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SCIENCE AND TECHNOLOGY

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Метою посібника є навчання читання та розуміння науково-популярних текстів, засвоєння загальнонаукової лексики, формування навичок говоріння з широкого кола тем з галузі науки і техніки. Ефективне практичне оволодіння мовою забезпечується системою лексичних і комунікативних вправ, що стимулюють інтерес і творчу діяльність тих, хто вивчає мову.

Посібник призначений для студентів молодших курсів технічних ВНЗ, а також для широкого кола тих, хто вивчає й удосконалює англійську мову.

SCIENCE AND TECHNOLOGY

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Передмова

Пріоритетною сферою інтересу й уваги у вищому технічному навчальному закладі є галузь науки і техніки.

Наука є однією із визначних особливостей сучасної культури і, можливо, найбільш динамічним її компонентом. Неможливо обговорювати соціальні, культурні, антропологічні проблеми, якщо не брати до уваги розвиток наукової думки. Наука – це сфера людської діяльності, метою і змістом якої є пізнання світу як єдиної системи на основі експериментів і реальних суджень. У якості соціально-мобілізуєчої сили наука використовується для здійснення програм соціально-економічного розвитку, а також для вирішення глобальних проблем сучасності.

Первинним у розумінні природи науки і техніки є їхній вплив на саму людину, на систему її інтересів, потреб і можливостей до дії в організації свого буття і його вдосконалення.

Сучасний фахівець повинен бути підготовлений так, щоб іти в ногу з прогресом науки і техніки, мати повну інформацію про всі, у тому числі новітні, досягнення у своїй галузі і мати досить глибокі знання відповідних фундаментальних наук, уміючи все це використовувати на практиці. Фахівець має застосовувати весь арсенал сучасних наукових методів для досягнення необхідних результатів у конкретній сфері, легко адаптуючись при цьому до умов, які змінюються. Це завдання може бути вирішено тільки на базі міцної фундаментальної освіти.

Наукове спілкування в сучасному світі відбувається здебільшого англійською мовою. Також переважна частина наукової інформації стає доступна англійською мовою, яка останнім часом отримала статус міжнародної.

Для організації ефективного професійно - зорієнтованого спілкування і розуміння інформації зі спеціальності необхідна спеціальна підготовка, що і є головним завданням навчання іноземної мови у ВТНЗ. Одним із основних

компонентів такої підготовки є оволодіння науковою термінологією за відповідною спеціальністю. Але, на наш погляд, на перших порах автентичні матеріали повинні мати науково-популярний характер, бути зрозумілими не тільки для студентів як майбутніх спеціалістів певного фаху, але й для викладача іноземної мови, який, як правило, не має додаткової технічної освіти. Тільки після того, як студенти привчаються легко оперувати загальнонауковою лексикою в рецептивних і продуктивних видах діяльності, доцільно переходити до роботи з вузькопрофільними матеріалами.

Наука замінила звичайні слова універсальною термінологією, при цьому величезна кількість наукових досліджень у світі проводиться на межі декількох галузей знання: фізики, хімії, біології, медицини, інформатики тощо. Звідси виникає кілька причин, через які доцільним є випередити у ВНЗ навчання вузькопрофільної лексики роботою із загальнонауковою або науково-популярною літературою. По-перше, більшість випускників шкіл, які стають студентами технічних ВНЗ, взагалі незнайомі із загальнонауковою лексикою, тому робота зі спеціальними текстами, навіть якщо вони адаптовані, часто викликає значні труднощі. По-друге, науково-популярна література містить велику кількість таких загальнотехнічних термінів, які студент неминуче зустрине в майбутньому як фахівець під час роботи з літературою як за своєю спеціальністю, так і суміжними спеціальностями, які згодом можуть увійти у сферу його професійних інтересів. По-третє, у світлі сучасних тенденцій гуманізації освіти однією із задач іноземної мови як навчальної дисципліни є розширення світогляду, підвищення загальної ерудиції студентів, що стає можливим при знайомстві майбутнього фахівця з досягненнями людства у всіх галузях науки, а не тільки у сфері його спеціалізації.

Таким чином, курс профільно-зорієнтованого навчання іноземної мови в технічному ВНЗ раціонально складати з двох етапів: на першому студенти працюють із матеріалами загальнонаукового характеру, які охоплюють

різноманітні галузі наукового знання, створюючи той самий фундамент, на якому пізніше, на другому етапі, засвоюється конкретний вузькоспеціалізований курс для конкретної групи майбутніх фахівців.

Прикладом матеріалів загальнонаукового характеру є пропонований посібник англійською мовою «Science and Technology», якій включає 30 текстів на найрізноманітніші науково-популярні теми. Посібник призначений для студентів молодших курсів технічних ВНЗ, а також для широкого кола тих, хто вивчає й удосконалює англійську мову. Він складається з трьох частин. У першій частині – «Великі винаходи» – студенти знайомляться з основними етапами розвитку техніки і технологій, основними досягненнями наукової думки за всю історію розвитку людства. У другій частині – «Як працює техніка» – викладені основні принципи роботи найпопулярніших технічних пристроїв. У третій частині – «Найвидатніші винахідники всіх часів» – описані долі деяких великих учених і винахідників різних епох.

Кожен текст забезпечений набором до- і післятекстових завдань як лексичного, так і комунікативного характеру. Практика роботи з даним посібником свідчить, що інформація, яка міститься в науково-популярних текстах, викликає інтерес студентів ВНЗ різних профілів і спеціальностей, а робота з ними може розглядатися як початковий етап навчання спеціалізованої англійської мови у технічному ВНЗ будь-якого профілю.

Автор висловлює надію, що придбані студентами знання будуть використані в їхній майбутній професійній діяльності, розширять кругозір, підвищать рівень володіння англійською мовою.

PART III. GREAT INVENTORS OF ALL TIME

UNIT 21. THOMAS EDISON



Word list:

1.	available	доступний
2.	sibling	брат чи сестра
3.	wealthy	багатий, заможний
4.	to irritate	дратувати
5.	odd	випадковий
6.	to earn a living	заробляти на життя
7.	income	дохід
8.	extra	додатковий
9.	severe	важкий, сильний
10.	deafness	глухота
11.	ultimately	зрештою
12.	disability	непрацездатність
13.	backing	підтримка
14.	proper	власний
15.	to extend	продовжити, розширити
16.	trial	випробування, експеримент
17.	to file	реєструвати
18.	crucially	критично, принципово

Task 1. Match the words with close meaning:

1.	ultimately	a.	additional
2.	backing	b.	experiment

3.	available	c.	support
4.	file	d.	rich
5.	wealthy	e.	own
6.	trial	f.	accessible
7.	extra	g.	register
8.	proper	h.	finally

Task 2. Match the following definitions with one of the words from the Word list:

1. one of two or more individuals having one of both parents in common;
2. not expected, regular, or planned;
3. the amount of money or its equivalent received during a period of time in exchange for labour or services;
4. absence of the power of hearing;
5. to be the cause of impatience;
6. the condition of being unable to perform a task or function.

Task 3. Choose the right word for each sentence:

1. His future depends _____ on his decision.
 - a. commonly
 - b. crucially
 - c. additionally
2. New equipment helped to _____ experimenting more successfully.
 - a. exclude
 - b. examine
 - c. extend
3. He looked pale and exhausted after _____ illness.
 - a. several
 - b. severe
 - c. sick
4. Her brother earns a _____ by repairing cars.

- a. living
- b. leaving
- c. income

Task 4. Complete the table:

Noun	Adjective
availability	
	deaf
wealth	
	disable
property	
severity	

Task 5. Scan the text and choose the correct answers to questions 1 – 4

below:

1. How many siblings did Edison have?
 - a. 7.
 - b. 6.
2. How long did he attend school?
 - a. Three years.
 - b. Three months.
3. What did not he sell as a youngster?
 - a. Newspapers.
 - b. Cars.
4. What did Edison do to make his inventions available?
 - a. He published the results of his research in scientific journals.
 - b. He used mass production.

Thomas Edison

Thomas Edison (1847-1931) was an American inventor and businessman who developed and made commercially available many key inventions of modern life.

Thomas Edison was born in Milan, Ohio on Feb 11, 1847, the youngest of seven siblings. His parents were middle class, though they were not wealthy. He attended only three months of formal schooling, he irritated his teacher with his repeated questioning and inability to just follow instructions. He was largely disinterested at school, and was mainly self-educated through reading. He took upon it himself to read every book on the library shelf.

As a youngster he tried various odd jobs to earn a living. This including selling candy, vegetables and newspapers. He had a talent for business, and was able to spend his extra income on research.

Unfortunately, from an early age, Edison developed a severe deafness, which ultimately left him almost 90% deaf. He would later refuse any medical treatment, saying it would be too difficult to retrain his thinking process. Though he never saw his deafness as a disability.

Edison had a big chance when he saved a young boy on the railway track from being struck by a runaway train. His grateful father had Edison trained as a telegraph operator, and aged 19, Edison moved to Kentucky to work as a telegraph operator for Western Union.

In the 1870s, he sold the rights to the quadruplex telegraph to Western Union for \$10,000. This gave him the financial backing to establish a proper research laboratory and extend his experiments and innovations. Edison once described his invention methods as involving a lot of hard work, and repeated trial and error until a method was successful.

After the death of his first wife in 1884, he remarried Mina Miller in 1886.

He had six children, three from each marriage. Edison died of diabetes in October 18, 1931.

Edison filed over 1,000 patents. He developed and innovated a wide range of products from the electric light bulb to the phonograph and motion picture camera. His Edison Electric company was a pioneering company for delivering DC electricity directly into people's homes. He filed over 1,000 patents for a variety of different inventions. Crucially, he used mass-produced techniques to make his

inventions available at low cost to households across America. His most important inventions include the electric light bulb, the phonograph, the motion picture camera, an electric car and electric power station.

Task 6. Read the text again and find answers to the following questions:

1. How did Edison get his education?
2. What jobs did he try during his life?
3. What disease did he suffer from?
4. Who helped him to be trained as a telegraph operator?
5. How did Edison describe his invention methods?
6. What was his marriage life like?

Task 7. Say what the following numbers from the text are associated with:

49; 90; 1,000; 10,000; 1886; 1847; 6; 1931.

