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МИНИСТЕРСТВО ТРАНСПОРТА РОССИЙСКОЙ ФЕДЕРАЦИИ
ФЕДЕРАЛЬНОЕ АГЕНСТВО ЖЕЛЕЗНОДОРОЖНОГО ТРАНСПОРТА

ФЕДЕРАЛЬНОЕ ГОСУДАРСТВЕННОЕ БЮДЖЕТНОЕ ОБРАЗОВАТЕЛЬНОЕ УЧРЕЖДЕНИЕ ВЫСШЕГО ОБРАЗОВАНИЯ
«САМАРСКИЙ ГОСУДАРСТВЕННЫЙ УНИВЕРСИТЕТ ПУТЕЙ СООБЩЕНИЯ»

Кафедра «Лингвистика»

АНГЛИЙСКИЙ ЯЗЫК

Практикум для аспирантов железнодорожных специальностей по дисциплине
«Иностранный язык»

Составители: Л.В. Абдрахманова
М.А. Терпак

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Дисциплина «Иностранный язык» разработана в соответствии с ФГОС высшего профессионального образования для аспирантов первого года обучения. Данная дисциплина является базовой компонентой профессионального цикла.

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Составители: Л.В. Абдрахманова
М.А. Терпак

Рецензенты:

Под редакцией составителей

Введение

Характер дисциплины «Иностранный язык» определяет ее цели: повышение исходного уровня владения иностранным языком, достигнутого на предыдущей ступени образования; овладение обучающимися необходимым и достаточным уровнем коммуникативной компетенции для решения социально-коммуникативных задач в различных областях бытовой, культурной, профессиональной и научной деятельности при общении с зарубежными партнерами; совершенствование лингвистической подготовки для дальнейшего самообразования.

Дисциплина «Иностранный язык» в соответствии с ФГОС высшего профессионального образования.

Задача практического курса иностранного языка – обеспечить подготовку специалиста, владеющего иностранным языком как средством осуществления научной деятельности в иноязычной языковой среде и средством межкультурной коммуникации. Самостоятельный и полный курс "Иностранный язык" в аспирантуре предусматривает преемственность с вузовским курсом обучения и отражает специфику аспирантского курса.

Организация учебного процесса по иностранному языку предполагает максимальный учет потребностей, интересов и личностных качеств аспиранта. Подобный подход позволяет аспиранту выступать полноправным участником процесса обучения, построенного на принципах сознательного партнерства и взаимодействия с преподавателем, что непосредственно связано с развитием языковой самостоятельности обучаемого, его творческой активности.

Первичная активизация лексического и грамматического материала осуществляется с помощью элементарно-тренировочных и условно-речевых упражнений, которые естественно подводят обучаемых к выполнению предречевых упражнений. Дальнейшая активизация языкового материала осуществляется в процессе чтения и интерпретации текста.

Для развития навыков устной речи привлекаются тексты по специальности, используемые для чтения, а также учебники и учебные пособия, составленные преподавателями кафедры. Тематика по развитию навыков устной речи включает в себя следующие темы: научные интересы аспиранта, узкая специальность и тема диссертационного исследования; научный руководитель, прочитанная литература по теме диссертационного исследования, и др.

Совершенствование умений чтения на иностранном языке предполагает овладение видами чтения с различной степенью полноты и точности понимания: просмотровым, ознакомительным и изучающим. При этом обучающийся должен научиться изменять характер чтения в зависимости от целевой установки и сложности текста.

При разработке комплексных заданий учитываются более сложные с точки зрения методики условия работы по сравнению со студенческими группами, а именно: небольшое количество часов, отводимое на обучение, большой объем подлежащего усвоению материала; неодинаковый уровень знаний и возрастной состав поступивших в аспирантуру.

Обучение аспирантов первого года обучения иностранному языку предусматривает связь трех дисциплин «Иностранный язык», «Научная и деловая межкультурная коммуникация» и «Деловая письменная коммуникация».

Процесс изучения дисциплины направлен на формирование компетенций: УК-3 - владение одним из иностранных языков на уровне не ниже разговорного; УК-4 - способность свободно пользоваться иностранными языками как средством профессионального общения.

В соответствии с рабочей программой в результате изучения дисциплины обучающийся должен:

Знать: профессиональную лексику на иностранном языке;

Уметь: переводить общие и профессиональные тексты на иностранном языке;

Владеть: одним из иностранных языков на уровне разговорного или читать и переводить со словарем.

UNIT 1

VOCABULARY

A. Nouns

Most nouns in English are countable, but the following are generally uncountable, i.e. they are not usually used with numbers or the plural '-s'.

accommodation – размещение	information – информация	scenery – ландшафт
advice – совет, рекомендация	knowledge – знание	staff – штат, персонал
behaviour – поведение	money – деньги	traffic – движение, транспорт
commerce – торговля, коммерция	news – известие, новость	travel – путешествие
data – данные, факты, сведения; информация	permission – разрешение	trouble – беспокойство, волнение, тревога
education – образование; обучение	progress – прогресс, развитие	vocabulary – лексика
equipment – оборудование; оснащение	research – исследование; изучение	weather – погода
furniture – мебель	rubbish – мусор	work – работа

Another group of uncountable nouns is used for materials:

For example: wood (древесина) / *rubber* (резина; каучук) / *iron* ((железо, сталь, чугун) / *paper* (бумага) / *oil* (масло; нефть) / *stone* (камень)

Little wood is used in the construction of motor vehicles.

Huge amounts of paper are used to produce magazines.

Many of these nouns can be used as countable nouns with a rather different meaning:

Over twenty daily papers (*gazet*) are published in Delhi.

Most woods (*лесов*) are home to a wide variety of birds.

The most difficult group can be used as either countable or uncountable nouns, often with quite different meanings, for example: *business* (*компания; бизнес*) / *capital* (*капитал; столица*) / *experience* (*жизненный опыт; случай*).

She developed an interest (*интерес, заинтересованность*) in bio-genetics.

The bank is paying 4% interest (*проценты*) on 6-month deposits.

Other nouns with a similar pattern are used for general concepts (*love/fear/hope*).

For example: Most people feel that life is too short. (in general)

Nearly twenty lives were lost in the mining accident. (in particular)

Note the importance of the type of noun in the following structures (U – uncountable C – countable):

QUESTIONS *How much accommodation* (U) is available for rent?

How many rooms (C) are vacant next month?

NEGATIVES *Not much/Little equipment* (U) was needed for the experiment.

Not many/Few machines (C) were functioning in the IT room.

Ex.1. Complete the following sentences to show the differences in meaning.

1. Three years' work experience _____.
2. She had some exciting experiences while _____.
3. Most small businesses have _____.
4. In many countries it is normal to discuss business _____.
5. A number of capitals such as Washington and Canberra are _____.
6. Huge amounts of capital are needed _____.
7. Two world wars in 30 years caused _____.
8. War is a feature of _____.
9. _____ was the cause of six deaths.
10. Death is _____.
11. New medicines are being developed _____.
12. Studying medicine at university can be _____.

Ex.2. In the following sentences, choose the correct alternative.

1. *Little/few* news reached the prisoners in the castle.
2. He established three successful *businesses/business* in 1995.
3. Substantial *experiences/experience* of report writing *are/is* required.
4. It has often been claimed that *travel broadens/travels broaden* the mind.
5. *Paper was/papers were* very expensive in the twelfth century.
6. *How much advice/many advices* were they given before coming to Britain?
7. She had *little interest/few interests* outside her work.
8. The insurance policy excludes the effects of civil *war/wars*.
9. *Irons were/iron was* first powered by electricity in the twentieth century.
10. They studied the *behaviour/behaviours* of three groups of lions over 2 years.

Ex.3. Complete the gaps in the following paragraph with much/many/little/few.

Very 1) _____ data is available to students of housing of the sixth to ninth centuries AD. No complete examples survive, and researchers are not certain how 2) _____ information can be taken from the literature. It is not clear how 3) _____ people lived in each house, and in the 4) _____ sites that have been investigated (only four in the whole country) 5) _____ progress has been made towards finding a standard floor plan.

A range of 'umbrella' nouns is used to express basic ideas in academic writing:

Molecular biology is an interesting new *field*.
The *concept* of class was first discussed in the eighteenth century.
Freud developed a new *approach* in his second book.
They are rather formal and need to be used accurately.

Ex.3. Read the following and find a synonym for each word in italics from the box.

<i>event</i>	<i>types</i>	<i>consideration</i>	<i>area</i>	<i>views</i>	<i>feature</i>	<i>cause</i>
<i>problem</i>	<i>process</i>	<i>organisation</i>	<i>machine</i>	<i>theory</i>		

1. The second *factor* in the accident was the cold weather.
2. Harvey's *concept* of the circulation of the blood was first presented in 1628.
3. Snow is a rare *phenomenon* in Rome.
4. The President's resignation gave a new *aspect* to the national crisis.
5. A barcode scanner is a *device* used at supermarket checkouts.
6. Her *field* is the history of life insurance.
7. The National Institute for Clinical Excellence is a *body* created to assess medical drugs.
8. Mendel's work on genetics provided new *perspectives* for biologists.
9. Their main *concern* is to prevent pollution in rivers and lakes.
10. Their new *system* allows errors to be detected in 12 seconds.
11. The survey identified three *categories* of bus user.
12. The most serious *issue* raised at the meeting was student accommodation.

Ex.4. Insert a suitable umbrella noun in the following sentences.

1. The Students' Union is a _____ designed to promote students' interests.
2. Rainbows are a common natural _____.
3. Completion of the new building was delayed by safety _____.
4. Environmental law is an increasingly popular _____.
5. In 1956 he patented a _____ for measuring the height of waves.
6. Jung's _____ of the 'anima' has been strongly criticised.
7. His paper examined three _____ of the problem of tissue rejection.
8. Three _____ of father were identified; 'involved', 'semi-detached' and 'disengaged'.
9. The main _____ discussed was lack of support from tutors.
10. One _____ in the collapse of the business was the rise in oil prices.
11. The discovery of DNA created fresh _____ in medicine.

A lot of important nouns in academic English are used with prepositions.

For example:

<i>nouns</i>	<i>examples</i>
article (on) – статья	She wrote an <u>article on</u> the subject of her research.
theme (of) – тема,	The quest for power is the underlying <u>theme of</u> the film.

предмет	
list (of) список, перечень,	The students were given a <u>list of</u> essay topics.
issue (of) – проблема	We should raise the <u>issue of</u> discrimination with the council.
theory (of) – теория	Einstein's <u>theory of</u> gravitation has been questioned recently.
model (of) – модель	The <u>model of</u> climate change presented in the review seems to be becoming a reality.
nature (of) – сущность	He examined the <u>nature of</u> the relationship between the two communities.
principle (of) – правило; закон; принцип	Human behaviour is based on the <u>principle of</u> least effort.
aspect (of) – аспект, подход, сторона	In computer science, an <u>aspect of</u> a program is a feature linked to many other parts of the program, but which is not related to the program's primary function.
feature (of) – особенность, характерная черта; деталь, признак, свойство	One of the distinguishing <u>features of</u> modern banking is its dependence on computers.
scope (of) – границы, рамки, пределы	A full discussion of that issue is beyond the <u>scope of</u> this book.
pattern (of) – модель	The child showed a normal <u>pattern of</u> development.
number (of) – количество	A <u>number of</u> different types of station design are shown below and the advantages and disadvantages of each are discussed.

