 'vaɪərənmənts] - здесь: аэродромные средства обеспечения взлета и посадки самолетов

electronic glideslope [ɪlek'trɒnɪk 'glɑɪdskoʊp] - посадочная глиссада (глиссада представляет собой ветвь гиперболы, касающуюся ВПП в точке приземления самолета)

electronic cockpit aid [ɪlek'trɒnɪk 'kɒkprɪt 'eɪd] - двухстрелочный индикатор системы слепой посадки по приборам (горизонтальная стрелка указывает положение самолета относительно посадочной глиссады (выше-ниже), вертикальная стрелка указывает положение самолета относительно посадочной курсовой плоскости (левее-правее); при правильном выполнении посадки стрелки пересекаются в центре прибора)

manual landing ['mænjʊəl] - ручная (визуальная) посадка в условиях видимости ВПП

Questions for discussion

1. What is a group of specialists presently pushing for?
2. What will common air safety standards assure?
3. How many big jet losses a week are anticipated by the year 2020?
4. What does a zero-defect approach mean?
5. What is the current ratio between air transport hull losses in developing nations and those of western-based carriers?
6. What specific measures would significantly reduce hull loss accident rates in developing nation?
7. What goal for the hull losses ratio reduction is set presently?
8. How must crews react to GPWS warnings?
9. On what principle do all proximity warning systems operate?
10. What are electronic glideslopes for? How is an electronic glideslope formed?

Text 5

Engine emissions and contamination problems

Gaseous emissions from aircraft engines are much discussed sources of pollution. Today's aircraft engines are twice as fuel efficient as those 15 years ago. But the very technology that contributed to better fuel efficiency and reduced carbon monoxide and carbon dioxide engine emissions has also resulted in greater emissions of nitrogen oxides.

High altitude nitrogen oxides emissions have been implicated in the depletion of the ozone layer and global warming. Thanks to fuel efficient staged (or two-zone)

combustion technology new engines proposed for the likes of the Boeing 777 will emit 30 to 40 per cent less nitrogen oxides without the trade-off effect of increased carbon emissions.

Certain activities carried out on airport premises have the potential of contaminating soil and underground water. These include aircraft and pavement anti-icing and de-icing, fuel storage and spillage, airline and vehicle maintenance, fire-fighting training and the use of pesticides.

The reduction and proper disposal of waste in civil aviation attracts considerable public attention. Very often such waste has to be carried across considerable distances and sometimes borders to the nearest disposal facility for incineration.

There is an ever increasing trend of imposing restrictions on airport environmental capacities. As regards noise and emissions, such restrictions may take the form of so-called budgets, the maximum limits of which may not be exceeded even at the cost of curtailing air traffic growth. This makes it imperative for all countries to install environmental safeguards now and so prevent future deterioration of the whole air, water and soil scene.

Comprehensive text-related glossary

emissions [i'miʃənz] - вредные выбросы в атмосферу

water contamination [ˈwɔ:tə kən,tæmi'neiʃən] - загрязнение воды и источников водоснабжения вредными сливами

pollution [pə'lu:ʃn] - вредные выбросы, сливы и сбросы (газообразных, жидких и твёрдых веществ)

fuel efficient engines [i'fiʃənt] - двигатели с высокой топливной (или тяговой) эффективностью

carbon monoxide [mɒ'nɒksaɪd] - монооксид (окись) углерода, угарный газ

carbon dioxide [daɪ'ɒksaɪd] - диоксид (двуокись) углерода, углекислый газ

nitrogen oxides [ˈnaɪtrədʒən] - семейство окислов азота

to implicate [ˈɪmpleɪt] - приписывать, выдвигать обвинения в ч.л.

depletion [di'pli:ʃən] - исчезновение, сокращение размеров

layer [ˈleɪə] - слой

staged combustion [kəm'blaɪʃən] - двухзонное сжигание топлива в камере сгорания

the likes of the Boeing 777 [laɪks] - самолеты класса Боинг 777

trade-off effects [ˌtreɪd'ɒf] - побочные эффекты

airport premises [ˈpreɪmɪsɪz] - участки на территории аэропорта и в окрестностях

soil contamination [kən, tæmɪ 'neɪʃən] - загрязнение, отравление почвы
pavement ['peɪvmənt] - подъездной путь (аэродрома)
anti-icing and de-icing [, æntɪ 'aɪsɪŋ] - предупреждение образования льда
и уничтожение уже образовавшегося льда (на ВПП)
fuel storage ['stɔːrɪdʒ] - хранение топлива
fuel spillage ['spɪlɪdʒ] - случайный пролив топлива
fire-fighting training ['faɪə 'faɪtɪŋ] - противопожарная подготовка
disposal of waste [dɪs 'pəʊzəl] - уничтожение отходов
incineration [, ɪnsɪnə 'reɪʃən] - сжигание (отходов)
environmental capacities [ɪn, vaɪəɪn 'mentl] - допустимые пределы
загрязнения окружающей среды (для данного аэродрома)
to curtail [kɜː 'teɪl] - сокращать, урезать
to make imperative [ɪm 'perətɪv] - делать обязательным, первоочередным
safeguards ['seɪfɡɑːdʒ] - охранные средства, гарантии
deterioration [dɪ, tɪərɪə 'reɪʃən] - ухудшение
scene [siːn] - обстановка, общее состояние

Questions for discussion

1. What sources of pollution are much discussed presently?
2. How can fuel efficiency of modern engines be compared with those of 15 years ago?
3. What are possible results of high altitude nitrogen oxides emissions?
4. What do new engines proposed for the likes of the Boeing 777 feature?
5. What airport activities have the potential of contaminating soil and underground water?
6. Why does the problem of reduction and proper disposal of waste attract considerable public attention in CA circles?
7. What form do restrictions on airport environmental capacities take?
8. What measures must be taken to prevent future deterioration of the whole air, water and soil scene?

Text 6

A minor accident

Sometimes flight accidents happen on the ground. A big, widebody liner, attempting to land at night during windy rain, veered off the slippery runway and the

landing gear latch and a wheel of the right leg were badly damaged. Only very fast and timely actions of the pilot saved the plane with 200 passengers from overturning.

As a result of the minor accident the ground crew had to change the whole uplatch and the wheel. In order to do so they had to raise the airliner off the ground first. Two mechanics brought in several powerful hydraulic jacks, installed them in proper places and very carefully began to pump them up. Soon all landing gear wheels of the airplane left the ground.

The flight engineer and some ground specialists inspected the landing gear mechanism and decided that they had to change the whole uplatch to ensure that the landing gear could move up and down as it should. The mechanics dismantled the damaged uplatch and began to install a new one. In four hours the job was completed.

Then the ground crew and invited specialists had to make a test to make sure that the repaired latch mechanism functions correctly for the up and down positions of the landing gear. Finally the mechanics pushed in a trolley with compressed nitrogen bottles and filled the oleo shock absorbers with nitrogen and also with oil. Their next job was to change the damaged wheel.

It was early in the morning when the landing gear and the plane had passed all tests and were pronounced ready for flight once more. The repair brigade was very happy to report that their job was done. All delays of a scheduled liner cost a lot of money.

Comprehensive text-related glossary

minor accident ['æksɪdənt] - небольшое летное происшествие

widebody liner ['waɪdbɔːdi] - широкофюзеляжный лайнер

to attempt [ə'tempt] - пытаться

to land [lænd] - совершить посадку, приземлиться

windy rain [reɪn] - дождь с порывами ветра

to veer off ['viə 'ɒf] - соскользнуть

landing gear latch ['lændŋ'gɪə 'lætʃ] - замок шасси

wheel [wi:l] - колесо шасси

overturning [ˌəʊvə'tɜːnɪŋ] - перевертывание, кабрирование самолета через нос (на земле)

uplatch ['ʌplætʃ] - верхний замок шасси (удерживающий шасси в выпущенном состоянии)

hydraulic jacks [haɪ'drɔːlɪk 'dʒæks] - гидравлические домкраты

flight engineer [ˌfɛndʒɪ'nɪə] - бортинженер

to dismantle [dɪs'mæntl] - демонтировать, снять

trolley ['trɒli] - аэродромная тележка

compressed nitrogen bottles [kəm'prest 'naitrɪdʒən] - баллоны со сжатым азотом
oleo shock absorbers ['ʃɒk əb'sɔ:bəz] - масляные амортизаторы (шасси)
to pronounce [prə'naʊns] - признавать (в результате технической экспертизы)
repair brigade [rɪ'reɪ] - бригада ремонтников
delays [dɪ'leɪz] - задержки (вылета)
scheduled liner ['ʃɛdju:ld 'laɪnə] - рейсовый авиалайнер (выполняющий полёты по расписанию)

Questions for discussion

1. Do flight accidents always happen in flight?
2. What is the essence of a minor accident described in the text?
3. What were the consequences of this minor accident?
4. What parts of the landing gear were badly damaged?
5. How was the plane saved from overturning?
6. What did the ground crew have to do as a result of the accident?
7. What equipment was used to raise the airliner off the ground?
8. What were hydraulic jacks used for?
9. What were some ground specialists invited for?
10. When did the landing gear and the plane pass all tests?
11. What did the repair brigade do on completing their job?