Task 8. Continue the list of Edison's inventions. Explain how they change our life:

- ✓ quadruplex telegraph
- ✓ ...

UNIT 22. THE WRIGHT BROTHERS



Word list:

1.	to achieve	успішно виконувати, досягати
2.	axis	вісь
3.	minister	пастор, проповідник
4.	to encourage	сприяти, стимулювати
5.	issue	питання, проблема
6.	to pursue	проявляти (інтерес)
7.	skills	навички
8.	fund	капітал, кошти
9.	rural	сільський
10.	tip	кінець (напр., крила)
11.	to be conscious of	усвідомлювати
12.	viable	рентабельний, конкурентний, життєздатний
13.	reluctant	неохочий
14.	to reveal	розкривати, оприлюднити
15.	approach	підхід
16.	claim	позов, претензія
17.	to witness	бути свідком
18.	prematurely	передчасно
19.	fever	лихоманка

Task 1. Match the words with opposite meaning:

1.	achieve	a.	misunderstand
2.	encourage	b.	urban
3.	be conscious	c.	hide
4.	rural	d.	fail
5.	viable	e.	timely

6.	reveal	f.	prevent
7.	prematurely	g.	uncompetitive

Task 2. Fill in the gaps with the suitable words from the box:

pursuing skills	claim witnessed minister	issues approaches
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1. His grandfather work as a _____ in a local church.
2. What _____ did you discuss during the last meeting?
3. My brother has been _____ various interest since childhood.
4. To do this job one needs definite _____ .
5. There are various _____ to teaching foreign languages.
6. Her lawyer promised that her _____ would be satisfied.
7. He was called to the police because he had _____ a terrible accident.

Task 3. Match the following definitions with one of the words from the

Word list:

1. A straight line about which a body or geometric object rotates.
2. A sum of money or other resources set aside for a specific purpose.
3. The end of an object.
4. Abnormally high body temperature.
5. not wishing, opposing.

Task 4. Translate into English:

1. Засоби для будівництва нового медичного центру були зібрані протягом півроку.
2. Його батьки сприяли тому, щоб він спробував себе в різних видах спорту.

3. Таємна інформація про його минуле була розкрита і оприлюднена в ЗМІ.
4. Я вважаю, що обговорювати це питання зараз передчасно.
5. Ви усвідомлюєте всі наслідки вашого вчинку?
6. Ваші ідеї здаються життєздатними, але які підходи ви плануєте використовувати для їх реалізації?

Task 5. Scan the text. Put the main ideas (A–E) in the same order as they are in the text:

- A. The Wright brothers began to experiment with heavier than air aircraft.
- B. The first public flight of the brothers established their fame in America.
- C. The Wright brothers were encouraged to read widely and discuss issues.
- D. The Wright brothers made the first historic airplane flight.
- E. A commercially successful bicycle shop was opened.

The Wright Brothers

The Wright Brothers successfully designed, built and flew the first powered aircraft, showing that man could fly. It can be considered one of most important inventions of the 20th century.

The Wright brothers, Orville (1871–1948) and Wilbur (1867–1912) are credited with building and flying the first heavier than air aeroplane and achieving the first recorded flight. Their particular contribution was in the effective control of an airplane, through their three-axis control system. This basic principle is still used today.

Their father worked as a minister in various churches, he encouraged his children to read widely and discuss issues. This climate of intellectual creativity and stimulus encouraged the Wright brothers to pursue a range of interests and studies. When they were young, their father bought them a small “helicopter” built in France. They later commented that this helicopter sparked an interest in flight and they sought to build similar models themselves.

In 1892 they opened a bicycle shop that was commercially successful, but also enabled them to develop their skills as designers and engineers.

Around the turn of the century, there was great interest in the possibility of flight. Most of this centred on gliders. But, the Wright brothers began to explore the possibility of mechanised flight with heavier than air aircraft.

They used funds from the bicycle shop to start testing in a rural place where it was more windy which helped give planes lift off.

On December 17, 1903, the Wright Brothers made the first historic airplane flight, where Orville piloted the plane (called “the Flyer”) with Wilbur running at the wing tip.

The first flight, by Orville, of 37 m in 12 seconds, at a speed of only 10.9 km/h over the ground, was recorded in a famous photograph.

Over the next few years, they continued to develop their aircraft. However, they were conscious of needing to gain successful patents to make their aircraft commercially viable. They became reluctant to reveal too much about their flights and disliked reporters taking photos of their designs. Their secret approach and competing claims by other aircraft designers meant that for many years their inventions and flights were met with either indifference or skepticism.

In 1909, Wilbur made a public flight up the Hudson river in New York, circling the Statue of Liberty. The 33 minute flight, witnessed by 1 million New Yorkers, established their fame in America.

The brothers never married. Wilbur once said he "did not have time for both a wife and an airplane". Wilbur died prematurely from typhoid fever in 1912. Orville Wright died of a heart attack at age 77.

Task 6. Which of the following sentences are not correct? Correct the ones with mistakes.

1. The Wright brothers invented the basic principles of the effective control of an airplane.
2. There was a climate of intellectual creativity in the Wright’s family.

3. They used funds from the government to start testing their first airplanes.
4. The first historic airplane flight was piloted by Wilbur Wright.
5. They did not want to reveal information about their flight because they wanted their planes to be commercially viable.
6. One of the brothers died prematurely of a heart attack.

Task 7. Say what the following numbers from the text are associated with:

1892; 1903; 33; 1; 77; 1909; 1912; 12.

Task 8. Sum up the information from the text according to the plan:

1. The Wright brother's childhood.
2. Their commercial activities.
3. First experiments with planes.
4. The period of time before the Wright brothers became famous in America.
5. Their death.

UNIT 23. GALILEO



Galileo Galilei
(1564-1642)

Word list:

1.	superior	чудовий, високоякісний
2.	to sentence	засудити
3.	life imprisonment	довічне ув'язнення
4.	support	підтримка
5.	noble	благородний
6.	innate	вроджений
7.	sacrifice	жертва
8.	insistence	наполягання
9.	profitable	прибутковий
10.	fascinated	зачарований, небайдужий
11.	contemporary	сучасник
12.	persecution	переслідування
13.	to resign	звільнитися, подати у відставку
14.	gravity	гравітація
15.	inertia	інерція
16.	forerunner	попередник
17.	to come to the conclusion	приходити до висновку
18.	flat	плоский
19.	to revolve	обертатися
20.	to imprison	ув'язнювати
21.	to convict of	звинувачувати в
22.	heresy	єресь
23.	to recant	відрікатися
24.	belief	переконання
25.	to censure	засуджувати, гудити

26.	to summarise	узагальнювати
27.	strength of materials	опір матеріалів

Task 1. Match the words with opposite meaning:

1.	noble	a.	release
2.	superior	b.	praise
3.	sentence	c.	apply
4.	imprison	d.	mountainous
5.	flat	e.	simple
6.	resign	f.	follower
7.	censure	g.	unsatisfactory
8.	forerunner	h.	justify

Task 2. Complete the table:

Verb	Noun
imprison	
	convict
insist	
sacrifice	
conclude	
	revolution
support	
	belief
persecute	

Task 3. Choose the right word for each sentence:

- He managed to expand production as his business was quite _____ .
 - loss-making
 - profitable
 - encouraging
- My friend achieved a lot due to his hard work and _____ abilities.
 - initial
 - original
 - innate
- She has been _____ with music since childhood.
 - fascinated

- b. talented
 - c. interested
4. The brakes suddenly refused and the car started to move by _____ .
- a. herself
 - b. habit
 - c. inertia
5. Newton is considered to discover the law of _____ in 1680.
- a. gravity
 - b. radiation
 - c. attraction
6. She failed in Strength of _____ and had to retake the exam.
- a. Metals
 - b. Materials
 - c. Minerals
7. The church made the scientist _____ his beliefs.
- a. recall
 - b. remember
 - c. recant
8. He was convicted of _____ and was sentenced to many years of imprisonment.
- a. jealousy
 - b. heresy
 - c. bad behavior

Task 4. Translate into English:

1. Як тільки ми узагальнимо результати експериментів, ми опублікуємо статтю.
2. Не всі сучасники великого письменника були в захваті від його творів.

3. . Йому довелося подати у відставку і виїхати з країни, тому що він боявся переслідування з боку ворогів.

4. Чому ви прийшли до такого висновку?

5. Вони найняли чудового менеджера, який швидко зробив їх бізнес прибутковим.

6. Він був звинувачений в серії вбивств і засуджений до довічного ув'язнення.

Task 5. Scan the text and choose the one best answer (A), (B), (C) or (D) to each question:

1. Which fact is not concerned with Galileo's life?

A. he was blind by the time he died;

B. he spent his last years under house arrest;

C. he was married twice;

D. he was born to a noble family.

2. Which town is not connected with his life?

A. Padua;

B. Milan;

C. Pisa;

D. Florence.

3. Which discovery does not belong to Galileo?

A. telescope;

B. gravity;

C. magnetism;

D. inertia.

Galileo

Galileo Galilei (1564–1642), a great astronomer and scientist, developed a superior telescope and made many significant discoveries in astronomy. He was

sentenced to life imprisonment by the inquisition for his support for the Copernican theory that the sun was at the centre of the solar system.

Galileo was born in Florence, Italy in 1564 to a poor but noble family.

His parents recognised their child's innate intelligence and talents and so made sacrifices to have him educated. At his father's insistence, Galileo studied the profitable career of medicine. But, at the University of Pisa, Galileo became fascinated with a wide range of subjects. He was also critical of many of Aristotle's teaching that left him isolated amongst his contemporaries. After three years of persecution, he resigned and went to the university of Padua. Here he taught maths. His entertaining lectures attracted a large following and he was able to spend the next 18 years pursuing his interests in astronomy and mechanics.

During this time, Galileo made important discoveries about gravity, inertia and also developed the forerunner of the thermometer. But it was in astronomy that Galileo became famous.

Galileo came to the same conclusions of Copernicus – that the sun was the centre of the universe and not the earth. By inventing the world's first telescope, Galileo was able to make many explorations of the universe. He found that:

Saturn had a beautiful ring of clouds.

The moon was not flat but had mountains and craters.

Jupiter had many moons which revolved around Jupiter rather than directly the sun.