Ex.5. Choose the most appropriate noun to complete each sentence.

1. Environmental *topics / issues / principals* should be at the top of today's political agenda.
2. In the exam students have to choose three from a choice of ten essay *subjects / theories / topics*.
3. There are still people who are reluctant to accept Darwin's *model / topic / theory* of evolution.
4. The professor decided to take moral courage as the *issue / theme / model* of his inaugural lecture.
5. The London Underground map is best understood as a *model / principle / topic* showing how the different stations relate to one another rather than a precise representation of their distances from each other.
6. The Peter Issue / Principle / Theme states that members of a hierarchy are promoted until they reach the level at which they are no longer competent.

7. Newton developed a *pattern / theory / principle* of colour.

8. Although even Newton was bothered by the unknown *principle / subject / nature* of the gravitational force, the basic framework was extremely successful at describing motion.

9. Consequently, in 1907 Einstein wrote an *issue / article / aspect* on acceleration under special relativity.

10. The height of contact plate can vary between 980 und 1150 mm, so that a growing *number / aspect / scope* of wagons can be adjusted in height accordingly.

11. Finally the very special systems include many older approaches to intermodal business, some outdated and some newly invented, which are outside the *number / aspect / scope* of space available here.

12. In Indochina all previous *models / patterns / aspects* of America's involvement abroad were shattered.

Ex.6. Correct the prepositions in the phrases underlined in the paragraph below. Consult a dictionary if necessary.

The study showed that local police can play an important role in crime prevention. It makes a strong case of boosting the numbers of community police officers although it warns against increasing police presence on the streets at an alarming degree. Its methodological was base on a range of interviews asking members of the public for their views in how best to prevent crime. Unfortunately, how to implement this recomendation was out of the scope of the study but at least it serves a useful purpose in raising awareness to the issue.

B. Verbs

English often has two (or more) choices to express an action. The choice is often between a phrasal or prepositional verb (verb + preposition) and a single verb, the latter with Latinate origins. Often in lectures and other instances of everyday spoken English, the verb + preposition is used; however, for written academic style, the preferred choice is a single verb wherever possible. This is one of the most dramatic stylistic shifts from informal to formal style.

E.g. Researchers looked at the way strain builds up around a fault. (less formal style)

Researchers observed the way strain accumulates around a fault. (academic style)

Ex. 1. Choose a verb from the list that reduces the informality of each sentence. Substitute the verbs in italics in the sentences below with a verb in the correct form.

<i>assist</i>	<i>reduce</i>	<i>create</i>	<i>investigate</i>	<i>raise</i>	<i>establish</i>
<i>increase</i>	<i>determine</i>	<i>fluctuate</i>	<i>eliminate</i>		

1. Expert Systems can *help out* the user in the diagnosis of problems.

2. This program was *set up* to improve access to medical care.

3. Research expenditures have *gone up* to nearly \$350 million.
4. The use of optical character readers (OCRs) should *cut down* the number of problems with the U.S. mail service.
5. Researchers have *found out* that this drug has serious side effects.
6. Building a nuclear power plant will not *get rid* of the energy problem completely.
7. Researchers have been *looking into* this problem for 15 years now.
8. This issue was *brought up* during the investigation.
9. Engineers can *come up with* better designs using CAD.
10. The emission levels have been *going up and down*.

Ex. 2. Reduce the informality of each sentence by substituting a single verb for the one in italics. Use the dictionary.

1. The implementation of computer-integrated-manufacturing (CIM) has *brought about* some serious problems.
2. The process should be *done over* until the desired results are achieved.
3. Plans are being made to *come up with* a database containing detailed environmental information for the region.
4. Subtle changes in the earth's crust were *picked up* by these new devices.
5. Proposals to construct new nuclear reactors have *met with* great resistance from environmentalists.
6. He proposes to *trigger* of discussions on planning procedures.
7. The patients are *wired up* to different machines for tests.
8. The sum comes to the same figures, *worked up* either way.
9. He *wrote up* his research results in a report of over 600 pages.
10. It's up to the director to *sort out* difficulties like this one.
11. Interest rates should *come down*.

Ex.3. Look at the table, and complete the sentences with words and phrases from the box. In some cases, more than one answer is possible. There is one word or phrase that you do not need.

Petrol prices			
January	£ 1.10/ litre	June	£ 1.55/litre
February	£ 1.12/litre	July	£ 1.52/litre
March	£ 1.15/litre	August	£ 1.53/litre
April	£ 1.18/litre	September	£ 1.58 /litre
May	£ 1.16/litre	October	£ 1.60 /litre

<i>downward trend</i>	<i>dramatically</i>	<i>gradually</i>	<i>sharply</i>	<i>slightly</i>
	<i>steadily</i>	<i>upward trend</i>		

1. Between January and April, petrol prices increased _____ / _____
2. In May, petrol prices fell _____
3. In June, petrol prices rose _____ / _____
4. Overall, there has been an _____ in petrol prices

Ex. 4. Complete these sentences with the correct form of one of the verbs in the box. Both sentences in each sentence pair should use the same verb. In some cases, the meaning of the verb may change slightly.

<i>adjust</i>	<i>alter</i>	<i>deteriorate</i>	<i>exchange</i>	<i>fade</i>
<i>reduce</i>	<i>renovate</i>	<i>swell</i>	<i>switch</i>	<i>vary</i>

Example: a) Moving to the countryside radically altered our lifestyle.

b) Some people choose to alter their appearance with surgery.

1. a) By _____ to a different provider, it can be possible to pay much less for your mobile phone bills.

b) I chose drama as an extra-curricular activity, but _____ to photography a few weeks later.

2. a) It can take time to _____ to living in a different country.

b) Prices seem low, but when you _____ them to allow for tax, they are considerably higher.

3. a) The noise built up rapidly, and then just as quickly it _____ into the distance.

b) As the applause, _____ the speaker started talking.

4. a) The amount of tax you pay on a car _____ according to the amount of carbon dioxide it emits.

b) People's reactions to the medicine _____ a lot, with some people complaining it has no effect at all.

5. a) Everyone should try to _____ the amount of fat in their diet.

b) Many companies were forced to _____ their workforce during the recession.

7. a) Economic crises often _____ into social unrest.

b) The weather _____ rapidly when it started raining and the winds picked up.

8. a) Ankles and other joints often _____ when people travel by air.

b) The town is home to 3,000 people, but this figure _____ to 12,000 in the same summer.

9. a) The tokens can be _____ for food in the student canteen.

b) Shops will normally _____ damaged goods if you have a receipt.

10. a) Businesses in the city centre were offered funding so they could _____ their premises.

b) In some cases it can be more expensive to _____ an old building than knock it down and build a new one.

You should note a number of things about verbs in an academic context, in particular:

- any nouns often used with the verb and whether the noun goes before or after the verb;
- any adverbs often used with the verb;
- any prepositions often used with the verb;
- if the verb is often used in the passive.

<i>verbs</i>	<i>nouns</i>	<i>adverbs</i>	<i>examples</i>
base (on) – базировать, обосновывать; основывать	research, theory, story, hypotheses, study, technology	mainly, partly, loosely	The theory is <u>mainly based</u> on the writer's initial study.
associate (with) – ассоциировать, связывать	word, idea, theory, term, needs, problem	generally, commonly, invariably	A decrease in consumer spending is <u>generally associated</u> with fears of instability
discuss – обсуждать	idea, problem, issue, question	at length, briefly, thoroughly	His article <u>discusses the issue thoroughly</u> .
establish – устанавливать	relationship, connection	firmly, clearly, conclusively	Lopes <u>conclusively establishes a relationship</u> between the two phenomena.
examine – рассматривать	facts, evidence, effects, aspects	briefly, critically, thoroughly	Our aim is to <u>thoroughly examine the effects</u> of stress.
demonstrate – доказывать	existence, need, effects, importance	clearly, convincingly	His work <u>convincingly demonstrates the need</u> for a new approach to the problem.
identify (with) – определять	causes, factors, issues, properties, needs, approach, origin	correctly, clearly, closely	The article <u>clearly identifies the factors</u> influencing the decision to be taken.
pose – ставить	question, challenge	inevitably	This <u>inevitably poses a question</u> concerning the stability of society.

suggest – предлагать	interpretation, approach, method etc.	strongly	The most recent results <u>strongly suggest</u> a different <u>interpretation</u> of the situation.
list – составлять список	hypotheses, causes, features, characteristics	simply	Here I simply list the main features; they will be examined in detail below.
refer (to) – обращаться; относить	notes, study,	frequently, specifically, in passing	The book <u>refers in passing</u> to the economic crisis of 2008.
observe – наблюдать	changes, trends, differences		This is due to the <u>changes we observe</u> earlier.

Ex. 5. Complete each sentence with the most appropriate adverb for the verb.

- Paulson's research _____ demonstrated the need for a new approach to the study of stress. (invariably, convincingly, closely)
- As was _____ observed, there is a strong correlation between prices and inflation. (closely, critically, earlier)
- In the study of language, 'tense' _____ refers to the coding of time in the form of the verb. (specifically, strongly, briefly)
- Classical liberal economics is _____ identified with the theories of Milton Friedman. (thoroughly, closely, conclusively)
- Chapter 1 _____ discusses the main issues, but they are dealt with in greater detail in Chapter 2. (closely, simply, briefly)
- Today, no research exists that _____ establishes a connection between behavior, personality and leadership traits. (firmly, thoroughly, critically)
- SENTA is a computer programming language _____ based on Logo. (strongly, slightly, loosely)
- Social research techniques were applied to _____ examine the effects of the policy on the poor. (strongly, mainly, critically)

Ex. 6. Complete each sentence with a suitable noun from the table above. There may be more than one answer.

- Here we list again the main _____ of the present study, and show which have been proven and which have been rejected.
- The graph enables us to observe recent broad _____ in interest rates.
- The researchers concluded that it is still difficult to identify the _____ of the time-related changes in human beings.

4. A seminar was held to discuss the _____ of the global economic crisis.
5. We demonstrated the _____ for a comprehensive plan to carry out the research.
6. These figures lead me to suggest an alternative _____.
7. It is clear that this development pose a new _____.
8. Before we reach any conclusion, it is important to examine the _____.
9. The term 'technology' before the 20th century usually referred to the _____ of the useful arts
10. Generally, nanotechnology is associated with the _____ of developing materials, devices, or other structures with at least one dimension sized from 1 to 100 nanometres.
11. Hungary established diplomatic _____ with Chile in 1990.
12. The following description of intermodal business aspects is based on standardised, widely accepted rail-road _____, available throughout Europe.