Text 7

Causes of a typical CFIT (controlled flight into terrain) catastrophe /Airbus A320, 96 people on board/

There are no words in any language that can adequately describe the range and depth of human feelings when onlookers are confronted with the smoking wreckage of an airliner. To most people such pictures evoke feelings of absolute disaster and give rise to an intense but naive conviction that such events should never happen again...

During its approach to Strasbourg Airport, Flight 148DA from Lyon crashed into a mountain. The catastrophe, in which 87 people were killed and 9 survived, took place on 20 January 1992 and occurred 10 miles short of the runway threshold. To seek an explanation for this controlled flight into terrain crash, France set up a 12-member commission of inquiry, which invited up to 60 experts. The commission and experts undertook some two years of intensive work and published numerous papers on their findings.

The flight was a short one of about 40 minutes, with the captain in the role of pilot flying. The flight crew had received the ATIS (Automatic Terminal Information Service) information: the runway in use was 05. Acting on the captain's decision, the crew set up the onboard FMS (Flight Management System) for an ILS (Instrument Landing System) approach to runway 23, with the intention to circle-to-land. But the air traffic controller had been expecting a direct VOR/DMF (Very high frequency Omnidirectional Radio Range / Distance Measuring Equipment) approach to runway 05.

This misunderstanding existed until the aircraft reached the initial approach fix. At this point, the aircraft speed and altitude were too high for a direct VOR/DME approach, and due to departing traffic, it was too late for the controller to give clearance for ILS approach without a delay.

The crew finally accepted a radar vectoring back to the initial approach fix for a VOR/DME approach. The autopilot was engaged in a "selected" mode for vertical and lateral navigation (as opposed to a "managed" mode, meaning FMS-coupled navigation).

At a disadvantage because of the less-than-optimum radar vectoring for the final turn, the captain failed to properly capture the final approach axis before reaching a point 11 nm from Strasbourg beacon, which was the nominal starting point for the descent. Despite the difficulty with the approach, the crew initiated the descent upon reaching this point, bringing about what the commission identified as the pivotal event in the chain of events: the rate of descent increased to about 3,300 feet per minute instead of 800 feet per minute as planned, and the crew failed to detect and correct the abnormal descent rate.

They did not become aware of the abnormal situation although the captain extended the air brakes to keep the increasing speed within the VFE (maximum speed for flaps extension) limit.

Flight crew proficiency evaluation was inferred from professional training and checking records. Both crew members were rated as "average" pilots and both experienced some difficulties in upgrade training for air transport pilot.

Comprehensive text-related glossary

controlled flight [flaɪt] - контролируемый диспетчерской службой полет

terrain [te'reɪn] - земная поверхность

smoking wreckage ['rɛkɪdʒ] - дымящиеся останки (самолета)

to evoke [ɪ'vəʊk] - вызывать (чувства)

conviction [kən'vɪkʃən] - убеждение
approach [ə'prəʊʃ] - подлёт, заход на посадку
Flight [flaɪt] - рейс (такой-то)
mountain ['maʊntɪn] - гора
runway threshold ['rʌnweɪ'θreʃhəʊld] - граница ВПП, начало ВПП
commission of inquiry [ɪn'kwɪəri] - комиссия по расследованию причин
летного происшествия или катастрофы
to undertake [ˌʌndə'teɪk] - затратить (время)
findings ['faɪndɪŋz] - результаты расследования
pilot flying ['flaɪɪŋ] - пилот, управляющий воздушным судном
ATIS (Automatic Terminal Information Service) [ˌɔ:tə'mætɪk'tɜ:mɪnl] -
служба автоматической передачи информации в районе аэродрома
FMS (Flight Management System) ['mæɪnɪdʒmənt] - система управления
полётом
ILS (Instrument Landing System) ['lændɪŋ] - система посадки по приборам
to circle-to-land ['sɜ:kəl] - совершить заход на посадку после полета по
кругу (“коробочки”)
a direct VOR/DME approach (Very high frequency Omnidirectional Radio
Range/Distance Measuring Equipment) ['fri:kwənsɪ ɔmnɪdɪ'rekʃnəl] -
прямой (без “коробочки”) заход на посадку с использованием
всенаправленного ОБЧ радиомаяка и дальномерного оборудования
initial approach fix [ɪ'nɪʃəl] - первый маркерный радиомаяк, первый
маркер
to give clearance ['klɪərəns] - дать диспетчерское разрешение
without a delay [dɪ'leɪ] - без промедления, немедленно
radar vectoring ['reɪdə] - радиолокационное наведение
vertical and lateral ['vɜ:tɪkəl] - управление по высоте и по курсу
“managed” mode ['mæɪnɪdʒd] - “ведомый” режим под контролем системы
управления полетом
final approach axis ['æksɪs] - ось конечного этапа захода на посадку
descent [dɪ'sent] - снижение
pivotal event ['pɪvətl] - основное, центральное событие
abnormal descent rate [æb'nɔ:məl] - ненормально высокая скорость
снижения
to extend [ɪks'tend] - выпускать
proficiency evaluation [prə'fɪʃənsɪ] - оценка лётной квалификации
“average” pilots ['ævərɪdʒ] - лётчики со средним уровнем подготовки,

“троечники”

upgrade training [ʌp'greɪd] - повышение квалификации, переподготовка

Questions for discussion

1. What feelings are evoked when most people are confronted with the smoking wreckage of an airliner?
2. When and where did the described catastrophe take place?
3. What were the findings of the commission?
4. What was the essence of misunderstanding between the captain and the air traffic controller?
5. What did the captain finally fail to do before reaching the nominal starting point for the descent?
6. What was the pivotal event in the chain of events that led to the catastrophe?
7. Where was the flight crew proficiency evaluation inferred from?
8. How were both crew members rated?
9. Did the pilots pass their upgrade training successfully?
10. What recommendations can be inferred from this CFIT catastrophe?

Text 8

Winning over the passenger

Passengers are looking for more safety, while price and speed are the next highest considerations. Manufactures are faced with increasing size and aerodynamic efficiency to reduce costs per mile. A very large aircraft sits well with passenger perceptions of safety. Passengers tend to believe that large aircraft are indestructible. In a large aircraft carrying 800 passengers seating arrangements are more critical. The idea of building a double-decker aircraft makes sense in providing comfort to the passenger. A single-decker would provide too many extremes of comfort with the passenger seated in the center seat in the most comfortable position. The double-decker with two midsize cabins is a more comfortable option.

Conducting workshops around the world with passengers from a variety of countries, Airbus was able to analyse the influences of culture, psychology and age range on passenger preferences and how they will be shaped over the next 20 or 30 years. Many passengers are looking for an aircraft providing a calm and silent atmosphere. The size and positioning of windows are critical - some passengers want to look out. Space is an overriding feature. The passengers want to be able to stand up, do exercises and move around the aircraft. Other possible conveniences could

include separate vanity and changing rooms, creches, vending machines and a self-service restaurant. The cost and space for these are all weighed against the need for airlines to be profitable.

Whether to provide beds is an ongoing issue. Installing beds in the lower hold of Boeing 777 is not a viable option as it eats into cargo space. Bed capacity in the lower hold could only be profitable where cargo loads were 30%. Seat configuration is also a complicated matter. Boeing's seat configurations are calculated according to varying passenger load percentages. A twin-aisle configuration is most popular with a 3-3-3 configuration, giving the greatest chance that more passengers will be seated next to an empty seat.

With preferences for vertical side walls rather than the tube shape, Boeing 747 has a natural advantage because the 747 was originally designed as a freighter. There are clearly many new factors coming to the fore in the treatment of passengers and crew comfort issues by airlines and industry. Lower deck crew rest compartments for the Airbus A340 are sufficient but rather cramped. This compartment can be easily loaded and unloaded as it is the size and shape of a standard freight container, and can be reached by stairs from the main passenger cabin.