After publishing his studies Galileo was arrested and imprisoned for several months. He was convicted of heresy and was forced to recant his beliefs. He spent the remaining years of his life under house arrest.

Despite being censured by the church, Galileo continued to make discoveries until death overtook him in 1642. Under house arrest, he was able to write *Two New Sciences*, this summarised his earlier work on the new sciences now called kinematics and strength of materials. He was blind by the time he passed away.

Task 6. Read the text and find one meaningful mistake in each sentence and correct it.

1. Galileo was sentenced to life imprisonment by the government for his support for the Copernican theory.
2. At his father's insistence, Galileo studied the profitable career of law.
3. For many years he was able to pursue his interests in astronomy and medicine at the University of Padua.
4. Galileo came to the same conclusion of Copernicus that the earth was the centre of the universe.
5. He was convicted of theft and was forced to recant his beliefs.

Task 7. Match the sentences halves 1–7 with a–g:

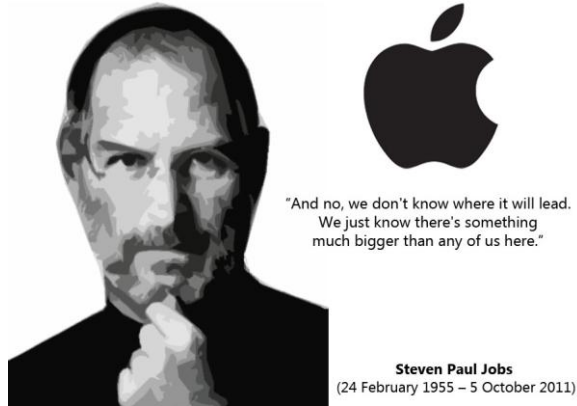
1.	He became isolated amongst his contemporaries	a.	attracted a large following.
2.	Galileo's parents recognised his innate intelligence	b.	by inventing the world's first telescope.
3.	The scientist found that the moon was not flat	c.	what we call kinematics and strength of materials.
4.	His entertaining lectures	d.	for his critic of Aristotle's teaching.
5.	Galileo was able to make many explorations of the universe	e.	and made sacrifices to have him educated.
6.	Galileo continued to make discoveries until his death	f.	but had mountains and craters.
7.	His summarised early works became the foundation of	g.	despite being censured by the church.

Task 8. Sum up the information from the text completing the following sentences:

1. Galileo was born in
2. His parents recognised his innate talent and
3. At his father's insistence, Galileo studied
4. But, at the University of Pisa he became fascinated with

5. He had to resign and go to the University of Padua because
6. For 18 years he managed to pursue
7. As an astronomer, Galileo found that
8. After publishing his studies, Galileo was convicted of
9. Under house arrest he
10. He passed away in

UNIT 24. STEVEN PAUL JOBS



Word list:

1.	to adopt	всиновлювати
2.	to enroll	зарахувати
3.	spiritual	духовний
4.	to become aware	усвідомити
5.	counter	контр-
6.	perspective	погляд, бачення
7.	to admire	захоплюватися
8.	to set up	створювати, засновувати
9.	milestone	етап, віха
10.	friction	тертя, розбіжності
11.	duties	обов'язки
12.	to fire	звільняти
13.	chief executive	президент фірми
14.	rival	конкурент, суперник
15.	to promote	сприяти
16.	to focus	зосередитися
17.	appealing	привабливий

Task 1. Match the words with close meaning:

1.	set up	a.	argument
2.	become aware	b.	competitor
3.	rival	c.	president
4.	appealing	d.	concentrate
5.	friction	e.	realize
6.	chief executive	f.	found

7.	focus	g.	attractive
----	-------	----	------------

Task 2. Match the following definitions with one of the words from the Word list:

1. a point of view;
2. in contrast or opposition to;
3. to take into one's family through legal means;
4. concerned with or affecting the soul;
5. to contribute to the progress or growth.

Task 3. Choose the right word for each sentence:

1. After finishing school she was _____ at college of arts.
 - a. adopted
 - b. attended
 - c. enrolled
2. From the top of the hill they were _____ the landscape below.
 - a. fascinating
 - b. admiring
 - c. looking
3. This job became an important _____ in his professional career.
 - a. milestone
 - b. action
 - c. influence
4. One of her _____ as a secretary was to register telephone calls.
 - a. jobs
 - b. duties
 - c. work
5. He was _____ for being rude with customers.
 - a. hired
 - b. unemployed

c. fired

Task 4. Translate into English:

1. Будучи дуже освіченою людиною, він став духовним лідером нового руху.
2. Після того, як батьки дітей загинули в автокатастрофі, вони були усиновлені забезпеченою сім'єю.
3. Якщо ніхто не хоче залишатися вдома, у мене є контр-пропозиція поїхати за місто на пікнік.
4. Через сімейні проблем їй важко було зосередитися на роботі.
5. Незважаючи на розбіжності засновників, він став президентом компанії, яка була заснована близько десяти років тому.
6. Усі відвідувачі автосалону захоплювалися привабливим дизайном нової моделі.
7. Він усвідомив свою помилку, тільки коли програма дала збій.

Task 5. Scan the text and choose the correct answers to the questions below:

1. Who encouraged Jobs to experiment with electronics?
 - a. His college teachers.
 - b. His adopted father.
2. What for did he travel to India?
 - a. In search of spiritual enlightenment.
 - b. In search of counter-culture.
3. Who set up Apple computers?
 - a. Jobs, Wozniak, Gates.
 - b. Jobs, Wozniak, Wayne.
4. What characterizes the latest Apple products?
 - a. Appealing design, innovative features, high cost.
 - b. Appealing design, innovative features, accessibility.

Steven Paul Jobs

Steve Jobs (1955–2011) was an American businessman and inventor who played a key role in the success of Apple computers and the development of revolutionary new technology such as the iPod, iPad and MacBook.

Steven Jobs was born in San Francisco, 1955, to two university students Joanne Schieble and Syrian born John Jandali. They were both unmarried at the time, and Steven was given up for adoption.

Steven was adopted by Paul and Clara Jobs, whom he always considered to be his real parents. Steven's father Paul encouraged him to experiment with electronics in their garage. This led to a life long interest in electronics and design.

Steve Jobs attended a local school in California and later enrolled at college in Portland.

In 1974, Jobs travelled to India in search of spiritual enlightenment. During his several months in India he became aware of Buddhist and Eastern spiritual philosophy. At this time he also experimented with psychedelic drugs; he later commented that these counter-culture experiences were instrumental in giving him a wider perspective on life and business.

Job's first real computer job came working for Atari computers. During his time at Atari, Jobs came to know Steve Wozniak well. Jobs greatly admired this computer technician, whom he had first met in 1971.

In 1976, Wozniak invented the first Apple I computer. Jobs, Wozniak and Ronald Wayne then set up Apple computers. In the very beginning Apple computers were sold from Jobs parents' garage.

Over the next few years, Apple computers expanded rapidly as the market for home computers began to become increasingly significant.

In 1984, Jobs designed the first Macintosh. It was the first commercially successful home computer to use a graphical user interface. This was an important milestone in home computing and the principle has become key in later home computers.

Despite the many innovative successes of Jobs at Apple, there was increased friction between Jobs and other workers at Apple. In 1985, removed from his managerial duties, Jobs resigned and left Apple. He later looked back on this incident and said that getting fired from Apple was one of the best things that happened to him – it helped him regain a sense of innovation and freedom, he couldn't find working in big company.

In 1996 Jobs returned to Apple. He was given post of chief executive. At the time, Apple had fallen way behind rivals such as Microsoft. Apple were struggling to even make profits.

Jobs launched Apple on a new direction. He promoted the development of a new wave of products which focused on accessibility, appealing design and innovate features.

The iPod was a revolutionary product in that it built on existing portable music devices and set the standard for portable digital music played. In 2007, Apple successfully entered the mobile phone market, with the iPhone. This used features of the iPod to offer a multi-functional and touch screen device to become one of best selling electronic products.

Despite growing ill-health, Jobs continued working at Apple until August 2011, when he resigned.

In 1991, he married Laurene Powell, together they had three children and lived in Palo Alto, California.

Steve Jobs died in 2011 at the age of 56.

Task 6. Read the text again. Then find one wrong word in each sentence and correct it:

1. Job's real parents were unmarried university students at the time of his birth, so they gave him up for adaptation.
2. Travelling over India, Jobs became aware of western spiritual philosophy.
3. Job's counter-culture experiences gave him a wider perspective on life and drugs.

4. It was Wozniak who designed the first Macintosh.
5. When Jobs returned to Apple, the company was ahead of its rivals such as Microsoft.
6. Apple successfully entered the mobile phone market with the iPod.

Task 7. Say what the following dates from the text are associated with:

1971; 1984; 1955; 1985; 1991; 2011; 1996; 2007; 1974.

Task 8. Make up Job's biography putting the following facts from his life in the chronological order:

- () Jobs resigned from Apple.
- () He attended a local school in California.
- () He started to work for Atari computers and met Steve Wozniak.
- (/) Steven Jobs was born in San Francisco.
- () Apple successfully entered the mobile phone market.
- () Apple company was set up.
- () Jobs was enrolled at college in Portland.
- () Jobs designed the first Macintosh which became a milestone in home computing.
- () He travelled to India in search of spiritual enlightenment.
- () Jobs returned to Apple and was given post of chief executive.
- () Because of ill-health Jobs resigned from Apple and died.
- () Jobs launched the development of new Apple's products.