C. Adjectives

English has a very rich vocabulary derived from many languages. Because of this, there may be more than one way to express an idea. You should strive to choose words that are less informal in nature and also precise. In lectures, you will likely hear less formal speech; however, in writing you should use a more formal form if one exists

To read and write academic texts effectively you need to be familiar with the vocabulary generally used in this context.

Ex. 1. Which of the underlined words would be more suitable for an academic paper?

1. The government has made good / considerable progress in solving numerous environmental problems.
2. We got / obtained encouraging results.
3. The results of a lot of / numerous different projects have been pretty good / encouraging.
4. A loss of jobs is one of the things that will happen / consequence if the process is automated.
5. Egypt comprehended anciently a great / prodigious number of cities.
6. There is a large difference / discrepancy between the ideal image of motherhood and the reality.
7. An informer gave / supplied the police with the names of those involved in the crime.
8. It is not easy / feasible to put most finds from excavations on public display.
9. The size / extent of kite's wings is more than five feet.
10. A nuclear reactor of a modern / sophisticated type was put into operation.

Ex.2. The following are examples of some of the more common items. Read and translate the words given in the table

<i>adjective</i>	<i>noun</i>	<i>verb</i>
analytical – аналитический	analysis – анализ, изучение, исследование	analyze – анализировать
creative – творческий	creation – создание	create – создавать
correlative – соответствующий	correlation – соотношение	correlate – устанавливать соотношение, коррелировать
definitive – характерный, определенный	definition – определение	define – определять
evaluative – оценочный	evaluation – оценка	evaluate – оценивать
generalized – обобщённый	generalization – обобщение	generalize – обобщать
hypothetical – гипотетический	hypothesis – гипотеза	hypothesize – предлагать гипотезу
indicative – указывающий	indication – указание / indicator – признак	indicate – показывать
predictive – предсказывающий	prediction – прогноз / predictor – предсказатель	predict – прогнозировать
responsive – реагирующий	response – реакция	respond – реагировать
significant – существенный, значительный	significance – важность, значительность	signify – значить
synthetic – синтетический	synthesis – синтез, обобщение	synthesize – синтезировать
variable – изменяющийся	variation – разновидность; вариант / variable – переменная	vary – меняться, изменяться

a) Choose the most suitable word ending in each case.

1. Arthur C. Clarke's pred_____ of earth satellites came true in 1957.
2. A signif_____ number of students have chosen to do that project.
3. The rate of increase var_____ between 5% and 8% during the period.
4. The first computer was creat_____ during the Second World War.
5. Scientists frequently need to ask hypoth_____ questions.
6. Green can be made from a synth_____ of blue and yellow.
7. The signif_____ of vitamins in diet was understood in the early twentieth century.
8. The essays were evaluat_____ in terms of content and accuracy.
9. Their research shows a strong correl_____ between size and longevity.
10. Her anal_____ approach led her to propose six types of criminals.

11. His most signif_____ political achievement was the abolition of the death penalty.
12. The law was passed in respon_____ to public pressure.
13. Having recurrent dreams is not necessarily indicat_____ of any psychological problem.
14. 70% of the workers can be defin_____ as low-paid.
15. The study concluded that the vari_____ between the CD players was very small.

variables indicate hypothesis synthesize creations generalizations
responded creative correlation definitive synthesis evaluation
predictions analyzed

b) Complete each sentence with a suitable word from the table

1. First results _____ that this treatment benefits patients in 70–80% of cases.
2. Professor Strauss wrote the _____ work on spiders in the Balkans.
3. Most _____ need to be made with care.
4. All the animals _____ to the noise by becoming agitated.
5. Over 3,500 questionnaires were _____ in terms of social class.
6. Three _____ need to be considered when predicting
7. The symbol used _____ that the frequency is measured in kHz.
8. His speech was a _____ of ideas put forward by various individuals.
9. Most countries have systems of government that are relatively modern _____.
10. We need to carry out a proper _____ of the new system.
11. We hope that further research will confirm our _____.
12. There is a direct _____ between the best-known brands and the best-selling brands.
13. You can't make _____ about what men and women are like.
14. This branch of computer science aims to _____ goal-orientated processes such as problem-solving, decision-making, environmental adaptation, learning and communication which are found in humans and animals.
15. It turns out that the company's report of record profits last year was due to some _____ accounting.

Ex.4. The following adjectives are best understood and learnt as opposites:

<i>absolute</i> абсолютный	<i>relative</i> относительный
<i>abstract</i> абстрактный	<i>concrete</i> конкретный
<i>logical</i> логичный	<i>illogical</i> нелогичный
<i>metaphorical</i> образный	<i>literal</i> буквальный

<i>precise</i> точный	<i>approximate</i> приблизительный
<i>rational</i> рациональный	<i>irrational</i> иррациональный
<i>relevant</i> релевантный	<i>irrelevant</i> неподходящий
<i>subjective</i> субъективный	<i>objective</i> объективный
<i>theoretical</i> теоретический	<i>empirical</i> эмпирический

Translate the sentences paying attention to the adjectives in italics.

1. Faith, hope and charity are all *abstract* concepts. 2. The *metaphorical* use of the word 'key' is probably more common than its *literal* one. 3. The study of statistics is highly *relevant* to economics. 4. Her study of women's social position was criticised for being too *subjective*. 5. In Europe, *empirical* research began in the sixteenth century. 6. It was difficult to get *precise* information. 7. It is *illogical* to assume you can do the work of three people. 8. I'm sure there's a perfectly *rational* explanation. 9. What does that mean in *concrete* terms? 10. Scientists need to be *objective* when doing research. 11. What experience do you have that is *relevant* to this position? 12. Can you give me the *approximate* cost of the repair? 13. He became *irrational* as the fever got worse. 14. The country is ruled by an absolute dictator. 15. In reviewing applicants, we consider both *objective* criteria, such as test scores, and *subjective* criteria, such as leadership ability.

Ex. 5. Complete each sentence with a suitable adjective from the box.

<i>abstract</i>	<i>subjective</i>	<i>irrational</i>	<i>theoretical</i>	<i>empirical</i>	<i>literal</i>
<i>concrete</i>	<i>logical</i>	<i>objective</i>	<i>approximate</i>	<i>irrelevant</i>	<i>precise</i>

- The _____ number killed in the war will never be known.
- His _____ approach led him to ignore some inconvenient facts.
- Many _____ ideas, such as astrology, are still popular.
- It is sufficient to give _____ figures for national populations.
- Only after 200 years could an _____ biography be written.
- Although he was a qualified dentist it was _____ to his new job as a priest.
- Cathedrals are a _____ example of religious faith.
- They provided considerable _____ evidence to support their argument.
- We have been discussing the problem in a very _____ manner.
- The information is displayed in a simple and _____ fashion.
- There is always the danger of making a _____ judgment.
- One shouldn't take this as a _____ record of events.

Adjectives combine with nouns. Study the combinations in the following table.

<i>adjective</i>	<i>nouns</i>
<i>important</i> важный	aspect, contribution, difference, implications, point, question, reason, element
<i>significant</i> значительный	increase, decrease, reduction, number, proportion
<i>major</i> значительный	role, changes, problem, factor, issue, concern, theme, contribution, point, difference
<i>enormous</i> громадный <i>considerable</i> значительный	amount, expansion, range, number, diversity, difference, variation, extent, degree, impact, power, interest, significance, influence
<i>particular</i> специфический	interest, attention, significance, importance, concern
<i>widespread</i> широко распространённый	belief, acceptance, support, opposition, assumption, use
<i>common</i> общий, всеобщий	knowledge, ground, feature, interest
<i>specific</i> особый	context, information, case, time, form, purpose, characteristic, conditions, example
<i>inevitable</i> неизбежный	consequence, outcome, collapse, decline, conflict, effect, developments
<i>explicit</i> явный	reference, statement, comparison, account, mention, argument
<i>relevant</i> важный	data, documents, information, details, factors

Ex.6. Complete each sentence with an appropriate adjective or noun.

1. Davidson did a considerable _____ of research into earthquake prediction.
2. Rawlinson drew _____ attention to the problem of energy consumption.
3. Werner's work had an enormous _____ on the way we design bridges today.
4. A _____ proportion of Thomaz's was devoted to international law.
5. Prestyn made only a _____ contribution to modern psychology, but it was an interesting one.
6. Backlov's work has some extremely _____ implications for our work today.
7. Aristotle offered an _____ argument against some of the ideas that were demonstrated during the scientific revolution.
8. The Industrial Revolution marks a _____ turning point in history; almost every aspect of daily life was influenced in some way.
9. Disease was an inevitable _____ of poor living conditions

10. Of particular _____ is the rising cost of transportation.
 11. There is a _____ support for government policy in urban areas.
 12. It is _____ knowledge that travel broadens the mind.

D. Adverbs

1. Adverbs are used in academic texts in a variety of ways. Among the most important are:

a) to provide more detail, with verbs and adjectives:

Reasonably good data are available for only . . .

. . . decomposition *eventually* ceases in modern landfills . . .

b) individually, often at the beginning of sentences, to introduce new points:

Currently, the earth's atmosphere appears to be . . .

Alternatively, the use of non-conventional renewable energies . . .

2. Adverbs linked to verbs and adjectives usually fall into three groups.

a) Time (when?)

The novel *previously* published was not very successful.

The new law will be applied *retrospectively*.

b) Degree (how much?)

The house was *considerably* more expensive than what we could afford.

Things will remain substantially the same over the next ten years

c) Manner (in what way?)

This treatment is medically complicated.

They sell new electronic meters that can be read *remotely*.

3. Adverbs used individually need to be employed with care. It is dangerous to overuse them, since they are often like the author's 'voice', commenting on the topic. As the academic writer aims to be objective, adverbs like *fortunately* or *remarkably* may be unsuitable. However, other, less subjective adverbs can be useful for opening paragraphs or linking ideas. The following examples are often followed by a comma.

Time	Relating ideas
<i>recently</i> в последнее время	<i>clearly</i> очевидно
<i>increasingly</i> в большей степени	<i>obviously</i> очевидно
<i>originally</i> первоначально	<i>(not) surprisingly</i> (не)удивительно
<i>presently</i> сейчас	<i>alternatively</i> альтернативно
<i>currently</i> в настоящее время	<i>similarly</i> подобным образом
<i>traditionally</i> обычно	<i>(more) importantly</i> значительно

Ex.1. Insert a suitable adverb from the table into the gaps in the sentences.

1. Most houses do not have electricity _____, then, there is little chance of improving living standards.
2. _____, the internet was mainly used for academic purposes.
3. Some courses are assessed purely by exams. , coursework may be employed.
4. _____, there has been growing concern about financing the health service.
5. Many birds use bright colours to attract a mate _____ , flowers advertise their position to fertilising insects.
6. _____, the development should be acceptable environmentally.
7. The economy was _____ failing.
8. _____, young people distrust all forms of government.
- 9.
10. Your case is _____ being investigated.
11. _____, with youth unemployment so high, some school-leavers with qualifications fail to find jobs.
12. _____, you must keep a record of everything you do.
13. The products that are _____ available are of great demand.
14. The challenges to the world economy have become _____ apparent: the political implications of the growth of multinationals, environmental degradation, barriers to the free movement of people, financial crises in emerging markets, ‘failing’ states and international terrorism.