Comprehensive text-related glossary

considerations [ˌkɒnsɪdə'reɪʃnz] - категории, соображения

to sit well ['sɪt 'wel] - полностью соответствовать

perceptions [pə:'sepʃnz] - представления, понятия

indestructible [ˌɪndɪ'strʌktəbəl] - не поддающийся разрушению, неразрушающийся

seating arrangements [ə'reɪndʒmənts] - размещение кресел

double-decker aircraft ['dʌblɪ 'dekə] - двухпалубный самолёт

option ['ɒpʃn] - вариант, выбор

to conduct workshops ['wɜ:kʃɒps] - иметь цеха технического обслуживания

preferences ['prefərənsɪz] - предпочтения

overriding feature ['fi:tʃə] - важнейшая или приоритетная особенность

conveniences [kən'veɪniənsɪz] - удобства; туалеты

vanity and changing rooms ['vænɪti ænd 'tʃeɪndʒɪŋ 'ru:mz] - туалетные комнаты и комнаты для переодевания

crèches ['kreɪʃɪz] - детские ясли

vending machines ['vendɪŋ] - торговые автоматы

to weigh [weɪ] - взвешивать; сравнивать

ongoing issue ['ɪʃu:] - постоянно рассматриваемый вопрос, подлежащая решению проблема

lower hold [hould] - нижний отсек (кабины пассажиров)

adjacent seats [ə'dʒeɪsənt] - соседние кресла

virtually ['vɜːtʃuəli] - фактически, на самом деле

twin-aisle [aɪl] - с двумя проходами (между рядами кресел)

freighter ['freɪtə] - перевозчик грузов, грузовой самолёт

to come to the fore [fo:] - выходить на первый план; подлежать рассмотрению в первую очередь

lower deck crew rest compartments [kəm'pra:tments] - находящиеся на нижней палубе комнаты отдыха экипажа

cramped ['kræmpt] - стеснённые, весьма малых габаритов

by stairs ['steɪz] - с помощью лестницы; спуск по лестнице (в комнаты отдыха экипажа)

main passenger cabin ['pæsɪndʒə] - главный пассажирский салон

Questions for discussion

1. What considerations are the most important for passengers when they choose the way to travel?
2. What are manufactures faced with?
3. Why does a very large aircraft sit well with passenger perceptions of safety?
4. Why is the idea of building a double-decker aircraft really good?
5. What was Airbus able to analyse?
6. What aircraft are many passengers looking for?
7. What option is an ongoing issue?
8. What cabin configuration is the most popular? Why?
9. Why does Boeing 747 have vertical side walls in the cabin?
10. How do you imagine the most comfortable passenger airliner?

PART TWO

FLIGHT SECURITY

ОХРАНА ПОЛЕТОВ И СЛУЖБ ГРАЖДАНСКОЙ АВИАЦИИ, МЕРЫ И СРЕДСТВА ПРЕДУПРЕЖДЕНИЯ ТЕРРОРИСТИЧЕСКИХ АКТОВ И УГОНОВ САМОЛЕТОВ ГРАЖДАНСКОЙ АВИАЦИИ

Text 9

Civil aviation security

Security is defined as a combination of measures and human resources intended to safeguard civil aviation against acts of unlawful interference. There are many measures and human resources that together have an essential role in providing security:

1. Intelligence agencies must constantly monitor the threat to aviation nationally and internationally and advise civil aviation agencies and airlines about the level of the threat.
2. Civil aviation authorities and airline security management must analyse threat information for the risk factor to establish the level of possible countermeasures necessary to minimize the risk.
3. Communication of all essential information to all participants in the programme who need to know all strategic and motivational reasons for the act being prepared.
4. The ticket agent has a responsibility to note anything unusual in every customer's demeanour, method of payment, and planned route structure. If anything is suspicious, he must draw attention of the authorities to the person so that additional security attention could be given.
5. The engineer preparing the aircraft for service has a responsibility to check and report any sign of interference with the aircraft or any object that has been placed or hidden in the airframe.
6. The aircraft cleaner must be watchful for anything that may have been left on board that could endanger the flight.
7. The caterer preparing the meals and supplies must ensure that weapons or sabotage devices are not introduced onto the aircraft by that means.
8. The freight-forwarder and postal authorities involved in dispatching items by air must apply measures to protect against the introduction of possible unauthorized items that might endanger the aircraft.
9. Catering vehicles and supplies, cargo, baggage and all mail must be protected against the introduction of weapons or devices while being moved to the aircraft.

10. Ramp staff and apron security personnel must ensure that unauthorized persons are kept away from the aircraft.
11. Check-in staff must be alerted for any person acting in a manner that gives cause for suspicion and must diligently question the passenger about his or her identity and baggage. If an abnormal reaction is noted, the check-in person must ensure that the security authorities are alerted so that appropriate action can be initiated.
12. The airport operator must ensure that fences, gates and other access control measures are in place to prevent unauthorized access to the aircraft.
13. The provider of air navigation services must ensure that air traffic control systems and air navigation aids are protected against unlawful interference so that the flight can be assisted in proceeding safely to the destination.
14. Security personnel must carry out adequate screening of persons and their baggage for discovery of any dangerous device.
15. Policing authority or other law enforcement personnel must be available and provide a visual deterrent and ready reaction to incidents.
16. Baggage handlers, supported by security systems, must ensure that no unauthorized items of baggage are loaded on board, and that the baggage is kept secure until safely loaded in the aircraft hold.
17. Crew members must check that the aircraft is "security clean" and that effective passenger and baggage reconciliation has been completed.
18. Management of each contributor to the security system must provide the necessary resources and maintain systems that ensure that each of the responsibilities are capable of being properly discharged.
19. The authority responsible for security of aviation must promote the effective application of the combined measures and provide the coordination and leadership essential if the overall programme is to be sufficient to ensure that the flight is safe and secure.
20. It is essential for those involved in a security programme to appreciate that the failure or inadequacy of any security preventive element can seriously compromise the overall programme and the diligent efforts of others.

Comprehensive text-related glossary

security [sɪ'kjʊəriti] - охрана полетов в служб гражданской авиация от актов незаконного вмешательства

to safeguard ['seɪfɡɑ:d] - обеспечивать охрану, охранять от постороннего вмешательства

intelligence agencies [ɪn'telɪdʒəns 'eɪdʒənsɪs] - разведывательные службы ГА

to monitor ['mɒnɪtə] - следить за ч.л., контролировать
level of the threat [θret] - уровень угрозы
authorities [ɔ:'θɒrətɪz] - руководство; власти
level of possible countermeasures ['kaʊntə,mezəz] - уровень возможных мер
противодействия
essential information [ɪ'senʃl] - существенная информация
responsibility [rɪ,spɒnsə'bɪlɪtɪ] - ответственность
customer's demeanour [dɪ'mi:nə] - поведение клиента
interference [,ɪntə'fɪərəns] - вмешательство
aircraft cleaner ['kli:nə] - уборщик салона самолета
caterer ['keɪtərə] - поставщик продуктов
freight-forwarder ['freɪt 'fɔ:wədə] - отправитель авиагруза; грузовой экспедитор
to dispatch [dɪs'pætʃ] - отправлять груз
ramp staff [ræmp] - персонал, руководящий посадкой
apron security personnel ['eɪprən] - персонал охраны перрона и зала ожидания
check-in staff ['tʃekɪn] - персонал, производящий проверку билетов при посадке
diligently ['dɪlɪdʒəntli] - тщательно, внимательно
unauthorized access [ʌn'ɔ:θəraɪzd 'æksəs] - несанкционированный доступ (к
самолету)
provider [prə'vaɪdə] - лицо, ответственное за ... (напр. навигационное
обслуживание)
air navigation aids [eɪdz] - наземные средства навигационного обеспечения
baggage handlers ['hændləz] - лица, производящие загрузку багажа
aircraft hold [həʊld] - багажный отсек самолета
reconciliation [,rekənsɪli'eɪʃn] - установление принадлежности багажа
находящимся на борту пассажирам (при отсутствии на борту владельца багажа
вылет не производится)
failure or inadequacy [ɪn'ædɪkwəsi] - невыполнение или неполное выполнение
требований одного из параграфов данного документа

Questions for discussion

1. How is the notion of civil aviation security defined?
2. Do you remember any recent acts of unlawful interference into civil aviation activities?
3. By whom and how is the threat to aviation monitored?
4. How and by whom is the level of possible countermeasures established?
5. What is the responsibility of the engineer preparing the aircraft for service?

6. What must be ensured by the airport operator?
7. What must be ensured by the provider of air navigation services?
8. By whom is screening of persons and their baggage carried out?
9. When is the aircraft pronounced "security clean"?
10. What is meant by passenger and baggage reconciliation?

Text 10

Flight security

On the average there are up to 35-40 acts of unlawful interference in the world aviation activities every year. Some 70% of them are unlawful seizures, the rest are in-flight attacks, attacks on ground facilities and unlawful acts against the safety of civil aviation.

ICAO has developed an aviation security training program composed of a series of standardized training packages designed for global application. The first such package, designed for airport security personnel, was distributed to all contracting states and relevant international organizations. The further standardized training packages address aviation security management, aviation cargo and mail security, airline security training programmes and aviation security instructors.

The next major challenge facing aviation security professionals is the deployment of the explosives detection system (EDS) to combat the current terrorist threat of aircraft bombings. The first new technology in the aviation security field since the introduction of metal detectors and x-ray systems, the EDS, is aimed at screening 100 per cent of aircraft hold luggage. The goal is to reduce the risk of aircraft bombings in the same manner that metal detectors have helped prevent hijackings.

The explosives detection system is the total security system that prevents explosive devices from boarding aircraft. Security professionals are concerned with its ability to keep aircraft safe from bombings, while airports and airlines are concerned that its introduction may disrupt their timetables and operations. Explosives are likely to be well concealed among the usual items that passengers pack, and it takes a lot of time to detect them.