UNIT 25. LOUIS PASTEUR



Word list:

1.	reference	посилання
2.	outstanding	видатний
3.	breakthrough	прорив
4.	puerperal fever	післяпологова гарячка
5.	rabies	сказ
6.	anthrax	сибірська виразка
7.	tanner	дубильник
8.	to admit	приймати
9.	typhoid	тиф
10.	firm	твердий, рішучий
11.	scar	шрам
12.	to inspire	надихати
13.	incurable	невиліковний
14.	to spoil	псувати
15.	beverages	напої
16.	contamination	зараження
17.	to infect	заражати, інфікувати
18.	harmful	шкідливий
19.	chicken cholera	пташина холера
20.	mild	м'який
21.	to affect	впливати, вражати
22.	cattle	худоба
23.	to prevent	запобігати

24.	to suffer	страждати
25.	heart stroke	серцевий напад
26.	crypt	склеп

Task 1. Match the words with opposite meaning:

1.	firm	a.	unknown
2.	outstanding	b.	improve
3.	admit	c.	useful
4.	prevent	d.	promote
5.	spoil	e.	expel
6.	harmful	f.	mild

Task 2. Complete the table:

Verb	Noun
refer	
	inspiration
contaminate	
	infection
	affect
strike	

Task 3. Sort out the following characteristics by diseases:

puerperal fever	rabies	anthrax	typhoid	chicken cholera
1	2	3	4	5

() virus infection of the central nervous system in dogs, foxes, bats and other animals and humans;

() infectious disease of animals that mostly affects sheep, horses, cattle, and goats and is almost always fatal in animals;

() form of blood poisoning caused by infection during childbirth;

() the virus is transmitted through biting;

() the disease concerns chickens, turkeys, ducks, geese, canaries;

() symptoms are fever, uncontrollable excitement, spasms of the throat muscles;

- () the diseases limited to individuals who handle animals (e.g. farmers, butchers, veterinarians);
- () is characterized by high fever, rash (сыпь) and headache;
- () localized infections most often occur in the respiratory tract;
- () it occurs in crowded, unsanitary conditions and has historically been a major killer in wartime.

Task 4. Translate into English:

1. Винахід цих ліків означав прорив у медицині.
2. Він брав участь у трьох війнах, і все його тіло вкрите шрамами.
3. Рак довгий час вважався невиліковною хворобою, але зараз багато його форм з успіхом лікуються.
4. В літній час доходи від продажу спиртних напоїв зростають у декілька разів.
5. Його батько страждав від проблем з серцем вже багато років. Останній серцевий напад виявився фатальним.
6. Дубильники обробляють шкіру для її подальшого використання для виробництва шкіряних та хутряних виробів.

Task 5. Read the text quickly and match the paragraphs (1–6) with the topics (A–F):

- A. Discovery of the immunization method.
- B. Pasteur's education.
- C. Developing the method of pasteurization.
- D. General information on Louis Pasteur.
- E. The scientist's last years.
- F. Pasteur's family life.

Louis Pasteur

1. Pasteurization (a process of treating milk free of damage causing microbes) is the most common reference to the great chemist and biologist who

ever lived on this earth, Louis Pasteur. He is a well known name in the medical world as well as for millions of people around the world. The French chemist was also a brilliant microbiologist known for his outstanding breakthroughs in medicines and invention of vaccines for diseases that were never known to be treated. Pasteur was the first man on earth to have discovered cure for dangerous puerperal fever and created the first type of vaccine for rabies and anthrax. Pasteur will always be remembered even by future generations for his notable disease prevention theories and medicines.

2. Louis Pasteur was born in 1822 in a poor family of tanners in Dole, situated in the Jura region of France. After he received his degrees in Letters and Mathematical Sciences he got admitted to École Normale Supérieure, an elite college.

3. At University of Strasbourg where Pasteur worked as a professor of Chemistry, he met and found his love in Marie Laurent, daughter of the university's rector. In 1849 Pasteur married Marie with whom he had 5 children out of which only two survived to become adults. Pasteur's three children died of typhoid. Losing his children was very tragic in Pasteur's life which also made him firm in discovering cures for diseases like typhoid. Pasteur's personal losses left a deep scar within him inspiring him to do something for incurable diseases and symptoms.

4. Pasteur found that expansion of microbes spoilt liquids and beverages like milk, wine and beer. He started doing tests and expanded his theories based on germ theory and discovered that heating of liquids like milk kills most of the microbes present in them. Soon this liquid germ killing process was called as pasteurization. Pasteur became worried about liquid contamination. He found that micro-organisms infecting animals and humans can also cause diseases. Pasteur wanted to stop the entry of harmful micro-organisms into the human body which resulted in Joseph Lister developing antiseptic methods in surgery.

5. Pasteur worked on chicken cholera. While performing this research one of his cultures, including the responsible bacteria, was found to have spoiled and

failed to bring the disease in some chickens which he was trying to infect with the disease. Pasteur tried to use these healthy chickens for later use but could not infect them even with fresh bacteria. He found that the already weak bacteria made the chicken immune to cholera in spite of showing mild symptoms of the disease. In 1870s Pasteur used his cholera immunization method on anthrax which was fast affecting cattle. Soon this discovery was thought of fighting and preventing other diseases.

6. Pasteur suffered from several heart strokes. He died in 1895. Pasteur's body was buried in the Cathedral of Notre Dame. His remains were made into a crypt in the Pasteur Institute in Paris which is remembered even today for his outstanding life saving works. The Pasteur Institute was created in his honour in 1887. Université Louis Pasteur has also been named after him.

Task 6. Read the text again to find answers to the following questions:

1. What breakthroughs in medicine did Pasteur make?
2. Where did he receive his education?
3. What tragic events left deep scars within him and inspired him for discoveries?
4. What is called pasteurization?
5. What is the basic principle of the immunization method?
6. Where are Pasteur's remains kept?

Task 7. Which of the following sentences are not correct? Correct the ones with mistakes:

1. Louis Pasteur is a famous French chemist who is also known as a brilliant physicist.
2. He received his degrees in Medicine and Mathematical Sciences.
3. Pasteur discovered that heating liquids kills most of the microbes present in them.

4. Being infected with weak bacteria made the chicken immune to cholera in spite of showing strong symptoms of the disease.

5. The cholera immunization method was used for fighting asthma and preventing other diseases.

6. The Institute as well as the University were created in the scientist's honour.

Task 8. Tell about Louis Pasteur's life and discoveries according to the rearranged plan from Task 5.

UNIT 26. PARACELSUS



Word list:

1.	to raise	виховувати
2.	itinerant	мандрівний, кочівний
3.	to pioneer	бути ініціатором, першопрохідцем
4.	arrogant	зарозумілий
5.	to garner	заробляти, накопичувати
6.	to anger	розгнічувати
7.	to claim	стверджувати
8.	chair	кафедра
9.	to denounce	звинувачувати, засуджувати
10.	quack	шарлатан, знахар
11.	to slander	чорнити, поносити, обмовляти
12.	vicious	злісний
13.	punishment	покарання
14.	court	суд
15.	instigation	підбурювання
16.	to prohibit	забороняти
17.	barber	перукар, цирульник
18.	butcher	м'ясник
19.	bizarre	дивний, екстравагантний
20.	plague	чума
21.	to abuse	ображати, ляяти
22.	remedy	ліки, засіб
23.	conversely	навпаки
24.	to consume	вживати

Task 1. Match the words with close meaning:

1.	prohibit	a.	strange
2.	denounce	b.	wandering
3.	raise	c.	evil
4.	vicious	d.	initiate
5.	itinerant	e.	ban
6.	bizarre	f.	bring up
7.	pioneer	g.	medicine
8.	remedy	h.	convict

Task 2. Fill in the gaps with the suitable words from the box:

consumed	court	abused
chair	arrogant	garnered
barber's	plagues	

- In the Middle Ages _____ took away millions of lives throughout Europe.
- Since her childhood she has been _____ for being too tall.
- Every year more and more oil is _____ all over the world.
- The _____ of juries sentenced the criminal to life imprisonment.
- His father works as a teacher at the _____ of Strength of Materials.
- For many years of hard work he has _____ the reputation of an honest and responsible specialist.
- The workers do not like their boss for his being _____ toward them.
- He is going to the _____ to have his hair cut.

Task 3. Match the words with their definitions:

1.	anger	a.	a penalty or sanction for wrongdoing
2.	claim	b.	provocating, causing people to some action
3.	quack	c.	to communicate a false statement about someone
4.	punishment	d.	a strong feeling of displeasure

5.	butcher	e.	to state to be true, especially when open to question
6.	conversely	f.	an untrained person who pretends to be a physician and gives medical advice and treatment
7.	slander	g.	in an opposite way; on the other hand
8.	instigation	h.	one who sells meat

Task 4. Translate into English:

1. Ціолковського вважають першопрохідцем в області космічних досліджень.
2. Він виховувався в забезпеченій сім'ї і отримав прекрасну освіту.
3. Підбурювання до військових дій деяких опозиційних сил викликало гнів у більшості населення.
4. Йому довелося подати у відставку, так як він був обвинувачений за зв'язки із злочинними угрупованнями.
5. Подорожі - кращий засіб від втоми і нудьги.
6. Роман Федора Достоєвського «Злочин і кара» завжди викликав багато суперечок і дискусій.
7. Її злобна реакція видається дивною у цій ситуації.

Task 5. Scan the text. Put the main ideas (A – E) in the same order as they are in the text:

- A. Paracelsus held the chair of medicine at the University of Basel.
- B. Paracelsus studied medicine at the University of Basel.
- C. Paracelsus's death in Salzburg.
- D. He practiced as an itinerant physician.
- E. He established his own practice in Strasbourg.

Paracelsus

Paracelsus (1493–1541) was a Swiss German Renaissance physician, botanist, alchemist, astrologer, and general occultist. He founded the discipline of toxicology.

Paracelsus was born and raised in the village of Einsiedeln in Switzerland. His father was a chemist and physician. At the age of 16 he started studying medicine at the University of Basel, later moving to Vienna.

His wanderings as an itinerant physician took him through Germany, France, Spain, Hungary, the Netherlands, Denmark, Sweden, Poland and Russia.

Astrology was a very important part of Paracelsus' medicine, and he was a practicing astrologer — as were many of the university-trained physicians working at this time in Europe. Paracelsus pioneered the use of chemicals and minerals in medicine.

Paracelsus gained a reputation for being arrogant, and soon garnered the anger of other physicians in Europe. Some even claim he was a habitual drinker. He held the chair of medicine at the University of Basel and was a city physician for less than a year. He angered his colleagues by lecturing in German instead of Latin in order to make medical knowledge more accessible to the common people. He attacked conventional academic teachings and publicly burned medical textbooks, denouncing some of his predecessors as quacks and liars. After slandering his opponents with vicious epithets, he had to leave Basel secretly fearing punishment by the court. He became a tramp, wandering through Central Europe. In 1530, at the instigation of the medical faculty at the University of Leipzig, the city council of Nürnberg prohibited the printing of Paracelsus' works.