4. The following adverbs are used to describe changes in the rate of something:

small	medium	large
gradually	substantially	quickly
slightly	significantly	sharply
marginally	steadily	dramatically
slowly	considerably	rapidly

Note that certain adverbs are mainly used to describe changes in time:

Production in Russia rose slowly from 1920 to 1929. (a little every year)

Others are commonly used to show changes in amount:

The birth rate increased slightly after the revolution. (by a small quantity)

The most suitable adverb depends on what is being discussed. For example,

Over the period, the inflation rate fell significantly from 6% to 4.5%.

In 2004, sales dropped slightly, by 1.5%.

Ex.2. Use a suitable adverb to complete the following sentences.

<i>dramatically</i>	<i>steadily</i>	<i>marginally</i>	<i>slightly</i>	<i>rapidly</i>	<i>substantially</i>
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quickly considerably significantly

1. Last year inflation increased _____ from 2% to 2.3%.
2. Life expectancy has risen _____ in the last 20 years, by about 15%.
3. The price was reduced _____, so that a £12 book was offered for £6.
4. Sales rose _____ while he was chairman, averaging 14% per year.
5. The numbers of people voting has declined _____, from 80% to 65%.
6. The crime rate climbed in the early 1990s, by 20–25% a year.
7. In the last four years unemployment has fallen., from 5% to 2.5%.
8. In the first two years of the war the suicide rate dropped, by over 30% each year.
9. Her condition improved _____.
10. Technologies _____ affect human as well as other animal species' ability to control and adapt to their natural environments.

Ex.3 Complete the following sentences with the adjective and adverb in brackets. Use each word once only.

1. The system will shut down _____. There is an _____ temperature control. (automatic / automatically).
2. New testing methods have made the process much more _____. Quality control now runs more _____. (efficient / efficiently)
3. Our aim is to ensure _____ operation at the plant. The manufacturing process should run _____. (smooth/smoothly)
4. Demand for electricity is _____ lower in the evening. Statistics show that there is a _____ fall in demand after 10 p.m. (general / generally)
5. People are becoming more interested in _____ friendly products. There is a growing interest in _____ issues. (environmental / environmentally)
- 6 Safety procedures must be _____ observed to avoid accidents. The manager in a coal mine must be _____ about activities underground. (strict / strictly)

E. Conjunctions and other linking words

Conjunctions are words and phrases such as *and* or *but* which join parts of a sentence together. There are six main types of conjunctions:

- a) **addition** *Furthermore*, child mortality rates must be examined.
- b) **result** Prices are rising worldwide, *thus* encouraging investment.
- c) **reason** *Due to* the strike today's classes are cancelled.
- d) **time** *Thirdly*, the role of the architect will be reviewed.
- e) **example** Various writers have examined the issue, *for instance* Van Exel (2000).
- f) **opposition** *Although* this study concentrates mainly on peak-time travellers .

..

Ex.1. Decide which type (a–f) the following sentences belong to (consult the rule above).

- a) Before the Roman invasion the economy was mainly agricultural. ()
- b) The results were checked because they were so surprising. ()
- c) Estimates suggest that the effects will continue, but at a more moderate rate. ()
- d) Some Asian economies, for example Indonesia, are growing more slowly. ()
- e) Moreover, travel information is very important for route planning. ()
- f) The findings were ambiguous, therefore the study was revised. ()
- g) The deadline is next week, so speed is vital. ()
- h) There is a serious problem in the district, namely unemployment.

You can link two ideas in one sentence using and.

For example: Viruses are everywhere, and Microsoft now spend over 30% of its research and development budget on security issues.

In formal writing, we use more sophisticated words than and. In written English it is more common to use furthermore / moreover and in addition.

For example: Furthermore, they claim that any such interference is completely ineffective.

Moreover, research indicates that more women than men were afraid to negotiate salaries.

The company provides cheap Internet access. In addition, it makes shareware freely available.

Ex. 2. Chose the right word in the following sentences.

1. In addition / Also , workers in the baggage sorting area had problems logging on to the computer system which allocates baggage handlers to load or unload aircraft.

2. In addition / Also, India and China, which have large populations and rapidly expanding economies, did not set emission limits, at least not under the terms of the Kyoto Protocol.

3. In addition / Also, some areas have additional circuits which allow the signals to be manually held at red from a signal box or control centre, even if the section is clear.

3. The density of passengers also / and determines the total capacity.

4. Moreover / And, considerable savings of both money and human efforts can be achieved with the early involvement of human factors in the product design.

5. With nuclear fusion no greenhouse gases are released, very little radioactive waste is produced, furthermore / and, the primary fuel is abundantly available on earth.

Ex. 3. Translate the paragraph. Study the use of conjunctions.

The Brazilian coast was hit by a strange storm in March 2004. It moved inland at speeds of over 150 k.p.h. *and* caused considerable damage. Named Catarina, this storm behaved like a hurricane *but* could not have been one. This was *because* hurricanes do not occur in the South Atlantic. *However*, Catarina was not an ordinary

tropical storm *since* it had a hurricane ‘eye’ and was of hurricane strength. *After* checking their records, meteorologists decided that Catarina really was a hurricane, the first ever recorded in the region. Their research suggests that sea temperatures are rising rapidly, *thereby* developing enough energy to cause hurricanes.

Ex. 4. Read and translate the text paying attention to the conjunctions.

Many Asian students chose the college because of its excellent reputation. Kim, for example, liked the spacious campus. He is self-funded and pays a tuition fee of 9,500 per year. But many students find language a barrier, so that they only socialise with other overseas students, while others complain about the college facilities. Firstly, accommodation is said to be noisy and inconvenient, and furthermore the library is seen as poorly equipped.

When you want to contrast two pieces of information in a single sentence and say that the second fact is surprising after the first, you can use although / though / even though or in spite of / despite. You can begin the sentence with the link word or put it in the middle.

For example: Although the shooting has stopped for now, the destruction left behind is enormous.

Pascal went ahead with the experiment even though he knew it was dangerous.

Despite all our efforts to save the school, the authorities decided to close it.

Even though the British may appear unpleasantly blunt when compared with some Asian cultures, they are on the whole concerned to offer a way out whenever a potential conflict between individuals occurs.

Though the faces of euros are identical regardless of where they are minted, the reverse carries a national image from the country which mints the coin.

In spite of all precautions information was seeping out.

Note:

After although / though / even though you can only have a noun / pronoun + verb. After in spite of / despite you can only have a noun / pronoun.

Ex. 5. Choose the correct conjunction.

1. *Although* / *in spite of* the delay the delivery will still arrive on time.

2. *Although* / *despite* there are advantages to having one organization look after all consumer complaints, some people are worried that energy will not always be the priority of such a big organization.

3. The industry is seen by the public as one of the main culprits regarding climate change *although* / *despite* the fact that we have invested a lot of effort and money in finding solutions.

4. *Although* / *in spite of* locomotive changing operations at terminals were, and still are commonplace, where there is intense traffic, additional movements for loco changing can restrict the terminal capacity.

5. Your friend should lift your spirits and motivate you to push on ahead *although* / *in spite of* whatever obstacles you encounter.

6. *Although / in spite of* labour and capital moved freely within countries, from one region to another and from one occupation to another, factors of production between different countries were highly immobile.

7. *Although / in spite of* a human-centred design is already practised by some researchers it is still difficult to determine, at the beginning of the project, when to apply the corresponding methods.

8. *Although / in spite of* Smith had not developed a price related demand schedule in the modern sense he did recognise that demand for a commodity needed to be taken into consideration.

9. *Although / in spite of* having its origins in the late 1780s or earlier, the global standardisation of containers and container handling equipment was one of the important innovations in 20th century logistics.

10. *Although / in spite of* marketing activation encompasses most marketing activities a firm will execute, some approaches, in the fields of communication and customer service, may not qualify as marketing activation.

***But* contrasts two ideas in one sentence; *however* contrasts two ideas in two sentences.**

For example:

The first stage, the fast bag drop-off, was working as planned, *but* the second stage, an underground conveyor system, had become clogged up.

I don't agree with many of his methods. However, he is a good scientist.

A successful marketing activation will allow businesses to reach their strategic goals. There are however challenges that managers will face in putting in place a marketing activation program

***While* is sometimes used in the sense of *whereas* (*although, by contrast, 'in comparison with the fact that*).**

For example:

It was an easy task for an expert, *while* it was dangerous for a novice.

Ex. 6. Translate the sentences. Choose the correct conjunction.

1. *While / However* conventional search engines ranked results by counting how many times the search terms appeared on the page, Larry Page and Sergey Brin theorized about a better system that analyzed the relationships between websites

2. In terms of technology leadership, the software industry has long been led by IBM. *While / However*, Microsoft became the dominant PC operating system supplier.

3. *While / However*, all modes of transport are used for cargo transport, there is high differentiation between the nature of the cargo transport, in which mode is chosen.

4. As of 2009 approximately 90% of non-bulk cargo worldwide is moved by containers stacked on transport ships. *While / However*, few initially foresaw the extent of the influence of containerization on the shipping industry.

5. The United States produces the most nuclear energy, with nuclear power providing 19% of the electricity it consumes, *while / however* France produces the highest percentage of its electrical energy from nuclear reactors – 80% as of 2006.

6. The pursuit of nuclear energy for electricity generation began soon after the discovery in the early 20th century that radioactive elements. *While / However*, the dream of harnessing "atomic energy" was quite strong, even it was dismissed by such fathers of nuclear physics like Ernest Rutherford as "moonshine."

7. This was an extremely surprising result: all other forms of nuclear decay involved only small changes to the mass of the nucleus, while / however this process – dubbed "fission".

Ex. 7. Insert a suitable linking word from the box into each gap.

<i>for instance</i>	<i>while</i>	<i>although</i>	<i>because of/due to</i>	<i>while</i>	<i>furthermore</i>
	<i>subsequently</i>	<i>after</i>	<i>therefore</i>	<i>i.e./namely</i>	

1. _____ the course was voluntary, most students attended.
2. The longest day of the year, _____ June 21st, was a time of festivity.
3. _____ checking the equipment the experiment was repeated.
4. _____ most people use the train, a minority walk or cycle.
5. Brick is a thermally efficient building material. It is, _____, cheap.
6. Demand has increased for summer courses, _____ extra ones are offered this year.
7. Many writers, _____ Chekhov, have been doctors.
8. _____ the increase in residence fees more students are moving out.
- 9) The first stage was to write a clear questionnaire _____ 200 people were interviewed.
10. _____ Mustafa was in the lecture his car was being repaired.
11. For example, programming language theory studies approaches to description of computations, _____ the study of computer programming itself investigates various aspects of the use of programming languages and complex systems

Because and because of are used to give a reason. Because is followed by a sentence but because of is followed by a noun phrase.