Comprehensive text-related glossary

flight security [sɪ'kjʊərɪti] - охрана полётов

unlawful interference [ʌn'lɔ:fl ,ɪntə'fɪərəns] - противоправное, либо незаконное вмешательство в выполнение полёта

seizures ['si:zəz] - угоны, захваты самолётов
ground facilities [fə'silitiz] - наземные службы
ICAO (International Civil Aviation Organization) - Международная Организация Гражданской Авиации
series ['səri:z] - ряд; несколько
global application [,æplɪ'keɪʃn] - применение, использование во всех странах мира
contracting states [kən'træktɪŋ] - страны - подписанты; страны, подписавшие данное соглашение.
to address [ə'dres] - предназначать; адресовать
aviation security management ['mænidʒmənt] - управление службы антитеррористической безопасности ГА
cargo ['kɑ:gou] - груз
mail [meɪl] - почта, почтовые отправления
challenge ['tʃæləndʒ] - сложность, трудность
deployment [dl'ploimənt] - разворачивание, установка на самолет
explosives detection system (EDS) [iks'plɔ:sɪvz] - система обнаружения взрывчатых веществ
to combat [kəm'bæt] - вести борьбу
x-ray systems ['eks'reɪ] - системы обнаружения, использующие рентгеновские лучи
hold luggage [həʊld] - ручной багаж
goal [gəʊl] - цель
hijackings [,haɪ'dʒækɪŋz] - угоны самолёта террористами
to disrupt [dis'rʌpt] - нарушать
to be concerned [kən'sɜ:nd] - быть озабоченным
timetable ['taɪm'teɪbl] - расписание полетов
to conceal [kən'si:l] - скрывать, прятать
usual items ['ju:zʊəl] - обычные вещи (упаковываемые пассажирами)

Questions for discussion

1. How many acts of unlawful interference in the world aviation activities happen every year?
2. What types of unlawful interference take place most frequently?
3. What has ICAO developed?
4. What kind of packages does this program consist of?
5. Whom does the first such package address?

6. What is the aim of the further standardized training packages?
7. What is the next major challenge facing aviation security professional?
8. What is the EDS aimed at?
9. What is the goal of introduction of this new detection technology?
10. What does the notion of the total security system imply?

Text 11

Total security systems

The integration of electronic systems for surveillance, detection and communication with such essential physical elements as fences, barriers and gates, is just one step in the process of developing total security systems. Just what particular system is specified depends upon agreement following a comprehensive assessment of likely risks. While some airports will always be considered to be in high risk regions, others may be virtually free of the threat of terrorism, drug smuggling, sabotage and other hazards.

For some airports, security means no more than prevention of the intrusion of curious bystanders. At the other extreme, however, the potential threat may require the installation of infrared detection devices, ground surveillance radars and even underwater sensors. By establishing outer, intermediate and inner protection zones, the appropriate equipment can be installed to detect, deter and finally aid in the interception of terrorists. The provision of seismic and magnetic sensors as well as active and passive sonars backed up by coastal surveillance radar may be regarded as overkill by some airport authorities.

But the very nature of security is such that the type of threat is continually changing. Provision for future threats is an important benefit of an integrated approach to security. While protection against terrorism in all its forms must be a prime objective for any airport authority, fire protection sensor and control technology must be included in a total system. The installation of a fully integrated system linked to a security control center produces savings in hardware and personnel costs and provides a single facility handling all alarm and fire monitoring, access control and guard tour functions.

Comprehensive text-related glossary

total security [sɪ'kju:əriti] - полная защита всех видов деятельности ГА от терактов

surveillance [sə:'veɪləns] - наблюдение

essential [ɪ'senʃl] - существенный, важный

gates [geɪts] - посадочные ворота (для контроля багажа и ручной клади пассажиров)

assessment [ə'sesmənt] - оценивание, определение

virtually ['vɜ:tʃuəli] - практически, в действительности

drug smuggling ['smʌglɪŋ] - контрабандный перевоз наркотиков

hazards ['hæzədz] - опасные, либо противоправные действия

intrusion [ɪn'tru:ʒn] - проникновение, вторжение

curious bystander [baɪ'stændə] - любопытный зритель

infrared detection devices [ɪnfrə'red] - инфракрасный устройства обнаружения (для ночного видения)

ground surveillance radars ['graʊnd sə'veɪləns] - радиолокационные устройства обзора земной поверхности (доплеровские радиолокаторы позволяют видеть движущиеся объекты)

underwater sensors ['sensəz] - устройства подводного наблюдения

to deter [dɪ'tə:] - препятствовать; предупреждать террористические акции

interception [ɪntə'sepʃn] - перехват террористов

active and passive sonars ['saʊnd:z] - активные и пассивные звуковые обнаружители, звуковые локаторы (сонары)

overkill [ˌəʊvə'kɪl] - перестраховка, ненужный перерасход средств

integrated approach [ə'prəʊtʃ] - интегрированный подход к защите от террористических актов

fire protection sensor ['faɪə prə'tekʃn] - противопожарный датчик

to link [lɪŋk] - присоединять, подключать

savings in hardware ['hɑ:dwɛə] - экономия в расходах на аппаратуру

single facility [fə'sɪlɪti] - единый пульт управления

alarm and fire monitoring [ə'la:m] - система подачи сигнала тревоги и противопожарная сигнализация

access control ['ækses] - ограничение доступа

guard tour [tuə] - патрулирование, обход

Questions for discussion

1. What is meant by the integration of electronic detection systems with essential physical elements?
2. What considerations does the choice of a particular security system depend on?
3. What are infrared detection devices used for?
4. What is the main advantage of an infrared detection system?
5. How is it possible to detect moving objects at night?

6. What are underwater sensors used for? In what circumstances are such sensors used?
7. What principles do seismic and magnetic detectors operate on?
8. What types of security equipment are usually installed in outer, intermediate, and inner protection zones?
9. What is meant by an important benefit of an integrated approach to security?
10. What are the advantages of the installation of a fully integrated security system?

Text 12

Luggage screening

Presently the general security process for screening luggage at a large international airport can be thought of as a series of stages of investigation for explosives.

The first stage is primary screening of passenger luggage. In a non-automated system the constant attention required to screen all luggage weakens an operator's ability to identify consistently and accurately all potential threats. Computers have replaced many repetitious tasks, and this primary screening task is no exception.

The second stage of the security process is aimed at investigating luggage considered a potential threat, or resolving alarms if the EDS used for primary screening is automated. At this point the decision is made to either clear the questionable bag to the aircraft or to investigate farther. If suspicion remains, the third stage of analysis must determine the validity of the threat.

In the third stage, the EDS should determine the presence of an explosive device. Examples of tools for this stage are tomographic imaging systems and the hand search. Humans make the final decision to call the bomb squad.

Comprehensive text-related glossary

luggage screening [ˈlʌdʒɪz] - просвечивание багажа пассажиров

security process [sɪˈkjuəriːti] - процесс проверки на внутреннюю (антитеррористическую) безопасность

investigation for explosives [ɪksˈplɒsɪvz] - проверка на наличие взрывчатых веществ

to weaken [ˈwi:kən] - ослаблять

to identify [ˌaɪdɪntɪˈfaɪ] - идентифицировать, выявлять

consistently [kənˈsɪstəntli] - всегда, без исключений

potential threat [θret] - потенциальная угроза безопасности

to resolve alarms [rɪ'zɒlv ə'lɑ:mz] - провести адресацию сигналов тревоги
EDS (Explosives Detection system) [dɪ'tekʃn] - система обнаружения взрывчатых веществ (в багаже и на теле пассажиров)
to clear to the aircraft [klɪə] - разрешать погрузку на борт самолёта
the questionable bag ['kwɛstʃnəbl] - вызывающий сомнения чемодан
suspicion[səs'pɪʃn] - подозрение, сомнение
validity [və'lɪdɪtɪ] - действительность, реальность (угрозы безопасности)
tomographic imaging systems [tə'mə'græfɪk] - ультразвуковые системы трёхмерного томографического сканирования багажа
hand search [sə:tʃ] - ручной поиск взрывчатого вещества в багаже
bomb squad [skwɒd] - сапёрное подразделение по обезвреживанию бомб

Questions for discussion

1. How can we think of the general security process?
2. What does the first stage of the general security process come to?
3. What is the main drawback of a non-automated security system?
4. What is the second stage of the security process aimed at?
5. At what stage is the decision arrived at either to clear the questionable bag to the aircraft or to investigate farther?
6. What actions are taken in case suspicion remains?
7. What should the EDS determine in the third stage?
8. When are the tomographic imaging systems and the hand search used?
9. How is the final decision made?
10. What does the final decision come to?

Text 13

Disruptive Passengers

Reduced oxygen levels, particularly when combined with alcohol, can make some people very aggressive. Raised temperatures and noise can also adversely affect some passengers, while smokers deprived of nicotine may particularly be susceptible to reduced oxygen. Out of all passengers carried by British Airways in 2014-15, there were 262 incidents of disruptive behavior, with 17 requiring the use of restraint equipment. The most recent attack by a drunken passenger on an air stewardess has focused media attention on an increasing problem, faced by cabin crew, airport operators and ground handling agents.