In 1526 he bought the rights of citizenship in Strasbourg to establish his own practice. Paracelsus was one of the first medical professors to recognize that physicians required a solid academic knowledge in the natural sciences, especially chemistry. Furthermore, he allowed for the access of medical academic work to learned people. Surgeons for example often were not academically trained and ranked with the barbers and butchers in the same guild.

Paracelsus is also a folk legend, and bizarre tales about his life circulated Central Europe for centuries. In the minds of many, he became a wonder-healer and spiritual protector of health. His aid to villages during the plague in the 16th century was for many an act of heroism, his works and achievements therefore often abused and falsely copied.

He died at the age of 47 in Salzburg, and his remains were buried according to his wishes in the cemetery at the church of St. Sebastian in Salzburg.

Paracelsus's views were that sickness and health in the body relied on the harmony of man (microcosm) and Nature (macrocosm). He took an approach that humans must have certain balances of minerals in their bodies, and that certain illnesses of the body had chemical remedies that could cure them. Paracelsus, sometimes called the father of toxicology, wrote: The dose makes the poison. That is to say, substances considered toxic are harmless in small doses, and conversely an ordinarily harmless substance can be deadly if over-consumed.

Task 6. You are to choose the one best answer (A), (B), (C) or (D) to each question:

1. Which of the following is not true about Paracelsus?
 - A. He was Swiss.
 - B. He lived in the Middle Ages.
 - C. He founded surgery.
 - D. He was arrogant.
2. In what profession didn't he try himself?
 - A. Botanist.
 - B. Oculist.
 - C. Astrologer.
 - D. Alchemist.
3. In what city didn't he live?
 - A. Vienna.
 - B. Salzburg.

C. Lisbon.

D. Basel.

4. What was not the reason of his leaving Basel secretly?

A. He lectured in German instead of Latin.

B. He publicly burned medical textbooks.

C. He feared punishment by the court for slandering his opponents.

D. He pioneered the use of chemicals and minerals in medicine.

5. Which of the following views did not he share?

A. Physicians require a solid academic knowledge.

B. Surgeons can be ranked with the barbers and butchers in the same guild.

C. Sickness and health relied on the harmony of man and Nature.

D. Humans must have certain balances of minerals in their bodies.

Task 7. Restore the questions to the following short answers:

1. Chemist and physician.

2. At the age of 16.

3. The use of chemicals and minerals in medicine.

4. To make medical knowledge more accessible to the common people.

5. In 1526.

6. At the church of St. Sebastian in Salzburg.

Task 8. Give a short description of Paracelsus's life, activities and views according to the plan:

1. Paracelsus's origin and education.

2. The places which he visited and lived in.

3. The reasons of his angering his colleagues and authorities.

4. His views concerning professions in medicine.

5. His views concerning the human's health.

UNIT 27. ALFRED NOBEL



Word list:

1.	bankrupt	банкрут
2.	to dare	сміти, дерзати
3.	fortune	стан
4.	explosive	вибухова речовина
5.	to injure	ранити, наносити травму
6.	landmine	фугас, міна
7.	order	замовлення
8.	skilful	досвідчений, умілий
9.	to master	оволодівати
10.	forward-looking	далекоглядний
11.	opportunity	сприятлива можливість
12.	to justify	виправдовувати
13.	to express	виражати
14.	threat	загроза
15.	according to	згідно, відповідно
16.	will	воля, заповіт
17.	interests	відсотки
18.	annually	щорічно
19.	prize	премія
20.	brotherhood	дружні стосунки
21.	abolition	ліквідація, скасування
22.	reduction	скорочення
23.	worthy	стоячий
24.	public figure	громадський діяч

Task 1. Make up possible word-combinations:

1.	dangerous	a.	feelings
2.	skilful	b.	interests
3.	master	c.	worker
4.	forward	d.	one's will
5.	express	e.	explosive
6.	nuclear	f.	a foreign language
7.	according to	g.	winner
8.	annual	h.	figure
9.	prize	i.	threat
10.	public	j.	looking

Task 2. Match the words with their definitions:

1.	fortune	a.	the state when all people regard one another as equals
2.	brotherhood	b.	a person who loses money or property
3.	worthy	c.	an explosive mine laid usually just below the surface of the ground
4.	bankrupt	d.	a favorable occasion or time
5.	dare	e.	a large sum of money, wealth
6.	opportunity	f.	to have the courage to do something
7.	landmine	g.	having value, useful

Task 3. Fill in the table:

Verb	Noun
	injury
order	
	justification
reduce	
abolish	
	expression

Task 4. Translate into English:

1. Його стан оцінюють в кілька мільйонів.
2. Як він посмів сказати їй це?

3. Під час дорожньої аварії було поранено кілька людей.
4. Завод отримав велике замовлення на виготовлення останньої моделі автомобіля.
5. Ми повинні використати цю можливість для поліпшення нашого становища.
6. Я його не виправдовую, я просто висловлюю свою думку.
7. Відповідно до його заповіту, весь його спадок передається фонду по боротьбі із забрудненням навколишнього середовища.
8. Він є видатним громадським діячем, який багато років бореться за скорочення і навіть ліквідацію ядерної зброї в усьому світі.

Task 5. Scan the text and choose the correct answers to questions 1 – 4 below:

1. Where did Nobel get his education?
 - a. He went to school.
 - b. He studied privately.
2. What concerned him most?
 - a. Making money and scientific discoveries.
 - b. Searching for a meaning of life.
3. What was his greatest wish?
 - a. To find ordinary human love.
 - b. To see peace between nations.
4. What is the criterion in choosing the prize winner, according to Nobel's will?
 - a. The candidate's contribution into science.
 - b. The candidate's nationality.

Alfred Nobel

Alfred Nobel, the great Swedish inventor and industrialist, was a man of many contrasts. He was the son of a bankrupt, but became a millionaire, a scientist

who dared for literature, an industrialist who managed to remain an idealist. He made a fortune but lived a simple life, and although cheerful in company he was often sad when remained alone. A lover of mankind, he never had a wife or family to love him; a patriotic son of his native land, he died alone in a foreign country. He invented a new explosive, dynamite, to improve the peacetime industries of mining and road building, but saw it used as a weapon of war to kill and injure people. During his useful life he often felt he was useless. World-famous for his works, he was never personally well-known, for while he lived he avoided publicity.

He was born in Stockholm in 1833 but moved to Russia with his parents in 1842, where his father, Emmanuel, made a strong position for himself in the engineering industry. Emmanuel Nobel invented the landmine and got plenty of money for it from government orders during the Crimean War, but then, quite suddenly went bankrupt. Most of the family went back to Sweden in 1859. Four years later Alfred returned there too, beginning his own study of explosives in his father's laboratory. It so occurred that he had never been to school or University but had studied privately and by the time he was twenty was a skilful chemist and excellent linguist having mastered Swedish, Russian, German, French and English. Like his father, Alfred Nobel was imaginative and inventive, but he had better luck in business and showed more financial sense. He was quick to see industrial openings for his scientific inventions and built up over 80 companies in 20 different countries. Indeed his greatness lay in his outstanding ability to combine the qualities of an original scientist with those of a forward-looking industrialist.

But Nobel was never really concerned about making money or even making scientific discoveries. Seldom happy, he was always searching for a meaning to life, and from his youth had taken a serious interest in literature and philosophy. Probably because he could not find ordinary human love – he never married – he began to care deeply about the whole mankind. He took every opportunity to help the poor: he used to say that he would rather take care of the stomachs of the living than the glory of the dead in the form of stone memorials. His greatest wish,

however, was to see an end to wars, and thus peace between nations; and he spent much time and money working for the cause until his death in Italy in 1896. His famous will, in which he left money to provide prizes for outstanding work in physics, chemistry, physiology, medicine, economics, literature and promotion of world peace is a memorial to his interests and ideals. And so the man who often believed that he was useless and had done little to justify his life is remembered and respected long after his death. Nobel's ideals which he expressed long before the threat of nuclear war have become the ideals of all progressive people of the world.

According to Nobel's will the capital was to be safely invested to form a fund. The interests on this fund is to be distributed annually in the form of prizes to those who, during the previous year did work of the greatest use to mankind within the field of physics, chemistry, physiology or medicine, economics, literature and to the person who has done the most for brotherhood between nations, for the abolition or reduction of permanent armies and for the organization and encouragement of peace conferences.

In his will Nobel wrote that it was his firm wish that in choosing the prize winner no consideration should be given to the nationality of the candidates, but that the most worthy should receive the prize, whether he be a Scandinavian or not. This will was written in Paris, on November 27, 1895.

Since Nobel's death many outstanding scientists, writers and public figures from different countries have become Nobel prize winners.

Task 6. Read the text again and choose the one best answer (A), (B), (C) or (D) to each question:

1. What is not true about Nobel's life?
 - A. He lived a simple life.
 - B. He avoided publicity.
 - C. He was personally well known.
 - D. He was happy in his family life.

2. Which language did not Nobel master?
 - A. English.
 - B. Norwegian.
 - C. Russian.
 - D. Swedish.
3. Which of the following was not very important for the inventor's success?
 - A. He had financial sense.
 - B. He was a forward-looking industrialist.
 - C. He took serious interest in literature and philosophy.
 - D. He was an original scientist.
4. In which field is not Nobel prize provided?
 - A. In physiology.
 - B. In physics.
 - C. In psychology.
 - D. In literature.

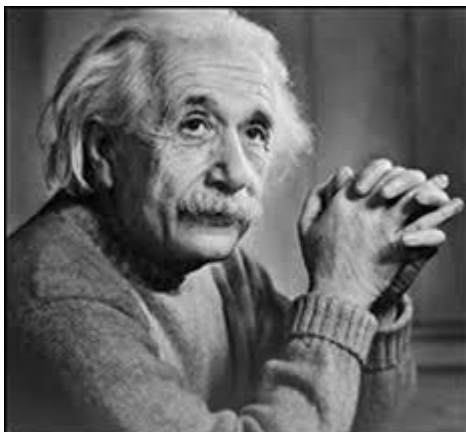
Task 7. Find one meaningful mistake in each sentence and correct it:

1. Although cheerful in company Nobel was seldom sad when he remained alone.
2. He invented a new explosive, dynamite, to improve the wartime industries.
3. Nobel's father got plenty of money from government orders for landmines during the Civil War.
4. Like his father, Nobel was imaginative and inventive, but he was unlucky in business.
5. He missed every opportunity to help the poor.
6. The interests from Nobel's bank deposits are distributed annually in the form of prizes.
7. In his will Nobel wrote that he preferred that in choosing the prize winner no consideration should be given to the nationality of the candidates.