People spend a lot of time outdoors because of the mild climate.

Tourists are attracted to the coast because the fishing is fantastic.

Note that in each example , because of and because give a reason after the statement. Because of and because can also appear before the statement. When they come before, use a comma.

Because of the mild climate, people spend a lot of time outdoors.

Because the fishing is fantastic, tourists are attracted to the coast.

Ex.8. Use because or because of in the sentences below.

1. This city is a good place for young people _____ the world-class nightclubs.
2. There is a lot of diversity _____ many people from Europe and Asia moved to Brazil during the past two centuries.
3. Many people retire to warmer climates _____ the weather.
4. Gardening is popular there _____ the valley has ideal conditions for roses.

5. It is easy to get around the city _____ the government has improved the public transportation system.

6. A lot of people go there _____ the gourmet food.

Ex. 9. Complete each sentence with a phrase or a statement of your own.

1. I want to live in a big city because _____.

2. My city is beautiful because of _____.

3. My city is interesting because _____.

4. I would like to live in a small town because _____.

5. I do not want to live in a big city because of _____.

6. The best city to live in is because of _____.

Ex. 10. Complete the following biography by inserting suitable conjunctions given in the box.

<i>while</i>	<i>so</i>	<i>in addition/furthermore</i>	<i>although/though</i>	<i>finally</i>
<i>since/because/as</i>	<i>after</i>	<i>such as</i>	<i>despite/in spite of</i>	
<i>because of/due to</i>	<i>and</i>	<i>then/later</i>	<i>however</i>	

THE BEATLES

The group which became the Beatles was formed in 1960 by John Lennon and Paul McCartney, with George Harrison and Ringo Starr joining later 1) _____ playing in small clubs for 2 years their first record, *Love Me Do*, was released. *She Loves You*, in 1963, broke all previous sales records in Britain. 2) _____ their simplicity, the early Beatles songs 3) _____ *Yesterday* and *Paperback Writer* are still seen as masterpieces of musical genius. 4) _____, the unusual haircuts and clothes worn by the Beatles fitted well with the style of the mid-1960s. The popularity of the group soon spread to the USA and 5) _____ around the world, 6) _____ the media invented the term 'Beatlemania' to describe the excitement that was part of their tours. 7) _____ their popularity the group were awarded the MBE by the Queen in 1965, 8) _____ this caused anger among some of the older holders of this award.

In 1966 the Beatles stopped live performances, 9) _____ their music was becoming too complex to produce on stage. A year later *Sgt. Pepper's Lonely Hearts Club Band* was released, 10) _____ was immediately recognised as one of the most influential works in the history of popular music. 11) _____, the pressures of fame were beginning to affect all the members of the band, 12) _____ that they found it harder to work together. They played together for the last time in 1969 and 13) _____ split up in 1970.

Ex. 11. Translate the following sentences paying attention to the conjunctions and linking words.

1. As long as the train weight remains within the capacity of the locomotive, any number of vehicles can be attached, although limits will be imposed by platform or siding lengths. 2. Time needed to handle a single unit is quite short (1 to 1.5 minutes), but in the track area the reach stacker practically cannot serve more than

one track and not more than two storage lanes, even though in dedicated storage areas third or fourth row stacking is achievable. 3. In addition, in very predictable operations like commuter services or metro lines, fixed formation trains will be the most efficient. 4. Although locomotive changing operations at terminals were, and still are commonplace, where there is intense traffic, additional movements for loco changing can restrict the terminal capacity. 5. The play begins in a factory that makes artificial people called robots creatures who can be mistaken for humans – though they are closer to the modern ideas of androids. 6. Its sentiments also appealed to the labouring poor, who stood to gain from the opening-up of British markets to imports of cheap grain from overseas. 7. However, the Japanese HSTs have always been multiple units in the original sense, having many power cars distributed along the train. 8. While these supplies have any desirable characteristics, such as simplicity, low output ripple, excellent line and load regulation, fast response time to load or line changes and low EMI, they suffer from low efficiency and occupy large volumes. 9. Switching power supplies are becoming popular because they offer better solutions to these problems. 10. Since voltages are low, isolation is not usually required. 11. Apart from finding logistics solutions, logistics providers today are facing an increasingly tough and highly competitive market. 12 In addition to separate currencies, each country may have its own financial markets, and set of interest rates, to reconcile the demand for money in the economy with the supply of money as determined by the monetary authorities. 13. In addition, certain freight receivers require timed pickups or deliveries in order to facilitate the unloading or loading of shipments and to prevent disruption of plant production.

G. Numbers and quantifying expressions

Discussing statistical data is a necessary part of much academic writing:

Approximately 1800 children between the ages of 5 and 12 years were randomly selected.

Already 3% of the US working population (1.55 million) are employed in 70,000 centres ...

The earth's atmosphere appears to be gaining 3.3 billion metric tons of carbon annually ...

... but 5 winters in the 20th century were more than 2.4°C colder than average.

Figures and numbers are both used to talk about statistical data in a general sense.

The figures in the report need to be read critically.

Digits are individual numbers. Both fractions (1/2) and decimals (0.975) may be used.

4,539 – a four digit number

£225,000 – a six figure salary (a number)

Figure (Fig) 3 – Infant mortality rates in twelfth-century France (a diagram)

no final -s on hundred/thousand/million:

Six million people live in the region.

but: *Thousands died in the last outbreak of cholera.*

Percentages are commonly used for expressing rates of change:

Ex.1 Study the table below and complete the sentences with percentages.

Overseas students in the university 2008 – 2011

2008	2009	2010	2011
200	300	600	1000

1. Between 2008 and 2009, the number of overseas students increased by ____%.
2. The number increased by ____% the following year.
3. There was a ____% increase between 2008 and 2011.

When presenting data, the writer must attempt to be accurate without confusing the reader with too much detail.

In some cases, where the actual number is unimportant, words or phrases may replace numbers to simplify the text:

43 villages were cut off by the heavy snowstorm.

Dozens of villages were cut off by the heavy snowstorm.

The following words or phrases can be used to describe quantity.

Few students attended her lecture. (less than expected)

Several bodies have been discovered under the temple floor. (3–4)

Various attempts were made to reach the sunken ship. (3–6)

Dozens of politicians attended the opening ceremony. (30–60)

Scores of books are published every week. (50–100).

Ex.2. Re-write the following sentences using one of the words or phrases above.

1. Only four people responded to the questionnaire.
2. They received nearly 100 applications for the post.
3. She made five or six proposals to improve the team's performance.
4. He found over 50 factual errors in the article.
5. They made three or four drafts before writing the final report.

Study the following expressions, which are also used to simplify statistics.

one in three – один из трех

a third – одна треть / *a quarter* – одна четвертая

twice – вдвое / *three times* – втрое

as many – столько же

the majority – большинство / *the minority* – меньшинство

a tenfold increase – десятикратный рост

fifty per cent – 50%

a percentage – процент; процентное отношение

to double – удваивать / *to halve* – сокращать наполовину

on average – в среднем / *the average number* – среднее число; среднее количество

the most – наибольший / *the least* – наименьший

a small – небольшая / *large proportion* – большая пропорция

Ex.3. Rewrite each sentence in a simpler way, using one of the expressions above.

1. Of the 415 people interviewed, 308 said that they supported the president.
2. Last year the number of students on the course was 28, the year before it was 20 and this year it is 24.
3. In 1965 a litre of petrol cost 10p, while the price is now 80p.
4. Out of 18 students in the group, 12 were women.
5. The new type of train reduced the journey time to Madrid from seven hours to three hours 20 minutes.
6. 15 of the students studied law, eight finance and three engineering.
7. The numbers applying to this department have risen from 350 last year to 525 this year.

Ex.4. Rewrite the following sentences to present the data in a simpler way.

Example:

The population of the European part of the former Soviet Union is declining rapidly. It is forecast to fall by 18 m to 220 m in 2025, and to drop to 140 m by 2100.

The population of the European part of the former Soviet Union is forecast to fall by nearly 10% by 2025, and by nearly 40% by the end of the century.

1. The numbers of visitors to the temples show a remarkable pattern. In 2008 just 40,000 made the journey, 83,000 in 1999 and 171,000 in 2010.
2. More than 80% of British students complete their first degree course; in Italy the figure is 35%.
3. Tap water costs 0.07p per litre while bottled water, on average, costs 50p per litre.
4. Only 8% of the women surveyed believed that they had the same rights as men. A considerable 37% complained that they had far fewer rights.
5. Life expectancy for men in the UK rose from 49 to 74 during the twentieth century.
6. The same operation cost £1,850 at a hospital in Blackburn, £2,400 in Birmingham and £2,535 in London.
7. In 1086 about 15% of England was forested, compared with only 4.8% in 1870.

Ex.5. Complete the sentences with the words given in brackets.

1. There aren't _____ people working at night. _____ of the staff work during the day. (most, many)
2. _____ of the timber which was delivered last week was of very poor quality. We had to return _____ of the boards. (a few, some)

3. We don't manufacture ____ jackets of pure wool. There isn't ____ demand for them. (many, much)

4. Fibre optic cabling will be used in the future for ____ land-based communications. But, today, only _____ of these communications use fibre optics. (all, some)

5. At present, only a _____ paper is recycled in the UK. In the future, a _____ more paper will have to be collected and recycled. (little, lot)

6. In the UK, _____ electricity is generated from nuclear energy or fossil fuels and very _____ renewable energy sources have so far been developed. (few, most)

There are some other quantifying expressions which are widely used in academic English. You can use a *large / great amount of* (МНОГО) of an uncountable noun such as *money, interest influence*, etc. However, you can use a *large number of* (МНОГО) of a plural noun such as *articles, books or words*. Both *an amount* and *a number* can be described as *small, considerable, substantial, significant, enormous, total, surprising, excessive, fair, reasonable*.

Study the table below and translate the examples:

<i>expression</i>	<i>examples</i>
<i>exceeding</i> – чрезмерный	Results <u>exceeding</u> 5 cm were eliminated from the survey.
<i>in excess of</i> – превышая, с превышением	People who drive <u>in excess of</u> speed limit will be fined.
<i>fewer and fewer</i> – все меньше и меньше (для исчисляемых)	Fewer and fewer people are staying in the same job throughout their lives.
<i>less and less</i> – все меньше и меньше (для неисчисляемых)	Young people are becoming <u>less and less</u> interested in politics.
<i>more and more</i> – все больше и больше	People are becoming <u>more and more</u> aware of the environment.
<i>more or less</i> – более или менее, приблизительно	The experiment was <u>more or less</u> a success.
<i>no fewer than</i> – не меньше чем	<u>No fewer than</u> 200 people responded.
<i>in total</i> – в целом	They sent out 2,500 questionnaires <u>in total</u> .
<i>a couple</i> – пара	We spent <u>a couple</u> of hours resting and exploring the ruins.
<i>bulk</i> – основная масса, большая часть	The <u>bulk</u> of consumers are based in towns.
<i>as a whole</i> – в целом	The survey shows that, <u>as a whole</u> , the population is becoming more and more aware of the importance of recycling.