When a passenger repeatedly behaves in a disruptive manner, or smokes in an unauthorized location, he is handed a warning notice, or the so called "yellow card", on behalf the captain, with the intention of diffusing the situation. On the average, in six out of seven reported cases when it was used this had the intended effect, but one case ended in arrest.

In accordance with the Tokyo Convention, a person shall not enter any aircraft when drunk, or be drunk in any aircraft. Another article of the same Convention states, that a person shall not smoke in any compartment of an aircraft registered in the USA or in the UK. Every person in an aircraft shall obey all commands which are issued by the captain for the purpose of securing the safety of the aircraft and of persons or property carried therein.

Leaving aside hijacking these relatively simple rules represent the laws pertaining to unruly passengers. Any offences under these rules are punishable by a maximum fine of \$5000 or up to two years imprisonment. In theory, these are adequate penalties. However, power of arrest is granted to police under a number of statutes, and in practice the police are very often unable to arrest a drinker or smoker, or a person who assaults a crew member or another passenger.

The matter is even less clear in some Asian and African countries, where the police are likely to insist on simply repatriating the offender - the last thing that the aircraft commander wants. Many people all over the world believe that it would be sensible for the maximum penalty for the flight endangering offences to be increased to up to 5 years imprisonment, giving at the same time the police the power to arrest disruptive passengers.

Comprehensive test-related glossary

disruptive passengers [dis'ɹʌptɪv] - пассажиры, нарушающее установленный порядок

reduced oxygen levels [ˈrʊksɪdʒɪn] - пониженное содержание кислорода

to affect adversely [ˈædvɜːsli] - отрицательно воздействовать

to deprive [dɪ'praɪv] - лишать

susceptible [sə'septɪbl] - чувствительный, легко подвергающийся воздействию

behavior [bɪ'heɪvjə] - поведение

restraint equipment [rɪs'treɪnt ɪ'kwɪpmənt] - средства, ограничивающие свободу действий; наручники

drunken passenger [ˈdrʌŋkən 'pæsɪndʒə] - пьяный пассажир

media [ˈmiːdjə] - средства массовой информация (радио, TV, пресса)

ground handling agents ['eɪdʒənts] - сотрудники аэропорта, производящие на регистрации досмотр багажа пассажиров
unauthorized location [ʌn'ɔ:θəraɪzd] - неразрешенное (для курения) место
on behalf [ɒn bɪ'ha:f] - от имени (командира воздушного корабля)
to diffuse [dɪ'fju:z] - разряжать (обстановку)
convention [kən'venʃən] - соглашение
to secure [sɪ'kjʊə] - обеспечивать (безопасность)
hijacking ['haɪ,dʒækɪŋ] - угон воздушного судна
to pertain [pɜ:'teɪn] - относиться к..
offences [ə'fensɪz] - нарушения; противоправные действия
penalties ['penltɪz] - наказания
statutes ['stætju:ts] - законодательные акты
to assault [ə'sɔ:lt] - совершать нападение
to be sensible ['sensəbl] - быть разумным
to increase [ɪn'kri:s] - увеличивать

Questions for discussion

1. What is the result of reduced oxygen levels on board of some airliners?
2. What are the other factors which can adversely affect some passengers?
3. Who is particularly susceptible to reduced oxygen levels on board?
4. What facts have focused media attention on the problem of disruptive passengers?
5. When is a warning notice handed to a disruptive passenger?
6. Do such warning notices on behalf of the captain always have the intended effect?
7. Shall a drunk person ever enter any aircraft in the USA or in the UK?
8. Shall a person smoke in any compartment of an aircraft, registered in the USA or in the UK?
9. Are the police always able to arrest a drinker or smoker in practice?

Text 14

Walk-through detectors Fundamentals

Most walk-through detectors (such as FRISKEM-AF 500/1000) are manufactured for personal search of air passengers, but are often used for search of packages, personal belongings and luggage. The operating principle of such detectors may be defined as "Active Field" technology. However, unlike the metal detectors of

past years, modern designs feature many advancements which completely alter the characteristics of earlier years.

The Design 500 processes persons only in a single direction. Upon approaching the detector, a Traffic Monitor displays an illuminated sign of “Wait” or “Walk” to control suspect flow. The status of these signs is also indicated on the Operations Panel. Upon obeying the “Walk” sign, the suspect proceeds through the detector at a normal walking pace. Such entry into the device is registered by the Entry Sensor System, which automatically:

1. Switches the Traffic Monitor to “Wait”.
2. Activates the detector into a usage-mode operational condition.

As the suspect passes through the detector, exit is registered by the Exit Sensor System, which automatically:

1. Recycles the electronics for the next usage.
2. Switches the Traffic Monitor signs to “Walk” for the next suspect.

Comprehensive text-related glossary

walk-through detectors [ˌwɔːk'θruː] - проходные детекторы (обнаружители несанкционированных для провоза предметов) для личного досмотра пассажиров; целью досмотра обычно является выявления оружия, изделий из пластиковой взрывчатки PENT и т.д.

FRISKEM (Flight RISK EMergency) [ˈfɪz:k'ɪzənsɪ] - распространенная в странах английского языка марка проходных детекторов; в России используются отечественные детекторы типа “Микро-доза 130E” и последующие модели personal search [sɜːtʃ] - личный досмотр

belongings [bɪ'lɒŋɪŋz] - личные вещи

“Active Field” technology [tek'nɒlədʒɪ] - технология создания активного электромагнитного или (и) ультразвукового поля, которое ослабляется подлежащими обнаружению предметами; изменения поля фиксируются приемником и отображаются на дисплее

to feature [ˈfi:tʃə] - характеризоваться, демонстрировать

advancements [əd'vɑːnsmənts] - новейшие технологии, успехи

Traffic Monitor [ˈtræfɪk] - устройство управления посадкой пассажиров

Illuminated sign [ɪ'luːmɪneɪtɪd 'saɪn] - подсвеченное табло

“Wait” sign - табло “ЖДИТЕ”

“Walk” sign - табло “ИДИТЕ”

suspect flow [sə'spekt] - движение проверяемых

status [ˈsteɪtəs] - состояние (индицируемая в данный момент команда)

to proceed [prə'si:d] - продолжать движение

normal walking pace ['wɔ:kiŋ 'peɪs] - нормальным шагом

Entry Sensor System ['entri 'sensə] - сенсорная система регистрации входа
usage-mode, operational condition ['ju:zɪdʒ] - режим применения, рабочее состояние

Exit Sensor System ['eksɪt] - сенсорная система регистрации выхода

to recycle [rɪ'saɪkl] - переводить, переключать (в режим следующего применения)

Questions for discussion

1. What are walk-through detectors used for?
2. What principle do walk-through detectors operate on?
3. What events take place when a suspect passenger approaches the detector?
4. How does the suspect proceed through the detector?
5. How is an entry into the detector registered?
6. What does the Entry Sensor System do upon the passenger entering the detector?
7. What does activation of the detector into a usage mode, operational condition mean?
8. How is exit of the passenger registered?
9. What does the Exit Sensor System do upon the passenger's exit?
10. On what condition does the next suspect enter the detector?

Text 15

Walk-through detectors Operation

The Exit Sensor System of walk-through detectors performs the following two important operations:

1. Deactivates the detector into a non-usage operational condition so that signals from nearby activity or ambient emission will not cause false alarm cycling during such non-use periods.
2. Activates Evaluation Display for the just-processed suspect:
 - a) Operator's Viewer: an illuminated, green-color "Clear", or an illuminated, red-color "Alarm", and, when activated, an Audio Horn. On special designs, an optional, amber-color "Advisory" may be activated.
 - b) From the Electronics: an optional, automatic powering of relay terminals to an output connection for remote alarm devices.

ATTENTION! Should a suspect fail to proceed through the detector in a normal manner, interruptions in the electronic cycling can be expected. The detector anticipates a normal processing cycle of approximately 3 seconds per suspect and will automatically recycle itself in about 12 seconds. This recycling will occur if the suspect stops or delays overlong within the detector, or turns back and exits through the entry end.