Task 8. Tell about Alfred Nobel's life and activities according to the plan:

1. Nobel's family.
2. His education.
3. His business.
4. Alfred Nobel's views.
5. His will.

UNIT 28. ALBERT EINSTEIN



Word list:

1.	theory of relativity	теорія ймовірності
2.	secular	світський, нерелігійний
3.	jewish	єврейський
4.	to excel	виділятися, бути краще за всіх
5.	to renounce	відмовлятися
6.	citizenship	громадянство
7.	to recall	згадувати
8.	loyal	вірний, відданий
9.	to cut classes	пропускати заняття
10.	animosity	ворожість
11.	vehemently	сильно, несамовито
12.	to oppose	виступати проти, противитися
13.	to defy	не підкорятися, ігнорувати
14.	desperate	доведений до відчаю
15.	unemployed	безробітний
16.	to tutor	займатися репетиторством
17.	blessing	благословення
18.	to evaluate	оцінювати
19.	application	заявка
20.	to ponder	роздумувати
21.	to violate	порушувати
22.	velocity	швидкість
23.	insight	осяяння, здогадка
24.	miracle	диво
25.	to submit	подавати, надавати
26.	to deduce	виводити (формулу)
27.	argument	суперечка

28.	meager	убогий
29.	affair	любовний зв'язок
30.	settlement	домовленість
31.	controversial	спірний
32.	award	нагорода
33.	to bar	забороняти
34.	assassination	вбивство (з ідейних мотивів)
35.	caption	підпис (до зображення)
36.	to withdraw	відходити, віддалятися
37.	associate	товариш, колега
38.	internal bleeding	внутрішня кровотеча
39.	content	задоволений
40.	to prolong	подовжувати
41.	share	внесок, частка
42.	ashes	прах
43.	to scatter	розвіювати

Task 1. Match the words with close meaning:

1.	velocity	a.	colleague
2.	associate	b.	jobless
3.	miracle	c.	refuse
4.	loyal	d.	prize
5.	bar	e.	satisfied
6.	renounce	f.	remember
7.	content	g.	speed
8.	award	h.	wonder
9.	recall	i.	prohibit
10.	unemployed	j.	devoted

Task 2. Complete the table:

Verb	Noun
	excellence
apply	
	opposition
tutor	
	violation
argue	
	deduction
settle	
assassinate	

Task 3. Match the words with their definitions:

1.	defy	a.	sudden understanding of a complex problem
2.	animosity	b.	characterized by strong intensity of emotions
3.	secular	c.	having lost all hope
4.	vehemently	d.	resist openly and boldly
5.	insight	e.	think of, consider with care
6.	meager	f.	not controlled by the church
7.	ponder	g.	little in quantity
8.	desperate	h.	a powerful and active dislike or hatred

Task 4. Fill in the gaps with the suitable words from the box:

evaluated	relativity	submitted
controversial	Internal	Jewish
blessing	Affair	

- The theory of _____ contributed a lot into the space exploration.
- His mother is a Jew, so he was given to a _____ school.
- The damage from tornado was _____ in dozen million dollars.
- He worked on this project for several months and at last _____ it for the committee's consideration.
- This _____ problem cannot be solved so quickly.
- Though her parents didn't give their _____ for their marriage, they defied their will and lived happily for many years.
- Though they did their best to conceal their _____ it was made public very soon.
- The reason of his death was strong _____ stomach bleeding.

Task 5. Translate into English:

- Він отримав французьке громадянство тільки після багатьох років навчання і наполегливої роботи в країні.
- Через хворобу їй довелося пропустити багато занять.

3. Підпис під фотографією в газеті змусив його посміхнутися.
4. Коли його сини вирости, він відійшов від справ і поїхав у село.
5. Так як справи йшли добре, партнери вирішили продовжити дію контракту.
6. Згідно з його заповітом, його прах був розвіяний над морем.
7. Прибуток був розділений відповідно до внеску у бізнес кожного учасника.

Task 6. Scan the text and choose the correct answers to questions 1 – 5

below:

1. Why did young Einstein have to renounce his German citizenship?
 - a. He wanted to continue his education in Switzerland.
 - b. He did not want to serve in the army.
2. Why did Einstein's parents vehemently oppose his marriage with a Serbian girl?
 - a. Because of her religion beliefs.
 - b. Because of her appearance and character.
3. What was the scientist doing when he deduced his famous equation?
 - a. He was tutoring children.
 - b. He was evaluating patent applications at the patent office.
4. What for did Einstein receive the Nobel Prize?
 - a. For his explanation of the photoelectric effect.
 - b. For his theory of relativity.
5. Why did Einstein decide to leave Germany forever?
 - a. Because he was offered a good position at the Institute in the USA.
 - b. Because he was afraid of Nazi's persecution.

Albert Einstein

Albert Einstein (1879–1955) was a German-born physicist who developed the theory of relativity. He is considered the most influential physicist of the 20th century.

Born in Germany, Albert Einstein grew up in a secular, middle-class Jewish family. His father was a salesman and engineer who, with his brother, founded a company that manufactured electrical equipment in Munich, Germany. Einstein attended elementary school in Munich, where he excelled in his studies. He enjoyed classical music and played the violin.

As a young man Einstein had to renounce his German citizenship to avoid military service and enrolled at the Zurich school. Einstein would recall that his years in Zurich were some of the happiest of his life. He met many students who would become loyal friends. He also met his future wife, Mileva Maric, a physics student from Serbia.

After graduating, Albert Einstein faced a series of life crises over the next few years. Because he liked to study on his own, he cut classes and earned the animosity of some of his professors. Meanwhile, Einstein's relationship with Maric deepened, but his parents vehemently opposed the relationship because of her Serbian background and Eastern Orthodox Christian religion. Einstein defied his parents and continued to see Maric.

At this point, Albert Einstein probably reached the lowest point in his life. He could not marry Maric and support a family without a job, and his father's business had gone bankrupt. Desperate and unemployed, Einstein took lowly jobs tutoring children. A turning point came later in 1902, when the father of his lifelong friend, Marcel Grossman, recommended him for a position as a clerk in the Swiss patent office in Bern, Switzerland. About this time, Einstein's father became seriously ill and just before he died, gave his blessing for him to marry. With a small but steady income, Einstein married Maric in 1903. In 1904 they had their first son, Hans Albert. Their second son, Eduard, was born in 1910.

At the patent office, Albert Einstein evaluated patent applications for electromagnetic devices. He quickly mastered the job, leaving him time to ponder on the transmission of electrical signals and electrical-mechanical synchronization, an interest he had been cultivating for several years. While at the polytechnic school he had studied Scottish physicist James Maxwell's electromagnetic theories which describe the nature of light, and discovered a fact unknown to Maxwell himself, that the speed of light remained constant. However, this violated Isaac Newton's laws of motion because there is no absolute velocity in Newton's theory. This insight led Einstein to formulate the principle of relativity.

In 1905 – often called Einstein's "miracle year" – he submitted a paper for his doctorate. In his paper on matter and energy, Einstein deduced the well-known equation $E=mc^2$, suggesting that tiny particles of matter could be converted into huge amounts of energy, foreshadowing the development of nuclear power.

Einstein was invited to lecture at international meetings and he rose rapidly in the academic world. He was offered a series of positions at increasingly prestigious institutions, including the University of Zürich, the University of Prague, the Swiss Federal Institute of Technology, and finally the University of Berlin, where he served as director of the Kaiser Wilhelm Institute for Physics from 1913 to 1933.

As his fame spread, Einstein's marriage fell apart. His constant travel and intense study of his work, the arguments about their children and the family's meager finances led Einstein to the conclusion that his marriage was over. Einstein began an affair with a cousin, Elsa Löwenthal, whom he later married. He finally divorced Mileva in 1919 and as a settlement agreed to give her the money he might receive if he ever won a Nobel Prize.

Albert Einstein received the Nobel Prize for Physics in 1921. Because relativity was still considered controversial, Einstein received the award for his explanation of the photoelectric effect.

While Einstein was touring much of the world speaking on his theories in the 1920s, the Nazis were rising to power under the leadership of Adolph Hitler. At

this time, Einstein learned that the new German government passed a law barring Jews from holding any official position, including teaching at universities. Einstein also learned that his name was on a list of assassination targets, and a Nazi organization published a magazine with Einstein's picture and the caption "Not Yet Hanged" on the cover.

In December, 1932, Einstein decided to leave Germany forever. He took a position at the newly formed Institute for Advanced Study at Princeton, New Jersey, which soon became a Mecca for physicists from around the world.

In the last decade of his life, Einstein withdrew from public life, rarely traveling far and taking long walks around Princeton with close associates, whom he engaged in deep conversations about politics and religion.

On April 17, 1955, Einstein suffered an abdominal aortic aneurysm and experienced internal bleeding. He was taken to the University Medical Center at Princeton for treatment, but refused surgery, believing that he had lived his life and was content to accept his fate. "I want to go when I want," he stated at the time. "It is tasteless to prolong life artificially. I have done my share, it is time to go. I will do it elegantly." Einstein died at the university medical center early the next morning at the age of 76. His remains were cremated and his ashes were scattered in an unknown location.

Task 7. Read the text again and decide if the statements below are true (T) or false (F):

1.	The company of Einstein's father manufactured chemical equipment.	T/F
2.	Einstein was an excellent student.	T/F
3.	Einstein recalled the years in Munich as the happiest in his life.	T/F
4.	Professors didn't like Einstein for his not attending classes regularly.	T/F
5.	His life was crucially changed when he received a position of a clerk in the patent office.	T/F
6.	His theory of relativity was based on Newton's laws of motion.	T/F

7.	He headed one of the Institutes in Berlin for twenty years.	T/F
8.	Till the end of his life Einstein was actively involved in public life.	T/F

Task 8. Rearrange the facts from Einstein's life in the chronological order.