Ex.5. Rewrite the following sentences to make them sound more appropriate for academic style. Use adjectives and an amount and a number and which were given above.

1. The bulk of our work is concerned with carbon emissions.
2. We have noticed that fewer and fewer students are joining the course.
3. Our team spent a fair amount of time getting funding for the research.
4. In a couple of cases, we could not find any reasons for the outbreak.
5. We spent a great deal of time on the project.
6. As you repeat the experiment, use less and less water each time.

Ex.6. Read the text and answer the questions below.

For some years now, scientists have been using a powerful new machine to recreate the conditions that existed at the birth of the universe. The machine generates a massive number of hot, dense bursts of matter and energy, simulating what happened in the first few microseconds of the beginning of the universe. After no more than ten microseconds, the particles of matter joined together, like water freezing into ice, forming the origin of more or less everything we see in the universe today.

1. Which expression explains how long scientists have been using this machine?
2. Which expression tells us how many bursts of matter and energy the machine generates?
3. Which time period does the machine simulate?
4. Which expression states how long it was before the particles of matter joined together?
5. Which expression in the last sentence means *approximately*?

UNIT 2

GRAMMAR

A. Verbs – Tenses

a) We use the present simple for

• **thoughts and feelings:** / *think so, I like it.*

• **states, things staying the same, facts and things that are true for a long time:**

The traditional train comprises a collection of coaches.

In general, the continuous is used to focus on the activity itself or to stress its temporary nature. Compare the following:

He is writing a travel article. (temporarily)

She writes children's books. (usually)

b) Also note that certain verbs are rarely used in the continuous. They are state verbs like *prefer, own and believe*.

Another similar group is known as performative verbs (*assume, deny, promise, refuse, suggest*).

c) We use the past simple for something in the past which is finished.

Richard Trevithick demonstrated the first locomotive-hauled train in Merthyr Tydfil, United Kingdom.

We often use the past continuous and simple together when one (shorter) action comes in the middle of another (longer) one.

As we were driving down the hill, a strange object appeared in the sky.

d) When we use the present perfect, we see things as happening in the past but having a result in the present.

The design of stations has developed over the years.

We use the present perfect continuous for an action over a period of time leading up to the present.

She has been writing that report for 6 days.

We can use the present perfect continuous to talk about repeated actions up to now.

She has been attending the lectures on Mechanics since October.

e) We use the past perfect for things before a past situation.

Staff found that the thief had taken only £4.37.

Ex.1. Translate the following sentences. Decide which tenses are used in the following examples (verbs in italics) and complete the table to explain why.

1. According to Hoffman (1996), small firms *respond* more rapidly to changes.
2. Currently, inflation in the US *is rising* while imports *are falling*.
- 3 Since November there *has been* a significant increase in cases of influenza.
4. In the last three years more students *have been working* part-time.
5. After the war there *was* a sharp rise in divorce.
6. During 1998 they *were developing* a new system.
7. The study was published in June. It showed that in 1998 and 1999 profits *had increased* by 55%.
8. The forecast concludes that interest rates *will reach* 7.5% next year.
9. There are two differing views about passenger safety at stations which *have dictated* station design for the last 150 years or more.
10. During the last decade of the 19th century, trains powered by electricity *began* to appear.

Ex.2. Choose the correct verb form in each of the following.

1. In this process, the mixture is heated/is heating to 120°C,
2. Once the salts are dissolving/have dissolved, the heat is reduced,
3. Several people have survived/are surviving the earthquake and are treating/are being treated in hospital at the moment.
4. For security purposes the employees change/are changing their passwords regularly.
5. Up until now people in this area have taken/take waste plastic to recycling centres, but at present we have tried/are trying a curbside collection system.

Ex.3. Six of the following sentences contain mistakes. Find the mistakes and correct them.

1. Sydney Harbour Bridge was building in 1932.
2. While they were carrying out tests in the laboratories, researchers were analysing past results.
3. The first real road builders in Britain was the Romans.
4. The Romans built roads of layers of broken stones of various sizes and were covering them with flat stones.
5. The system didn't working because the loudspeaker had been wrongly connected.
6. Before factories were told to stop polluting the environment, waste was being dumped in rivers and in the sea.
7. Louis Pasteur was discovering the action of germs while he was studying fermentation in wines.
8. The production process had already been shut down when the leak in the fuel tank was found.
9. Nuclear energy began to be used from the mid-1950s.
10. In the second half of the 20th century, the electronics industry transforming the way we work in factories.

Complete the following sentences by selecting the most suitable tenses.

1. Home ownership _____ (rise) steadily since 1950.
2. GM _____ (stand for) genetically modified.
3. Last year the police _____ (record) a record number of crimes.
4. When she died in 1986 she _____ (write) over fifty books.
5. By 2050 average temperatures _____ (be) at least 2 degrees higher.
6. At the moment the bank _____ (consider) a merger proposal from Barclays.
7. When the market crashed the company _____ (build) three hotels in Asia.
8. Lee (1965) _____ (dispute) Sakamoto's theory.
9. In the last 6 years inflation _____ (fall) sharply in Europe.
10. There _____ (be) a trend recently in modern metro systems towards incorporating glazed screens along platform edges.

Ex.3. Select either simple or continuous in each case:

1. The team at Cambridge _____ (work) on a rare type of brain disease.
2. He _____ (believe) he will finish the study early next year.
3. This magazine _____ (look for) a writer on new technology.
4. In the late 1990s she was working on rice plants but now she _____ (research) potatoes.
5. The average age of marriage in Britain _____ (rise) by 6 years since 1970.
6. The company _____ (own) factories in twelve countries.
8. Most people in the city _____ (live) within two kilometres of their work.
7. Dr McPherson _____ (attend) a conference in South America this week.
8. A passenger train _____ (travel) between stations where passengers may embark and disembark.
9. You should Respond to what _____ (happen) now without wasting time on getting 100 percent accuracy on the cause of the crisis.

10. Changes in travel as well as the increased speed of communications _____ (lead) to the global business world.

Ex.4. Translate the sentences.

For years, the condition of the family *has produced* some of the strongest debate heard in America. The statistics of collapse *have appeared* simple and clear. The proportion of children born outside marriage *rose* from 18% in 1980 to 33% in 1999. The share of households made up of two parents and their children *fell* from 45% in 1960 to only 23% in 2000.

Ex.5. Read the text below and select the most suitable tense for each verb in brackets, considering the time phrases in italics.

For a long time gardeners 1) _____ (suspect) that using green fingers is just as effective as talking softly to plants to encourage growth. Scientists 2) _____ (develop) a robot that strokes young plants to make them grow stronger and faster. But after research *a year ago* 3) _____ (confirm) that plants need the human touch, scientists at Greenwich University 4) _____ (develop) the stroking machine they call Dr Green.

Dr Green 5) _____ (be display) *at the last Chelsea Flower Show*, where it 6) _____ (demonstrate) the technique of brushing the tips of young plants to produce stronger specimens. David Carey, who is leading the research, 7) _____ (say) that the machine could avoid the use of chemicals.

Currently, Dr Green 8) _____ (be test) on a large scale by a commercial grower. Stroking plants once a day 9) _____ (make) them 30% stronger, which is what you need before you plant them out.

When another kind of plant was stroked once a week, it 10) _____ (develop) increased insect resistance.

The research team hope that a cheap version of Dr Green 11) _____ (be available) to amateur gardeners *by 2007*.

B. Verbs – Passives

When describing processes, the passive voice is often used. We can use passive in different tenses e.g. present simple, past simple, present perfect or we can use it with modal verbs.

After the goods have been checked, they go into back-up storage.

Station design has reflected this so that platforms were often not raised very much above rail level.

This second loco is attached to the other end of the train and will be used to provide power for the return trip.

In the UK platforms are built to the height of the train floor, or close to it.

This system must be fitted with detectors.

A single track freight line might be built for US\$ 2 million per kilometre including electrical and mechanical equipment.

Since the station is the first point of contact most passengers have with the railway, it should be regarded as the "shop window" for the services provided.

Ex.1 Complete the sentences using the correct active or passive form of the verb in brackets. All the verbs are in present simple or used with modals.

1. After the unit load ____ (check), it goes into automated storage.
2. As soon as an appropriate location ____ (identify) by the warehouse management system, a put-away instruction must ____ (issue).
3. After the vehicle driver ____ (report) to the gatehouse, the vehicle documentation ____ (check) by staff.
4. Then the packages ____ (process) i.e. they may ____ (label) with bar codes.
5. The goods ____ (check) on unloading.
6. After that, staff ____ (direct) the driver to an unloading bay or a parking area.

The passive is used when the writer wants to focus on the result, not on the cause:

The book was written by Charles Dickens. (passive)

Charles Dickens wrote the book. (active)

In the first sentence, the emphasis is on the book, in the second on the writer. So the passive is often used in written English when the cause (a person or thing) is less important or unknown.

For example:

The treaty will be signed next year. (by someone)

The tower was destroyed a century ago. (by something)

The cause of the action can be shown by adding *by . . .*:

The ship was launched in 1908 *by Princess Mary*.

2. The passive is also used in written work to provide a more impersonal style:

For example: The findings were evaluated.

Ex.2. Change the following into the passive.

1. We collected the data and compared the two groups.
2. I interviewed 120 people in three social classes.
3. They checked the results and found several errors.
3. We will make an analysis of the findings.
4. First they work out the run times, again by a computer program which includes the profile of the line.
5. On heavily used lines, the program may incorporate the patronage figures.
6. In Western countries, they will often calculate the standing capacity of a train at 4 or 5 passengers per sq./m.
7. All trains return to depot within 2 or 3 days so that they can wash and maintain them.
8. Railways have always provided recovery time in timetables.

An adverb is often inserted in a passive form to add detail:

This process is commonly called 'networking'.

Ex.3. Change the following sentences from active to passive and insert a suitable adverb from the box.

For example:

A storm damaged 40% of the houses in the port. →

40% of the houses in the port were badly damaged by a storm.

conveniently	optimistically	helpfully	brilliantly
regularly	precisely	profitably	badly

1. The Connors family ran the company until 1981.
2. They had built the house near the station.
3. Picasso painted the portrait of the old man.
4. They provided pencils for all students in the exam.
5. Doctors tested over 550 people for the disease over a 3-year period.
6. The researchers calculated the percentages to three decimal places.
7. They called their business the Universal Trading Company.

Ex. 4. Read the text, translate it and underline the passives.

Platform Screens and Doors

There has been a trend recently in modern metro systems towards incorporating glazed screens along platform edges. This is only possible where sliding powered doors are available on trains and where the location of these doors is always consistent, which is why screen doors do not appear on main line railways. Platform screen doors (sometimes called "platform edge doors") were first introduced in St Petersburg (then Leningrad) on the metro to reduce heat losses on station platforms of underground stations. They were also fitted to the Lille VAL driverless system but, in this case, as a way of preventing passengers from getting onto the line where there were no drivers to stop the train. It too allowed a better degree of climate control within stations. Climate control was also the reason why doors were introduced for underground stations in Singapore when its metro system was started in 1989.