Comprehensive text-related glossary

non-usage operational condition [ˌnɒnˈjuːsɪdʒ ˌɒpəˈreɪʃənəl kənˈdɪʃn] - режим ожидания следующего проверяемого

ambient emission [ˈæmbiənt ɪˈmiʃən] - постороннее излучение, помехи от соседних электрических приборов

false alarm cycling [ˈfɔːls əˈlɑːm ˈsaɪklɪŋ] - переход в режим срабатывания от сигнала ложной тревоги

Evaluation Display [ɪˌvæljuːˈeɪʃn dɪˈspleɪ] - дисплей отображения результатов проверки

Operators Viewer [ˈɒpəreɪtəz ˈvjuːə] - табло оператора

Green-color “Clear” [ˈɡriːn ˈklɛə ˈklɪə] - высвечиваемое зеленым цветом сообщение “Чисто” (недозволенные предметы отсутствуют)

Red-color “Alarm” [ˈred ˈklɛə əˈlɑːm] - высвечиваемое красным цветом сообщение “Тревога” (пассажир проносит нездоровые предметы)

Audio Horn [ˈɔːdiəʊ ˈhɔːn] - звуковой рожок, включаемый одновременно с сообщением “Тревога”

optional [ˈɒpʃnəl] - дополнительный, по желанию пользователя

amber-color “Advisory” [ˈæmbə ˈklɛə ədˈvaɪzəri] - высвечиваемое янтарным (желтым) цветом сообщение “Совет”

remote alarm devices [rɪˈmɔt əˈlɑːm dɪˈvaɪsɪz] - дистанционные устройства подачи сигнала тревоги (вызов полиции для изъятия оружия и взрывчатых веществ)

interruptions [ɪˌntəˈɡrʌpʃnz] - прерывания, нарушения нормальной последовательности операций

to anticipate [ænˈtɪsɪpeɪt] - предполагать, быть рассчитанным на...

to delay overlong [dɪˈleɪ ˈəʊvərlɒŋ] - задерживаться на слишком большое время

Questions for discussion

1. What does the Exit Sensor System do next?
2. What is the purpose of deactivating the detector into a non-usage condition?

3. What does the Exit Sensor System do after the deactivation of the detector?
4. What data is displayed on the Operator's Viewer?
5. In what cases is the message "Clear" displayed?
6. In what cases is the message "Alarm" displayed?
7. What is the purpose of activating the Audio Horn?
8. What are remote alarm devices for?
9. What can be expected in case a suspect fails to proceed through the detector in a normal manner?
10. What is the duration of a normal processing cycle?

Text 16

Testing explosive detection systems

The FAA has issued its final rules on performance standards for explosive detection systems and plans to begin actual certification testing as soon as manufacturers apply to the FAA. The rules spell out a protocol that can be used to conduct testing of bulk explosive detection systems, which sense a physical or chemical characteristic of explosives.

Bulk systems include enhanced X-rays and devices which rely on nuclear physics for detection. However, the current report also points out that there is no vapor generator in existence capable of producing a known quantity of explosive vapor so sniffing detectors cannot be properly tested. Another problem is that no reference instrument exists which can check the vapor generated or the background contamination.

The FAA opened its explosive detection laboratory. This facility is designed to allow researchers to test detectors using real explosives. Safety requirements require some concrete walls in the lab to be very thick and there are blow-out panels in some walls as well. The FAA will also strongly encourage extensive operational trials of its detection systems at airports prior to certification testing to establish a track record on tens or even hundreds of thousands of pieces of luggage.

The FAA is also developing new computer simulation tools to study how explosive detection system installations would work. This would allow the end users to analyze the performance of different combinations of sensors as part of trade-off studies. Graphic displays created as part of the simulation would facilitate this analysis. Continued work on thermal neutron activation (TNA) is strongly recommended and the FAA plans to install two TNA systems for more operational trials. These TNA systems will be combined with enhanced X-ray equipment.

One operating concept is to have a variety of ways to run the bags through different types of detectors so it will never be clear to a terrorist which detectors might be encountered at a particular airport. The FAA is very interested in vapor/particle detectors and has recently purchased three detectors of this type, at the same time supporting or monitoring all new explosive detection technologies that appear to be promising.

Comprehensive text-related glossary

explosive detection systems [ik'plousiv] - системы обнаружения взрывчатых веществ
FAA (Federal Aviation Administration) [eivi'eif(ə)n] - Министерство Гражданской Авиации США
to issue ['isju:] - опубликовывать, выпускать в свет
certification testing [,sɜ:tɪfɪ'keɪʃn] - сертификационные испытания
to spell out ['spel 'aut] - формулировать; иметь в своём составе
bulk system [bʌlk] - система в сборке, комплексная система
to sense [sens] - определять, измерять (параметр взрывчатого вещества)
enhanced [m'hɑ:nst] - более чувствительные; с улучшенными характеристиками обнаружения
X-rays ['eks 'reɪz] - рентгеновские установки
to rely on nuclear physics ['nju:kliə] - использовать методы ядерной физики (для обнаружения взрывчатых веществ)
sniffing detectors ['snɪfɪŋ] - обнаружители взрывчатых веществ, работающее на принципе отбора и анализа проб воздуха; детекторы-анализаторы химического состава
reference instrument ['refərəns] - опорный датчик (инструмент, пригодный для калибровки аппаратуры обнаружения)
facility [fə'sɪləti] - служба; организация
concrete walls ['kɒkri:t] - бетонные стены
blow-out panels ['blou, aut] - раздвижные панели для демпфирования возможного взрыв
track record [træk] - сопроводительная документация на разрабатываемую аппаратуру
computer simulation [,sɪmjʊ'leɪʃən] - компьютерное моделирование
trade-off studies [,treɪd'ɒf] - сопутствующие, либо побочные исследования
to facilitate [fə'sɪlɪteɪt] - облегчать, помогать

TNA (thermal neutron activation) ['θz:məl] - тепловое возбуждение нейтронов

enhanced X-ray equipment [ɪn'hɑ:nst] - улучшенное рентгеновское оборудование

vapor/particle detectors ['veɪpər / 'pɑ:tɪkl] - обнаружители паров и частиц взрывчатого вещества

Questions for discussion

1. What are bulk explosive detection systems used for?
2. On what principles do such systems usually operate?
3. Name two unsolved problems which hinder practical use of sniffing detectors.
4. What types of tests will be conducted at the FAA's explosive detection laboratory?
5. What safety requirements were applied to the construction of this laboratory?
6. How is the FAA going to establish a reliable track record on the newly developed detecting equipment?
7. According to what rules is testing of bulk explosive detection systems conducted?
8. What parts do such bulk explosive detection systems consist of?
9. What are the principles of operation of enhanced X-ray detection systems?
10. What are the principles of operation of devices which rely on nuclear physics for detection?
11. What are vapor generators used for?
12. What do sniffing detectors actually find out?
13. What was the just opened explosive detection laboratory designed for?
14. Why are operational trials of bulk systems strongly encouraged by the FAA?
15. What are new computer simulation tools developed for?
16. How do you imagine operational principles of thermal neutron activation (TNA) systems?
17. Why is the FAA strongly recommending TNA systems for more operational trials?

Text 17

Investigators are looking for more signs of explosion on 747

Numerous FBI agents and other investigators are looking for personal belongings, carpet sections, seat cushions, clothing and other debris from Flight 800 that likely captured some clues to the source of the blast that destroyed the liner. Salvage teams are focused on clearing out the remaining major field of debris Area 1, having cleared Areas 2 and 3 of all significant wreckage. Other items that could have captured the chemical residue ejected by the blast are bodies and personal effects of Flight 800's 230 passengers and crewmembers.

Investigators have said that such items fell from Flight 800 first, before the airplane disintegrated and fell into three large debris fields about 10 naut. mi. south of East Moriches N Y. Tests by the FBI and an independent laboratory detected microscopic traces of explosives on debris from Flight 800, as it was raised from the ocean floor and brought into the reconstruction hangar.

Other telling signs that an explosive device detonated on the aircraft are burns, deep punctures, coarse amputations or dissection of the victims' bodies and splaying of aircraft skin into the direction of flight. A common tactic of terrorists is to mold a mixture of PETN and latex into a sheet or belt and fold it with a detonator under seat cushions or in carry-on luggage placed under a seat or in the overhead compartment.

Comprehensive text-related glossary

investigators [,investi'geitəz] - следователи, члены комиссии по расследованию причин летного происшествия

signs [saɪnz] - вещественные доказательства

personal belongings ['pɜ:snl bɪ'ləŋɪŋz] - личные вещи пассажиров

FBI (federal Bureau of Investigation) ['fedərəl bjuə'reʊ əv ,investi'geɪʃən] - Федеральное Бюро Расследований, ФБР (США)

carpet sections ['kɑ:pɪt 'sekʃənz] - куски ковровой обивки

seat cushions ['si:t 'kuʃənz] - подушки кресел пассажиров

debris ['deɪbrɪ:] - обломки, останки

to capture ['kæpʃə] - сохранять; захватывать

clue [klu:] - улика; ключ к разгадке

blast [bla:st] - мощный взрыв

salvage team ['sælviɪdʒ 'ti:m] - бригада или команда спасателей

to clear out ['kliə ,aʊt] - собирать (обломки)

significant wreckage [sig' nɪfɪkənt 'rɛkɪdʒ] - представляющие наибольший интерес обломки

chemical residue ['kɛmɪkəl 'rɛzɪdju:] - остаточные химические продукты взрыва

microscopic traces [ˌmaɪkrəs'kɒpɪk] - микроскопические следы

ocean floor ['ɔʊʃən 'flɔ:] - дно океана

reconstruction hangar [ˌrɪ:kəns'trʌkʃən 'hæŋə] - реконструкционный ангар для сбора обломков самолета и моделирования обстоятельств летного происшествия

burns [bɜ:nz] - ожоги

deep punctures ['di:p 'pʌŋkʃəz] - проникающие ранения

coarse amputations ['kɔ:s ˌæmpjʊ'teɪʃənz] - грубые или рваные ампутации конечностей

dissections [dɪ'sɛkʃənz] - расчленения тел

splaying of aircraft skin ['splɛɪŋ əv 'ækrɑ:ft 'skɪn] - срыв и закручивание обшивки самолета

to mold [məʊld] - формовать, придавать форму

PETN (Penta Etyhtitol TetraNitate) - разработанное в Чехословакии мощное взрывчатое вещество в виде окрашиваемого пластика, внешне не отличающегося от бытовых изделий; PETN не обнаруживается типовыми ультразвуковыми или рентгеновским установками проходного контроля

latex ['leɪteks] - каучуковый латекс с PETN в качестве заполнителя (используется для изготовления макетов детских игрушек, фруктов, спортивного инвентаря и иных изделий для террористических актов)

carry-on luggage ['kæriɒn 'lʌdʒɪʒ] - ручной багаж

overhead compartments ['əʊvɛhəd kəm'pɑ:tmənts] - верхние полки для ручной клади (на борту самолета)