- () Einstein rose rapidly in the academic world.
- () He took lowly jobs tutoring children.
- () Einstein deduced his well-known equation and submitted a paper for his doctorate.
- () He died at the age of 76.
- () He received a position of a clerk in the patent office in Bern.
- () Einstein received the Nobel Prize for Physics.
- () His father blessed his marriage.
- () He attended elementary school in Munich.
- () He served as a director at the Institute of Physics in Berlin.
- () Einstein was enrolled at the Zurich school.
- () He withdrew from public life.
- (/) Einstein was born in a secular, Jewish family.
- () His marriage fell apart.
- () His remains were cremated and his ashes were scattered in an unknown location.
- () He met his future wife, Mileva Maric.
- () Einstein left Germany forever.
- () His father's business went bankrupt.

UNIT 29. MARIE CURIE



Word list:

1.	science	природничі предмети
2.	to determine	вирішувати (ся)
3.	Master's degree	ступінь магістра
4.	scarcely	ледве
5.	to furnish	обставляти (меблями)
6.	course	курс
7.	Bachelor	бакалавр
8.	honour	честь
9.	salary	платня, оклад
10.	reward	винагорода
11.	partnership	партнерство
12.	rare	рідкісний
13.	to emit	випромінювати
14.	to wrap	загортати
15.	to puzzle	спантеличувати
16.	thesis	дисертація
17.	store-room	комора
18.	proper	належний, відповідний
19.	to find out	з'ясувати, знаходити
20.	to declare	заявляти
21.	to point out	вказувати
22.	traffic accident	автокатастрофа
23.	generation	покоління

Task 1. Match the words with opposite meaning:

1.	rare	a.	hide
2.	honour	b.	punishment
3.	proper	c.	guess
4.	reward	d.	animosity
5.	find out	e.	shame
6.	partnership	f.	unsuitable
7.	puzzle	g.	frequent

Task 2. Make up the possible word-combinations:

1.	point	a.	rays
2.	Master's	b.	accident
3.	monthly	c.	thesis
4.	store	d.	room
5.	emit	e.	degree
6.	wrap	f.	salary
7.	traffic	g.	a present
8.	doctor's	h.	out

Task 3. Fill in the gaps with the suitable words from the box:

Bachelor's	course	scarcely
furnished	declared	science
determine	generation	

- The captain had to change the _____ of the ship because of oncoming storm.
- Last year he received the _____ degree in _____ .
- She was so tired that she could _____ walk.
- The room she was going to rent was poorly _____ .
- The management _____ that the company had gone bankrupt and most workers would be dismissed.
- After finishing school it was difficult for him to _____ what profession to choose.
- Very often young _____ is more competent in computer technologies than their teachers.

Task 4. Translate into English:

1. Викладач був спантеличений відповіддю студента.
2. «Не могли б Ви загорнути подарунок в красивий папір?» - попросив покупець продавця.
3. Він обіцяє захистити дисертацію наступного року.
4. Поліція намагається з'ясувати причину автокатастрофи, хоча все вказує на те, що вона сталася через дощову погоду.
5. Крім щомісячної платні, вона іноді отримує невелику грошову винагороду за хорошу роботу.
6. Вони опублікували кілька успішних книг завдяки багаторічному партнерству.
7. Він працює на трьох роботах, але грошей ледве вистачає, щоб утримувати сім'ю і оплачувати рахунки.
8. Отримавши ступінь бакалавра, він вирішив продовжити навчання для отримання ступеня магістра.

Task 5. Scan the text. Put the main ideas (A – E) in the same order as they are in the text:

- A. Discovery of radium.
- B. The scientist's private life.
- C. Receiving Nobel Prizes.
- D. Marie Curie received her education.
- E. Experimenting with chemical substances.

Marie Curie

Marie Curie was born in Warsaw on 7 November, 1867. Her father was a teacher of science and mathematics in a school in the town, and from him little Maria Sklodowska – which was her Polish name – learned her first lessons in

science. Maria's wish was to study at the Sorbonne in Paris, and after many years of waiting she finally left her native land in 1891.

In Paris Maria began a course of hard study and simple living. She determined to work for two Master's degrees – one in Physics, the other in Mathematics. Thus she had to work twice as hard as the ordinary student. Yet she had scarcely enough money to live on. She lived in the poorest quarter of Paris. Night after night, after her hard day's work at the University, she got to her poorly furnished room and worked at her books steadily for hours. Though she was often weak and ill, she worked in this way for four years. She had chosen her course and nothing could turn her from it.

Among the many scientists Maria met and worked with in Paris was Pierre Curie. Pierre Curie, born in 1859 in Paris, was the son of a doctor, and from early childhood he had been fascinated by science.

At sixteen he was a Bachelor of Science, and he took his Master's degree in Physics when he was eighteen. When he met Maria Sklodowska he was thirty-five years old and was famous throughout Europe for his discoveries in magnetism. But in spite of the honour he had brought to France by his discoveries, the French Government could only give him a very little salary as a reward, and the University of Paris refused him a laboratory of his own for his research.

Pierre Curie and Maria Sklodowska, both of whom loved science more than anything else, very soon became the closest friends. They worked together constantly and discussed many problems of their research. After little more than a year they fell in love with each other, and in 1895 Maria Sklodowska became Mme. Curie. Theirs was not only a very happy marriage but also one of the greatest scientific partnerships.

Marie was the greatest woman-scientist of her day but she was a mother too, a very loving one. There were their two little girls, Irene and Eve.

For some time Pierre Curie had been interested in the work of a French scientist named Becquerel. There is a rare metal called uranium which, as Becquerel discovered, emits rays very much like X-rays. These rays made marks

on a photographic plate when it was wrapped in black paper. The Curies got interested in these rays of uranium. What caused them? How strong were they? There were many such questions that puzzled Marie Curie and her husband. Here, they decided, was the very subject for Marie's Doctor's thesis.

The research was carried out under great difficulty. Mme. Curie had to use an old store-room at the University as her laboratory – she was refused a better room. It was cold, there was no proper apparatus and very little space for research work. Soon she discovered that the rays of uranium were like no other known rays.

Marie Curie wanted to find out if other chemical substances might emit similar rays. So she began to examine every known chemical substance. Once after repeating her experiments time after time she found that a mineral called pitchblende emitted much more powerful rays than any she had already found.

Now, an element is a chemical substance which so far as is known cannot be split up into other substances. As Mme. Curie had examined every known chemical element and none of them had emitted such powerful rays as pitchblende she could only decide that this mineral must contain some new element.

Scientists had declared that every element was already known to them. But all Mme. Curie's experiments pointed out that it was not so. Pitchblende must contain some new and unknown element. There was no other explanation for the powerful rays which it emitted.

Scientists call the property of giving out such rays "radioactivity", and Mme. Curie decided to call the new element "radium", because it was more strongly radioactive than any known metal.

In 1903 Marie and Pierre together with Henry Becquerel were awarded the Nobel Prize in Physics. In 1911 Marie received the Nobel Prize in Chemistry. But the second prize went to her alone for in 1906 Pierre had died tragically in a traffic accident. Mme. Sklodowska-Curie, the leading woman-scientist, the greatest woman of her generation, has become the first person to receive a Nobel Prize twice.

Task 6. Read the text again. Choose the correct words to complete the sentences:

1. Marie Curie was _____ by nationality.
2. In Paris she determined to work for two _____ .
3. When Pierre Curie met Maria Sklodowska, he was famous throughout Europe for _____ .
4. They were not only a happy family, but also great scientific _____ .
5. The subject of Marie's Doctor's thesis was connected with _____ .
6. Marie Curie called the discovered element "radium" because _____ .
7. Marie Curie received the second Nobel Prize alone as her husband _____ .

Task 7. Restore the questions to the following short answers:

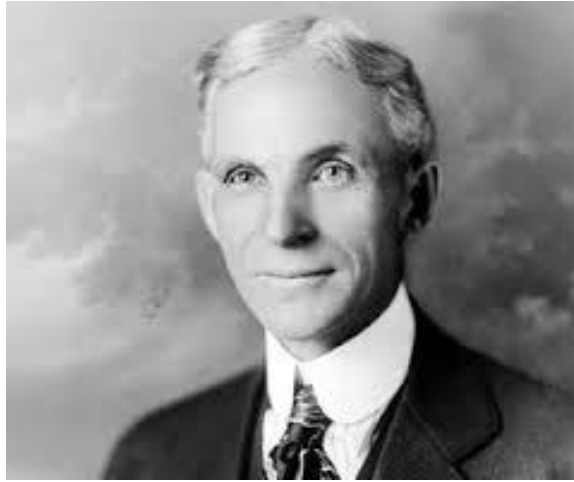
1. A teacher of Science.
2. To study at the Sorbonne in Paris.
3. One in Physics, the other in Mathematics.
4. In the poorest quarter of Paris.
5. He was thirty-five years old.
6. Yes, they did. Two little girls, Irene and Eve.
7. In an old store-room.
8. The property of giving out powerful rays.
9. In 1903.

Task 8. Tell about Marie Curie's life and activities according to the plan:

1. Marie Curie's early life.
2. Her studies at the Sorbonne.
3. Her future husband, Pierre Curie.
4. Their love story and family life.
5. Experimenting with chemical substances which emit rays.

6. Discovery of radium.
7. Being awarded with the Noble Prizes.

UNIT 30. HENRY FORD



Word list:

1.	famed	знаменитий
2.	to gift	подарувати
3.	promptly	швидко
4.	to take apart	розібрати
5.	apprenticeship	учнівство
6.	bookkeeping	бухгалтерія
7.	briefly	протягом короткого періоду
8.	to hire	наймати
9.	carriage	візок
10.	executive	управлінець
11.	genius	геній
12.	gains	прибуток
13.	renowned	відомий, знаменитий
14.	vision	проникливість, передбачення
15.	wages	зарплата
16.	assembly line	складальний конвеєр
17.	simultaneously	одночасно
18.	contradictory	суперечливий
19.	viewpoint	точка зору
20.	ardent	палкий, ревний
21.	ongoing	постійний, безперервний
22.	committed	переконаний, ідейний

Task 1. Match the words with close meaning:

1.	gains	a.	rapidly
----	-------	----	---------

2.	ongoing	b.	controversial
3.	famed	c.	present
4.	gift	d.	at the same time
5.	contradictory	e.	profit
6.	promptly	f.	renowned
7.	hire	g.	continuous
8.	simultaneously	h.	employ

Task 2. Make up possible words or word-combinations from the following parts:

1.	chief	a.	supporter
2.	committed	b.	keeping
3.	take	c.	point
4.	assembly	d.	apart
5.	apprentice	e.	line
6.	view	f.	opponent
7.	book	g.	ship
8.	ardent	h.	executive

Task 3. Choose the word that best completes each sentence:

1. He worked _____ for an electronics company but had to resign because of arguments with the management.

- a. largely
- b. solely
- c. briefly

2. Before invention of automobile things were transported from place to place by mostly horse _____ .

- a. sledges
- b. carriages
- c. trains

3. He became one of the richest men in the country due to his financial _____ .

- a. achievements
- b. gains

c. genius

4. The trade unions organized the workers' strike against _____ cutting.

a. wages

b. profit

c. earnings

5. We could avoid bankruptcy and survive the economic crisis due to the _____ of our bank president.

a. forward-looking

b. viewpoint

c. vision

Task 4. Translate into English:

1. Дитина швидко розібрала іграшку, яка була подарована їй на день народження.