On most lines equipped with platform screen doors, the space between the sliding doors has emergency doors that can be pushed open onto the platform, so if the train stops out of position, there is still emergency access to the platform. There are also local station door controls provided at the platform ends, in case the automatic system fails.

London Underground has introduced doors on the underground platforms of its new Jubilee Line extension. These are more for safety reasons, since the suicide rate in London has gone as high as 150 attempts in some years. At somewhere around USD 1.5 million a platform, these doors are not cheap but the savings in passenger time due to prevention of delays quickly justifies the expense on a socio-economic level, even if you choose to ignore the savings in human life. Here is a photo of the doors at the new Canary Wharf station (Jubilee Line) in London. Click on the image for the full size view.

Ex. 5. In the following description of how plastics are shaped, put the verb in brackets in the correct form.

There are many ways of shaping plastics. The most common way is by moulding. Blow-moulding 1) _____ (use) to make bottles. In this process, air 2) _____ (blow) into a blob of molten plastic inside a hollow mould and the plastic 3) _____ (force) against the sides of the mould.

Toys and bowls 4) _____ (make) by injection moulding. Thermoplastic chips 5) _____ first (heat) until they melt and then forced into a water-cooled mould under pressure. This method 6) _____ (suit) to mass production.

Laminating 7) _____ (produce) the heat-proof laminate which 8) _____ (use), for example, for work surfaces in kitchens. In this process, a kind of sandwich 9) _____ (make) of layers of paper or cloth which 10) _____ (soak) in resin solution. They 11) _____ then _____ (squeeze) together in a heated press.

Thermoplastics can (12) _____ (shape) by extrusion. Molten plastic 13) _____ (force) through a shaped hole or die. Fibres for textiles and sheet plastic may 14) _____ (make) by extrusion.

C. Modal verbs

Modal verbs used tend to have three main meanings:

a) Ability

May and can are similar but *can* is more common:

The assessment ... may be made in a variety of ways

... with smaller samples this method cannot be used ...

... one faculty can have more than one academic programme ...

b) Degrees of certainty

Will and should are used for predictions of near certainty (*will* is stronger):

... in the knowledge that the parent will be there when needed

Improved facilities should lead to lower staff turnover

May and might both suggest possibility:

Landfill carbon sequestration might supplement fossil fuel combustion ...

... multiple factors may lead to a psychiatric consultation ...

There is a continuous form: may/might be -ing.

Don't phone at 8.30. I might be watching (or I may be watching) the football on TV.

For the past we use may have (done) or might have (done):

Would and could are used in conditional situations (not always with *if*):

... or would we conclude that the observation is uninformative?

... estimates of the model's parameters could conceivably be computed ...

We can use these language forms to make speculations about the past.

Active:

A girder *could* / *might* / *may have broken*. (possibly)

The girder *might* / *may not have broken*. (possibly)

One of the bearings *must have corroded*. (definitely)

A bomb *can't* / *couldn't have caused the damage*. (definitely)

c) Degrees of obligation

***Must* suggests strong obligation; *should* is for recommendations:
To obtain a total estimate ... several approximations *must* be used
A primary research emphasis ... *should* then be on identifying ...**

Ex.1. Complete the following sentences with a suitable modal verb and translate the sentences.

1. The question is whether democracy ____ survive in such difficult conditions.
2. Fifty years ago a new house _____ be bought for £1500.
3. Students _____ be expected to write more than one long essay a week.
4. Although engineering solutions make use of scientific principles, engineers _____ also take into account safety, efficiency, economy, reliability and constructability or ease of fabrication, as well as legal considerations such as patent infringement or liability in the case of failure of the solution.
5. Jenkins (1976) argued that aluminium _____ be used in place of steel.
6. Engineering projects _____ be subject to controversy.
7. Scientists _____ also have to complete engineering tasks, such as designing experimental apparatus or building prototypes.
8. To embody an invention the engineer _____ put his idea in concrete terms, and design something that people _____ use.
9. The mistakes of past historians _____ now be clearly seen.
10. The method often adopted is to collect fares on trains but this _____ not be effective for high capacity trains with short distances between stations.

Ex.3. Complete the following with a suitable modal of certainty and translate the sentences.

1. It _____ not be surprising if the company were bought by a rival.
2. Various social situations _____ lead to a child's loss of confidence.
3. Other studies confirm that a permanent shift in transport use _____ occur.
4. By 2020 most children _____ have internet access by the age of five.
5. If the pressure is lowered, the reaction _____ take place more quickly.
6. In the long term, solar power _____ make a significant contribution.

Ex.4. Use a suitable modal of obligation to complete the following and translate the sentences.

1. Students studying abroad _____ take some of their favourite music with them.
2. All books _____ be returned to the main library by June 19th.
3. First-year undergraduates _____ take at least three modules from the list below.
4. The second part of the essay _____ focus on the differences in the results.
5. Recovery time _____ be strictly limited and eliminated altogether when possible.

Ex.5. In the following sentences, the meaning changes according to the modal verb used. Find two possibilities, giving the meanings in each case.

Example:

Using the internet means the company can sell its products worldwide. (ability)

Using the internet means the company might sell its products worldwide. (possibility)

1. a) The poorest people _____ be helped by improving the supply of water. ()
b) The poorest people _____ be helped by improving the supply of water. ()
2. a) Tribal leaders of the 1st century BC _____ have used writing. ()
b) Tribal leaders of the 1st century BC _____ have used writing. ()
3. a) Few people _____ agree to take part in the experiment. ()
b) Few people _____ agree to take part in the experiment. ()
4. a) Care _____ always be taken when interpreting 19th-century data. ()
b) Care _____ always be taken when interpreting 19th-century data. ()
5. a) By the mid-21st century poverty _____ be abolished. (.)
b) By the mid-21st century poverty _____ be abolished.
6. a) Repeating the study _____ confirm their findings. ()
b) Repeating the study _____ confirm their findings. ()

Ex.6. These statements were made after investigations into disasters. Change them into speculations made before the investigations, using the words in brackets. Do not use the words in italics.

Example: The rail crash was *definitely* caused by a broken rail. (must) —————>
The rail crash must have been caused by a broken rail.

1. The rail *possibly* suffered thermal shock due to excessive heat. (may)
2. *Maybe* the aircraft did not have a mechanical failure. (might not)
3. *Perhaps* the flight crew fell asleep due to cabin depressurisation and lack of oxygen. (could)
4. The captain *probably* wanted to save time by steering close to the headland. (might)
5. He *possibly* did not realise that the depth of water in the channel was insufficient. (may)
6. The houses *definitely* didn't collapse in the earthquake because of a design error. (can't)
7. The disintegration of the bridge was *probably* not caused by substandard concrete. (might not)

D. Comparisons

Many adjectives have three forms: positive, comparative and superlative.

Manson's factory is noisy. (positive adjective)

Burton's factory is noisier than Manson's. (comparative adjective)

Denham's factory is the noisiest. (superlative adjective)

1. If the positive adjective has one syllable, we form the comparative by adding *-er* and the superlative by adding *-est*:

positive	comparative	superlative
clean	cleaner	the cleanest
safe	safer	the safest

If we compare two objects, we use *than* in the comparison:

Burton's factory is noisier than Manson's.

If we compare more than two objects, we use *the* in the superlative.

Denham's factory is the noisiest.

2. If the positive adjective has two syllables and ends in *-y*, *-ow* or *-le*, we form the comparative by adding *-er* and the superlative by adding *-est*:

positive	comparative	superlative
healthy	healthier*	the healthiest*
narrow	narrower	the narrowest
simple	simpler	the simplest

*in two syllable adjectives ending in *-y*, the *-y* changes to *-i* in the comparative and the superlative

3. For other adjectives with two syllables or more, we form the comparative with *more* and the superlative with *most*:

positive	comparative	superlative
dangerous	more dangerous	the most dangerous
flammable	more flammable	the most flammable

4. There is a small group of adjectives with irregular comparative and superlative forms:

positive	comparative	superlative
good	better	the best
bad	worse	the worst
little	less	the least
many / much	more	the most
far	farther / further	the farthest / furthest

Ex.1. Five of the sentences below contain a mistake. Find the mistake and correct it.

1. This silk fabric is the best quality we produce.
2. Following the fire, many more people have been affected by smoke as we had originally thought.
3. Pollution of the ground is most sedous in area A than in area B.
4. Please wear ear protection because it's noisier here than in the other areas.
5. The locked cabinet contains some of most poisonous chemicals there are.
6. That was the loudest explosion I've ever heard.
7. These chemicals should be kept in good container s than these.

8. Sending the goods by air is certainly the most quick but it's also the most expensive.

We can modify a comparison in a more specific way, like this:

<i>This motorbike is</i>	<i>far</i>	<i>more expensive</i>	<i>than</i>	<i>that one.</i>
<i>This car accelerates</i>	<i>much a great deal a lot slightly a little</i>	<i>less quickly more slowly</i>		

or like this:

<i>The new hard drive is</i>	<i>three times ten percent a third</i>	<i>larger</i>		<i>than</i>	<i>the old one.</i>
<i>This engine is</i>	<i>twice half</i>	<i>as</i>	<i>powerful</i>	<i>as</i>	<i>that one.</i>

Ex.2. Fill in the gaps with modifying comparatives and superlatives using the words from the box and superlatives in brackets.

a third twice far slightly

- (Overall length: Seikan Tunnel, Japan = 53.85 km, Channel Tunnel, UK to France = 50 km)
The Seikan Tunnel is _____ (long) the Channel Tunnel.
- (Length under seabed: Seikan Tunnel = 23.3, Channel Tunnel = 37.9)
The length of the Seikan Tunnel under the seabed is about _____ (short) the Channel Tunnel.
- (Depth below seabed: Seikan Tunnel = 140m, Channel Tunnel = 45m, Eiksund Tunnel = 287m)
The Eiksund Tunnel is _____ (deep)
- (Construction: Seikan Tunnel = 1971 – 1988, Channel Tunnel = 1987 – 1993)
The Seikan Tunnel was built _____ (slow) the Channel Tunnel.
- (Cost of Channel Tunnel: original estimated cost = £ 4.8 billion, final cost = £10 billion)
The final cost of the Channel Tunnel was _____ its original estimated cost.

Ex.3. Compare the differences between these two types of light bulb

	CFL bulb	Incandescent bulb
Energy input (watts)	13	60
Light output (lumens)	810	830
Useful life (hours)	10,000	1,500
# bulbs for 10,000 hours	1	6.7

Bulb costs	1 @ €2.7 = €2.7	6.7 @ €0.22 = €1.5
Electricity used (kW hours)	130	600
Electricity cost (@€0.55 per kWh)	€71.5	€330
Total cost (electricity + bulb)	€74.2	€331.5

Examples: An incandescent bulb consumes much more energy (or many more watts) than a CFL bulb. A CFL bulb lasts more than six times as long as (or six times longer than) an incandescent bulb.