Questions for discussion

1. Why are numerous FBI agents looking for personal belongings, carpet sections, seat cushions, clothing and other debris from Flight 800?
2. What are savage teams focused on?
3. What else could have captured the chemical residue ejected by the blast?
4. What fell from Flight 800 first?
5. What did tests by the FBI and an independent laboratory detect?
6. What are other telling signs that an explosive device detonated on the aircraft?
7. Describe a common tactic of terrorists.

Text 18

The growing threat of aviation terrorism

The latest survey of airline passengers' opinion shows striking 80% majority in favour of an additional security levy on every flight ticket. A significant number of passengers is also willing to accept a longer check-in period in the interests of improved security. The travelling public, aircrews and the airline and airport authorities have every reason for genuine concern. Despite the welcome and dramatic drop in attempted hijackings, fatalities through acts of aviation terrorism have increased by leaps and bounds.

The latest acts of aviation terrorism brought home the frightening vulnerability of the world's airline system to attack by new generations of more ruthless and professional terrorists. New plastic explosives, so favoured by modern international terrorists, simply cannot be detected by the X-ray machines, installed in the world's airports. In most countries, there is no really comprehensive screening of hold baggage and freight, while baggage reconciliation procedures are inadequate or non-existent. The public is not easily fooled by glib promises of measures to ensure that such a crime will never happen again.

According to the Interavia survey of frequent-flyer attitudes, the respondents' biggest concerns are the quality and motivation of security staff at airports. In their opinion at most European airports personnel responsible for security are lax, chatty and inattentive. They do not watch the screens of the scanners properly and are often distracted by their chatting colleagues.

The other major strand of thought to come out of the survey is a belief that aviation security should be tackled on an international basis. Investigations have also revealed that, despite official assurances of radical overhaul in security, journalists, posing as aircraft cleaners have succeeded in using false information to obtain permits allowing them to gain access to aircraft on the ground.

In addition to these highly publicized vulnerabilities, the quality of security management, personnel and training has often been sacrificed in the interests of cutting costs. There are grave deficiencies in command, control and coordination of aviation security, even within those industrial countries with the greatest resource and experience in the field. Airlines and airports have come in for particularly strong criticism for the weakness of security. The international airline community could gain much by following the US example in meting out fines to those airlines failing to achieve the FAA security standards.

National aviation security systems are building blocks of this new approach, but there is little point in simply upgrading the airports in the USA, the UK and Germany into shining examples of security efficiency if the terrorists are going to be able to find numerous weak links in the international system - for example, in the airports of the poorest Third world states.

But a winning strategy against aviation terrorism cannot be based on any single approach or technology. The terrorists' own weapons are constantly changing. They introduce newer methods to defeat or circumvent the enhanced security barriers. It is only a matter of time before the safety of aviation is challenged by terrorists using hand-portable surface-to-air missiles. Certain groups of terrorists have already acquired such weapons and are going to use them in the near future.

Comprehensive text-related glossary

threat [θret] - угроза, опасность

survey ['sɜ:veɪ] - обзор

levy ['levɪ] - налог, сбор средств

check-in period [ˌʃek'ɪn 'rɪəɪəd] - время на досмотр пассажиров и багажа

genuine concern [ˌdʒenjuɪn kən'sɜ:n] - подлинная озабоченность

attempted hijackings [ə'temptɪd 'haɪ,dʒækɪŋz] - попытки угонов самолетов

fatalities [fə'tælɪtɪz] - человеческие жертвы (результате террористических актов)

by leaps and bounds [baɪ 'li:ps ənd 'baʊndz] - очень быстро

vulnerability [ˌvʌlnərə'bɪləti] - уязвимость, незащищенность

ruthless ['ru:θlɪs] - жесткий; безжалостный

plastic explosives ['plæstɪk ɪks'pləʊsɪvz] - пластиковые взрывчатые вещества, не обнаруживаемые проходными детекторами

comprehensive screening [ˌkɒmprɪ'hensɪv 'skri:nɪŋ] - просвечивание ручной клади и багажа, выявляющее все несанкционированные предметы

baggage reconciliation procedures ['bæɡɪdʒ ˌrekənsɪleɪʃən prə'si:dʒəz] - процедуры установления принадлежности загружаемого багажа находящимся на борту пассажирам (при отсутствии среди пассажиров владельца багажа вылет откладывается до выявления обстоятельств)

glib promises ['glɪb 'prɒmɪsɪz] - бесконечные обещания

frequent-flyer ['fri:kwənt_ˈflaɪə] - пассажир, часто пользующийся услугами воздушного транспорта

respondent [rɪs'pɒndənt] - ответчик, опрошенный в ходе референдума либо при выяснении мнений

lax [læks] - небрежный, расхлябанный

chatty ['tʃæti] - болтливый

scanner ['skænə] - сканер, устройство для просмотра содержимого багажа

strand of thought ['strænd əv 'θɔ:t] - направление мышления

radical overhaul ['rædɪkəl ,əʊvə'həʊl] - радикальный пересмотр

to pose as [prəʊz] - представлять себя как ..., выступать в роли к. л.

permit ['pɜ:mit] - пропуск, разрешение

to sacrifice ['sækrɪfaɪs] - принести в жертву, жертвовать

deficiency [dɪ'fɪʃnsɪ] - недостаток

to mete out ['mi:t 'aʊt] - накладывать (штраф)

weak links ['wi:k 'lɪŋks] - слабые звенья в цепи, лазейки

winning strategy ['wɪnɪŋ 'strætɪdʒɪ] - приносящая победу стратегия

to circumvent [,sɜ:kəm'vent] - обойти, перехитрить

hand-portable ['hænd 'pɔ:təbl] - носимые, либо портативные устройства (земля-воздух)

to acquire [ə'kwɑɪə] - приобретать

Questions for discussion

1. What does the latest survey of airline passengers' opinion show?
2. Why do passengers agree to accept a longer check-in period?
3. What did the latest acts of aviation terrorism bring home?
4. What sort of explosives can't be detected by X-ray machines, installed in the airports?
5. What are the biggest concerns of frequent-flyers according to the Interavia survey?
6. What has often been sacrificed in the interests of cutting costs?
7. What could the international airline community gain from the USA experience?
8. Why is there little point in upgrading airports in the USA, the UK and Germany into shining examples of security efficiency?
9. Why can't the winning strategy against aviation terrorism be based on any single approach or technology?
10. Describe the situation with aviation terrorism in our country.

PART THREE

GRAMMAR AND VOCABULARY TESTS

TEST 1

I. Find odd one out.

1. France, Turkey, Italy, Spain, the UK, Spanish, Switzerland
2. happy, lucky, ready, easy, snowy, pretty, rainy, city, busy, lazy
3. captain, co-pilot, radio-operator, flight attendant, butcher, flight engineer, navigator
4. electronic ticket, luggage, seat number, university, terminal, delay, check-in desk, boarding card
5. laptop, laser printer, keyboard, mouse, e-mail, hair-dryer, CD-ROM, monitor, floppy disk

II. Write A (advantage) or D (disadvantage) of being a pilot next to the statement.

6. They meet interesting people.
7. They work very hard.
8. They earn a good salary.
9. They visit interesting places.
10. They spend a lot of time away from home.
11. They have to wear uniform.
12. They have to study a lot.
13. They can communicate with foreigners and improve their English.

III. Correct the mistakes.

14. There aren't good hotels here.
15. Did you bought the book?
16. Has they got a garage?
17. We'd like to travel with plane.
18. My friend is going to book a fly to Bali.
19. When you board on the plane, you find your seat.