2. Члени правління компанії мали суперечливі точки зору щодо підвищення зарплати робітникам.

3. Завдяки впровадженню складального конвеєра стало можливим одночасно виготовляти десятки автомобілів.

4. За роки учнівства він освоїв не тільки робочу професію, а й бухгалтерію.

5. Будучи генієм в збройних технологіях, він завжди був переконаним противником війни.

6. Як тільки вони дізналися, що відомий хірург переїхав до їхнього міста, вони швидко найняли його на роботу в клініку, запропонувавши хорошу зарплату.

Task 5. Scan the text. Put the main ideas (A – E) in the same order as they are in the text:

A. Establishing Ford Motor Company.

B. Being hired as an engineer for the Edison Illuminating company.

- C. Ford displayed his engineer talent for the first time.
- D. Introducing assembly line technique.
- E. Taking apprenticeship as a machinist.

Henry Ford

Famed automobile manufacturer Henry Ford (1863–1947) was born on his family's farm in Wayne County, near Dearborn, Michigan. When Ford was 15 years old, his father gifted him a pocket watch, which the young boy promptly took apart and reassembled. Friends and neighbors were impressed, and requested that he fix their timepieces too.

Unsatisfied with farm work, Ford left home the following year, at the age of 16, to take an apprenticeship as a machinist in Detroit. In the years that followed, he would learn to skillfully operate and service steam engines, and would also study bookkeeping.

In 1888, Ford married Clara Ala Bryant and briefly returned to farming to support his wife and son, Edsel. But three years later, he was hired as an engineer for the Edison Illuminating Company. In 1893, his natural talents earned him a promotion to chief engineer.

All the while, Ford developed his plans for a horseless carriage, and in 1896, he constructed his first model, the Ford Quadricycle. Within the same year, he attended a meeting with Edison executives and found himself presenting his automobile plans to Thomas Edison. The lighting genius encouraged Ford to build a second, better model.

In 1903, Henry Ford established the Ford Motor Company. Ford introduced the Model T in October of 1908, and for several years, the company achieved 100 percent gains.

However, more than for his profits, Ford became renowned for his revolutionary vision: the manufacture of an inexpensive automobile made by skilled workers who earn steady wages.

In 1914, he sponsored the development of the moving assembly line technique of mass production. Simultaneously, he introduced the \$5-per-day wage (about \$110 at present) as a method of keeping the best workers loyal to his company. Simple to drive and cheap to repair, half of all cars in America in 1918 were Model T's.

From a social perspective, Henry Ford's was marked by seemingly contradictory viewpoints. In business, Ford offered profit sharing to select employees who stayed with the company for six months and, most important, who conducted their lives in a respectable manner.

Ford was also an ardent pacifist and opposed World War I, even funding a peace ship to Europe. Later, in 1936, Ford and his family established the Ford Foundation to provide ongoing grants for research, education and development. But despite these philanthropic leanings, Ford was also a committed anti-Semite, going as far as to support a weekly newspaper, The Dearborn Independent, which furthered such views.

Task 6. Read the text again to find answers to the following questions:

1. What family was Ford born into?
2. What trades did he master after leaving home?
3. Why did he have to return to farming?
4. What helped his promotion at the Edison Illuminating Company?
5. What made Henry Ford renowned?
6. In what way did he socially support his workers?
7. Why can some of his viewpoints be called contradictory?

Task 7. Say what the following numbers from the text are associated with:

16; 1888; 1863; 1914; 110; 1936; 1918; 100; 1903; 1947.

Task 8. Rearrange these lines to describe Henry Ford's life and activities in the chronological order. Then reproduce them by memory:

- () Ford sponsored the development of the assembly line.
- () He married Clara Ala Bryant.
- () Ford was hired as an engineer for the Edison Illuminating Company.
- () He returned to farming to support his family.
- (1) Henry Ford was born on his family's farm in Michigan.
- () Half of all cars in America were Model T's.
- () He established the Ford Motor Company.
- () He took an apprenticeship as a machinist studying simultaneously bookkeeping.
- () He established the Ford Foundation to provide ongoing grants for research, education and development.
- () He constructed the first model of the Ford automobile.

TEST 3 (Units 21-30)**Choose the best word to fill each gap:**

1. From an early age, Edison developed a severe ...
 - a) blindness
 - b) character
 - c) deafness
 - d) temper
2. Having a talent for business Edison spent his extra ... on research.
 - a) energy
 - b) attention
 - c) abilities
 - d) income
3. The Wright brothers used funds from ... to start testing their first aeroplanes.
 - a) their father
 - b) the bicycle shop
 - c) working in church
 - d) shoe repair shop
4. Galileo was sentenced to ... imprisonment for his support of the Copernican theory.
 - a) long
 - b) durable
 - c) live
 - d) life
5. Galileo was born in a poor but ... family.
 - a) big
 - b) merry
 - c) noble
 - d) famous
6. Steven Jobs travelled to india in search of ... enlightenment.
 - a) spiritual

- b) philosophic
 - c) psychedelic
 - d) scientific
7. Louis Pasteur is well known for his outstanding ... in medicine.
- a) vaccines
 - b) pasteurization process
 - c) views
 - d) breakthroughs
8. Pasteur's discoveries help fighting and ... many dangerous diseases.
- a) causing
 - b) immunization
 - c) damaging
 - d) preventing
9. Paracelsus ... his colleagues by lecturing in German instead of Latin in order to make medical knowledge more accessible to the common people.
- a) angered
 - b) angry
 - c) annoy
 - d) upset
10. Paracelsus' aid to villages during the ... in the 16th century was for many an act of heroism.
- a) repression
 - b) plague
 - c) genocide
 - d) sickness
11. Nobel's greatness lay in his outstanding ability to combine the qualities of an original scientist with those of a ... industrialist.
- a) hard-working
 - b) forward-looking
 - c) ambitious

- d) easy-going
12. According to Nobel's ... the capital was to be safely invested to form a fund.
- a) wish
b) desire
c) will
d) words
13. Einstein ... his well-known equation suggesting that tiny particles of matter could be converted into huge amount of energy.
- a) produced
b) reduced
c) submitted
d) deduced
14. Scientists call the property of giving out powerful rays
- a) radium
b) radioactivity
c) radius
d) radioactive
15. Ford is renowned for his revolutionary ... : the manufacture of an inexpensive automobile made by skilled workers who earn steady wages.
- a) gains
b) vision
c) position
d) results

Match the sentences halves:

16.	Edison described his invention methods as involving	a.	which focused on accessibility, appealing design and innovation features.
17.	The climate of intellectual	b.	inspiring him to do something for

	creativity in the Wright family		incurable diseases.
18.	By inventing the world's first telescope	c.	in the form of prizes to those who, during the previous year, contributed greatly to humankind.
19.	Jobs promoted the development of a new wave of Apple products	d.	he received the award for his explanation of the photoelectric effect.
20.	Pasteur's personal losses left a deep scar within him	e.	the French government gave him a very little salary as a reward.
21.	Paracelsus was one of the first medical professors to recognize	f.	a lot of hard work, repeated trial and error until a method was successful.
22.	The interests on Nobel's fund is to be distributed annually	g.	to provide ongoing grants for research, education and development.
23.	Because Einstein's theory of relativity was considered controversial	h.	encouraged the brothers to pursue a range of interests and studies.
24.	In spite of the honour Pierre Curie had brought to France by his discoveries	i.	Galileo was able to make many exploration of the universe.
25.	Ford and his family established the Ford Foundation	j.	that physicians required solid academic knowledge in the natural sciences.

Choose the correct answers to the following questions:

26. Which of the following was not invented by Edison?

- a) the motion picture camera
- b) the telephone

- c) the electric light bulb
- d) the electric power station

27. Why were the Wright brothers reluctant to reveal too much about their test flights?

- a) they disliked reporters
- b) they were too modest
- c) they were afraid of competitors
- d) they wanted to receive successful patents to make their aircraft commercially viable

28. What was Galileo convicted of?

- a) heresy
- b) robbery
- c) murder
- d) lie

29. Why did Jobs have to resign and leave Apple?

- a) he did not want to work for a big company
- b) he did not cope with his managerial duties
- c) there was increased friction between him and other workers
- d) he hated routine work

30. What do we call pasteurization?

- a) liquid contamination
- b) germ killing process
- c) micro-organisms infecting animals
- d) preventing infectious diseases

31. What approach did Paracelsus take?

- a) that humans must have certain balances of germs
- b) that humans must have certain balances of liquid
- c) that humans must have certain balances of toxic substances
- d) that humans must have certain balances of minerals

32. In which field is not the Nobel Prize given?

- a) literature
- b) economics
- c) physics
- d) arts

33. Why did Einstein have to leave Germany?

- a) because he was not well-paid
- b) he was offered a position at a prestigious University
- c) because of the Nazis' law barring Jews from holding any official positions, including teaching at universities
- d) because his marriage fell apart

34. How many times was Marie Curie awarded with the Nobel Prize?

- a) 1
- b) 2
- c) 3
- d) 4

35. Who did not Ford offer profit sharing?

- a) best workers loyal to his company
- b) those who stayed with the company for six months
- c) who conducted their lives in a respectable manner
- d) his competitors

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