E. Articles

A(n) and one are related but not identical. As you know, a(n) indicates that the noun is any single item, rather than a specific one.

A(n), therefore, can never be used with plural or uncountable nouns.

A(n) is typically used with the first mention of a singular countable noun, but not always. There are a number of linguistic contexts that require the use of the.

A modern passenger multiple unit train is now made up of a number of inter-dependent vehicles

Usually, no article (0) is necessary for the first mention of a plural or an uncountable noun where none of the special conditions for definite article use apply.

Units can operate singly providing driver's cabs are provided at both ends - or coupled to form longer trains.

The definite article is used to specify a particular noun, to make clear that reference is being made to a particular singular or plural noun. The definite article should be

used in the following contexts:

• Second mention (either explicit or implicit)

a. *The surface is covered by a thin oxide film. The film protects the surface from corrosion.*

b. *A very lightweight car was developed, but the vehicle performed poorly in crash tests.*

c. *A new computer was purchased to complete the process, but the hard drive was damaged.*

• Superlatives or ordinals

a. *The most controlled therapy yielded the best results.*

b. *The first studies were conducted in early 1993.*

c. *The last security conference was termed a success.*

• Specifiers (such as same, sole, only, chief, principal, etc.)

a. *The same subjects were retested at 2-week intervals.*

b. *The only research previously done in this area yielded mixed results.*

c. *The principal causes of the disaster have yet to be discovered.*

• Shared knowledge or unique reference

a. *The sun rises in the east and sets in the west.*

b. *The oxygen balance in the atmosphere is maintained by photosynthesis.*

c. *The stars are fueled by fusion reactions.*

• off-phrases or other forms of post-modification (but not with first mention of partitive off-phrases (a construction which denotes part of a whole) such as a molecule of oxygen, a layer of silicon, or a piece of information)

a. *The behavior of this species varies.*

b. *The price of gold fluctuates.*

c. *The results of the investigation were inconclusive.*

• Partitive off-phrases with plurals

a. *None of the projects was satisfactory.*

b. *Some of the subjects had adverse reactions,*

c. *All of the questionnaires were returned.*

• Names of theories, effects, devices, scales, and so on, modified by a proper name used as an adjective

a. *the Doppler effect*

b. *the Heisenberg uncertainty principle*

c. *the Hubble telescope*

d. *the Kelvin scale*

Note, however, that when a proper name is used in possessive form, no article is used.

a. *Coulomb's law*

b. *Einstein's theory of relativity*

c. *Broca's area*

d. *Wegener's hypothesis*

Ex.1 Fill in the gaps with articles a, an, the if necessary.

1) _____ writing is 2) _____ complex sociocognitive process involving 3) _____ construction of recorded messages on 4) _____ paper or some other material and, more recently, on 5) _____ computer screen. 6) _____ skills needed to write range from making 7) _____ appropriate graphic marks, through utilizing 8) _____ resources of 9) _____ chosen language, to anticipating reactions of 10) _____ intended readers. 11) _____ writing as composing needs to be distinguished from 12) _____ simpler task of 13) _____ copying. 13) _____ writing is slower than 14) _____ other skills of 15) _____ listening, 16) reading, _____ and 17) _____ speaking. It is further slowed by 18) _____ processes of thinking, 19) _____ rereading what has been written, and 20) _____ revising. 21) _____ writing is not 22) _____ natural ability like speaking, but has to be acquired through years of 23) _____ training or schooling. Although 24) _____ writing systems have been in existence for about 5,000 years, even today, only 25) _____ minority of 26) _____ world's population knows how to write.

Ex.2. Read this passage and fill in the gaps with articles a, an, the if necessary.

As 1) _____ average population of 2) _____ United States has increased, so too has increased 3) _____ number of hearing impaired individuals. Approximately 4) _____ 20 million hearing aids are now in use, and this number is expected to rise. Although there have been 5) _____ considerable advances in 6) _____ hearing aid technology, they still have 7) _____ drawbacks, one of 8) _____ number of 9) _____ most notable ones being problems in dealing with 10) _____ important environmental sounds. For example, 11) _____ people who are deaf in both ears are unable to determine 12) _____ direction of 13) _____ sound with 14) _____ conventional hearing aid. This limitation could result in 15) _____ accident or injury if 16) _____ wearer cannot decide 17) _____ direction of 18) _____ siren or 19) _____ other warning sound. Another problem concerns people 20) _____ suffering from 21) _____ high-frequency hearing loss. This type of 22) _____ hearing loss removes many consonants and other useful environmental noises, such as 23) _____ ringing of 24) _____ telephone.

Ex. 3. Now, edit the rest of the passage on hearing aids, inserting articles necessary. The first sentence has been done for you.

To overcome these limitations, researchers have been investigate ~~a~~ **the** possibility of multiprogrammable hearing device that could perform two functions. One would be to convert high frequency information to low frequencies that fall in range of normal hearing. Other would involve producing LED display that could indicate probable direction of sound. Since same device can perform two functions, it could be used by wider range of consumers than conventional devices. Prototypes of device are currently being tested. If successful, it should be commercially available within next five years.

Generic nouns, however, are equally important. Generics are as important as specific nouns for academic writing because

- 1. they more frequently occur in highly formal English;**
- 2. they are more likely to occur in introductions and conclusions, because they are closely associated with generalizations (often of an abstract nature);**
- 3. they are often associated (when they occur) with initial (and topic) sentences in paragraphs; and**
- 4. they tend to occur in the subject position in sentences (either as the subject or following off-phrases).**

A generic noun or noun phrase can represent an entire class or can be one representative of a class of objects, people, quantities, or

ideas. A generic noun is like an archetype in that it manifests what is typical for the class. For this reason, generics are used in formal definitions.

The specific noun phrases refer to something real. The generic noun phrases, on the other hand, refer to either an entire class or a representative of the class. You may have noticed in the table that there are different types of generic noun phrases. Can you describe the differences?

Specific versus Generic Noun Phrases

<i>Specific</i>	<i>Generic</i>
<i>The disinfectant</i> caused an allergic reaction.	A <i>disinfectant</i> is an agent capable of destroying disease causing microorganisms.
The solar car engineered at the University of Michigan won the race.	A <i>solar</i> car would certainly result in a cleaner atmosphere.
<i>The computer</i> crashed in the middle of the program.	<i>The computer</i> has replaced <i>the typewriter</i> .
<i>The trees</i> in this region have suffered from the drought.	<i>Trees</i> are valuable in maintaining air quality.
Add <i>some water</i> to the solution.	<i>Water</i> is essential for all living beings.

Generics can generally be divided into two different types: the abstract generic and the concrete generic. An abstract generic refers to *an entire class* of objects, while the concrete generic refers to a *representative* of a class. Look at the examples in the table.

Abstract Generic versus Concrete Generic

<i>Abstract generic: the entire class</i>	<i>Concrete generic: a representative of the class</i>
<i>The wasp</i> can detect unique volatile compounds over great distances.	A <i>wasp</i> can be trained to detect odors.
<i>The laser</i> has a great many uses in medicine.	A <i>laser</i> can be used by <i>a surgeon</i> to make very clean cuts.
<i>The computer</i> has been invaluable in scientific advancement.	<i>Computers</i> are playing a growing role in all aspects of university life.
When was <i>the telephone</i> invented?	<i>Concrete</i> is relatively cheap.

Abstract generics require *the*, while concrete generics use either *a* (with a singular countable noun) or *0* (for plural countables and uncountable nouns).

Ex.4. Read this passage and gaps with articles *a, an, the* if necessary.

Much has been learned about 1) _____ brain in 2) _____ last 150 years. 3) _____ brain, 4) _____ most complicated organ of 5) _____ body, contains 6) _____ ten billion nerve cells and is divided into 7) _____ two cerebral hemispheres – one on 8) _____ right and one on 9) _____ left. Interestingly, 10) _____ left hemisphere controls 11) _____ movements on 12) _____ right side of 13) _____ body, while 14) _____ right hemisphere controls 15) _____ movements on 16) _____ left. 17) _____ researchers also know that specific abilities and behaviors are localized; in other words, they are controlled by 18) _____ specific areas of 19) _____ brain. 20) _____ language, it seems, is highly localized in 21) _____ left hemisphere. In 22) _____ 1860s Dr. Paul Broca discovered that 23) _____ damage to 24) _____ front left part of 25) _____ brain resulted in 26) _____

telegraphic speech similar to that of young children. Soon thereafter, Karl Wernicke found that 27) _____ damage to 28) _____ back left part of 29) _____ brain, resulted in 30) _____ speech with 31) _____ little semantic meaning. These two regions in 32) _____ brain are now referred to as 33) _____ Broca's area and 34) _____ Wernicke's area.

Although there is some debate surrounding 35) _____ specialization of brain, 36) _____ researchers generally agree that 37) _____ speech is controlled by 38) _____ left side. There is no debate that in 39) _____ great majority of cases, 40) _____ injuries to 41) _____ left side nearly always have impact on 42) _____ speech.

APPENDIX

Latin Phrases

A.D. – *anno Domini* – нашей эры

ab initio – с возникновения

ad hoc – для данного случая

ad infinitum – до бесконечности

ad lib – *ad libitum* – по своему усмотрению, по желанию, по своей воле

A.M. – *ante meridiem* – до полудня

antebellum – довоенный

a fortiori – тем более

a posteriori – апостериори, на основании уже имеющихся данных

a priori – априори

bona fide – добросовестно

c. or ca. – *circa* – приблизительно

caveat – предупреждение

ceteris paribus – при прочих равных условиях

cf. – *confer* – сравни

CV – *curriculum vitae* – резюме

de facto – де-факто, фактически

de jure – де-юре, юридически

eg. – *exempli gratia* – например

ego – субъект, это

errata – *erratum* – список опечаток

et alii – и прочие

etc. – *etcetera* – и так далее

ex post facto – на основании закона, имеющего обратную силу

ibid. – *ibidem* – там же

i.e. – *id est* – то есть

infra – ниже

in memoriam – в память

in situ – на своем месте

inter alia – между прочим

in toto – в целом

in vitro – в искусственных условиях

in vivo – в естественных условиях

loc. cit. – *loco citato* – в упомянутом, процитированном месте

locus classicus – классическая цитата по данному вопросу

N.B. – *nota bene* – "прими к сведению"; нотабене

op. cit. – *opere citato* – цитируемое сочинение

passim – везде, повсюду

per capita – на душу населения

per diem – суточный

P.M. – *post meridiem* – после полудня

postmortem – посмертный

pro rata – пропорциональный...

P.S. – *postscript* – постскрипtum

quid pro quo – компенсация, недоразумение

sic – так! (помета, которая ставится в книгах напротив слов, переписанных из другого источника и представленных в ненормативной авторской орфографии)

sine die – не назначив даты

sine qua non – неперенное условие

status quo – статус-кво, положение вещей

supra – выше, ранее

viva (voce) – устный экзамен

viz. – *videlicet* – а именно

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