IV. Which of the words are countable, and which are uncountable? Underline countable nouns.

20. Petrol, toast, pasta, cheese, egg, mushroom, beer, fish, news, money, bread, coffee.

V. Match the sentence beginnings with the correct endings.

- | | |
|----------------------------------|--|
| 21. I lost my credit card | a) when I lit that cigarette. |
| 22. I'm afraid I left | b) to bring my money. |
| 23. I forgot | c) and had to wait ages for another. |
| 24. I burnt myself | d) and all my money. |
| 25. I missed the bus | e) my money at home. |
| 26. He was very proud when | f) someone stole his money. |
| 27. He was very sad when | g) he heard his aunt had died. |
| 28. He was very angry when | h) he sent her a birthday card on the wrong day. |
| 29. He was very frightened when | i) his father appeared on TV. |
| 30. He was very embarrassed when | j) he saw a man had a knife. |

VI. Fill in the gaps with the words below.

Fasten, get off, took off, captain, flew, landed, flight, crew

Dear Tom,

I've just arrived in Rome. We (31) ... two hours late because of bad weather, and then we had more bad weather. The (32) ... told us to (33) ... our seat belts, and for half an hour we (34) ... through a terrible storm. I was almost sick, but the cabin (35) ... were really nice. It was still raining and very windy when we (36) ... in Rome and I was really glad to (37) ... the plane and get into the airport building. I really hope the return (38) ... is a lot better...

TEST 2

I. Put the verb in brackets in the correct tense.

I (feel) ___1___ rather poor lately, so this morning at nine I (go) ___2___ to the doctor. I (find) ___3___ him alone in his waiting-room, where he (stand) ___4___ by the window.

“Where (be) ___5___ your patients? You (cure) ___6___ them all?” I (ask) ___7___.

“The reason why people (not, crowd) ___8___ into this room now is that on Wednesday I (not, begin) ___9___ consultations here until half past ten. Such (be) ___10___ my habit for the last twenty-five years.”

“I'm sorry I (come) ___11___ too early,” I (say) ___12___, “I'll go away and (come back) ___13___ later.”

“Oh, no. I (prefer) ___14___ early patients to late ones. In the course of my practice I (notice) ___15___ the late-comers (visit) ___16___ the doctor because they (need) ___17___ some sympathy. They are like a dog that once (come) ___18___ here with a sore paw; I (bandage) ___19___ it for him and while I (do) ___20___ this he (look at) ___21___ me with great lonely eyes. He (come back) ___22___ the next day and every day until his paw (become) ___23___ well. I (find out) ___24___ that his master had gone away. The dog is old now but he still (come) ___25___.”

II. Match the words from left and right to form phrases.

- | | |
|---------------|------------|
| 26. Boarding | a) baggage |
| 27. Excess | b) lounge |
| 28. Check-in | c) control |
| 29. Departure | d) card |
| 30. Flight | e) number |
| 31. Passport | f) desk |
| 32. Hand | g) luggage |

III. Match the opposites.

- | | |
|---------------|-------------|
| 33. Ordinary | a) midnight |
| 34. Afternoon | b) stupid |
| 35. Fast | c) useless |
| 36. Bright | d) unusual |
| 37. Usefull | e) slow |

IV. Complete the sentences using one of the following verbs in the correct form.

Tell, speak, talk, say

38. Do you ... Spanish?
39. My mother ... that she enjoys reading English magazines.
40. ... me what you think about my idea.
41. I usually ... to my close friends about my problems.
42. Let's ... generally about life.
43. Come on! Don't be shy! We can ... over anything you like!
44. I must ... and you must listen!
45. ... us about it, please!
46. I believe you, but ... me one thing: did you (20) ... anything about it during lunch?

IV. Choose the correct word in every sentence.

47. For our homework we have to *change / translate* a text from English into our own language.
48. People are worried that the Cornish language will *disappear / survive*.
49. I *care / fear* about what's happening to smaller languages.
50. It's difficult to say how many smaller languages will *study / survive*.
51. Sorry – I can't go to the cinema this evening I want to *check / revise* for my test tomorrow.
52. If you can't understand what your English teacher says, ask her to *repeat / practice* it.
53. I hope the *climate / weather* will be good this evening – we're going sailing.
54. Scientists are trying to develop plants that don't need much water, so they can be grown in countries which suffer from *droughts / flooding*.
55. Tim's parents have decided to leave England and retire to a warmer *climate / weather*.
56. We must take care of the *environment / atmosphere*, or our cities and countries will become even more polluted.

V. Find a mistake in each sentence and correct it.

57. Helen's doing some Chinese food for dinner.
58. Alan don't play football, but he watches it on TV.
59. John wanted using my computer last week.
60. You must definitely to visit the art gallery.
61. I am waiting for the bus for half an hour.
62. Mark can't come to the phone, because he has a shower.
63. The train were late again this morning.
64. What time did Mary came home yesterday?
65. I know Pauline since we went to school together.
66. I have often playing tennis with Susan.

TEST 3

I. Fill in the gaps with the correct form of the verbs given in brackets.

1. It ... so that last summer we ... a lot of free time, and we ... it together in the country. Usually we ... early in the morning ... , ... breakfast and ... to the forest (*to happen, to have, to spend, to wake up, to wash, to have, to go*).

2. Last summer we ... a lot of free time, but before that we ... a serious project (*to have, to finish*).
3. Once we ... to the cinema, but when we ... there, the film ... already (*to go, to come, to begin*).
4. Yesterday my sister ... to show her new pictures to friends. She ... her best clothes, ... her hair and ... , but then she suddenly ... that she ... the pictures at home (*to decide, to put on, to do, to go out, to remember, to leave*).
5. After my uncle ... his new book of poetry, he ... us to him (*to publish, to invite*).
6. Before this manager ... to our office, he ... two foreign languages (*to come, to learn*).
7. When I ... my friend in the street, I ... that something awful ... to him (*to meet, to understand, to happen*).
8. When our chief ... me to translate a business letter, I ... afraid because I never ... business letters before (*to ask, to get, to translate*).
9. After I ... a nice bag in the shop, my father ... for it, and we ... (*to choose, to pay, to go out*).
10. After we ... to the left, we ... a beautiful street with a lot of cafes, bars, restaurants and expensive small shops (*to turn, to see*).

II. Change the following sentences from direct into indirect speech.

11. My friend said, "I'll go to the country on Sunday if the weather is good."
12. My friend said, "Something has happened to my colleague."
13. My friend said, "I must help my colleague."
14. My friend said, "I'm not going to leave."
15. My friend asked me, "Why was that meeting so important?"
16. My friend asked me, "Where does your boss usually stay in London?"
17. My friend asked me, "When did your neighbor lose his job?"
18. My friend asked me, "Are you at the office?"
19. My friend asked me, "Have you married yet?"
20. My friend asked me, "Can I do anything for you?"

III. Change the following sentences from Active into Passive Voice.

21. My friends don't trust me.
22. We didn't get certificates last Friday.
23. Our managers will discuss this matter next week.
24. Our secretary is sending a fax to England now.
25. We are learning new words now.

26. We were receiving business letters from London all the time last week.
27. My parents have already paid the bill.
28. We have just ordered tickets.
29. My friend had found a new job by the end of the last year.
30. They will have already left this office by the end of the next month.

IV. Fill in the gaps with the correct form of the verbs given in brackets.

31. I ... you advice if I ... any experience in this field (to give, to have).
32. If this idea ... advantages, we ... it (to have, to consider).
33. He ... much more friends if his character ... not so uneasy (to have, to be).
34. If I ... angry with you, I ... you like this (to be, not+to treat).
35. If she ... so often, her colleagues ... her (not+to lie, to trust).
36. I ... never ... on my plan if my colleagues ... to it (to insist, to object).
37. If our neighbour ... at his last exam, he ... the University (not+to fail, to enter).
38. We ... for the lesson if we ... 9 o'clock train (not+to be late, to catch).
39. If I ... my business partner on the phone, we ... a meeting for today (to reach, to appoint).
40. If I ... to take part in that discussion, I ... my opinion (to allow, to tell).

V. Form the gerund from the verbs given in brackets, translate the sentences into Russian.

41. ... is the next thing we have to do now (to pack).
42. ... is not allowed here (to smoke).
43. ... makes my brother happy (to drive).
44. ... will last very long in this case (to recover).
45. ... is my mother's hobby (to cook).
46. ... helps to learn a lot of things (to read).
47. ... for a long time seems to me rather unpleasant (to wait).
48. ... is not always correct (to joke).
49. ... is the way to kill time (to talk).
50. ... brings nothing (to lie).

VI. Use the correct form of the infinitive in the following sentences.

51. Who wants you *do* / *to do* this work?
52. Our chief made my colleagues *work* / *to work* on Sunday.
53. Do you expect *learn* / *to learn* English within a year?
54. I haven't heard our secretary *say* / *to say* such words.

55. Will you ever let your colleagues *lie / to lie* to you?
56. I would like my friend *wait / to wait* for me at the office.
57. What makes this programmer *agree / to agree* on such conditions?
58. Have you seen my colleagues and me *discuss / to discuss* this matter?
59. I don't wish you *become / to become* a manager.
60. Our neighbours would like their son *enter / to enter* the university.