

ДЕРЖАВНА СЛУЖБА УКРАЇНИ З НАДЗВИЧАЙНИХ СИТУАЦІЙ  
НАЦІОНАЛЬНИЙ УНІВЕРСИТЕТ ЦИВІЛЬНОГО ЗАХИСТУ УКРАЇНИ  
КАФЕДРА МОВНОЇ ПІДГОТОВКИ

ЗАТВЕРДЖУЮ  
Завідувач кафедри  
\_\_\_\_\_ І. Є. Богданова  
\_\_\_\_\_ 201\_\_ року

**МЕТОДИЧНІ ВКАЗІВКИ І ТЕМАТИКА КОНТРОЛЬНИХ РОБІТ**  
із навчальної дисципліни

**«ІНОЗЕМНА МОВА ДЛЯ МІЖНАРОДНИХ ТЕСТІВ**

**TOEFL TA IELTS»**

за спеціальністю 261 «Пожежна безпека»  
спеціалізацією «Управління пожежною безпекою»

Обговорено на засіданні  
кафедри мовної підготовки  
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Викладач: доцент Старова О. О.

## ПОЯСНЮВАЛЬНА ЗАПИСКА

**Метою** викладання навчальної дисципліни «Іноземна мова для міжнародних тестів TOEFL та IELTS» є розвиток іншомовних комунікативних компетентностей слухачів, необхідних для успішного складання міжнародних тестів TOEFL та IELTS.

Відповідно в результаті вивчення навчальної дисципліни здобувач вищої освіти повинен:

➤ **знати:**

- структурні особливості завдань міжнародних тестів TOEFL та IELTS, вимоги до їх виконання та особливості оцінювання;
- граматичні засоби, за допомогою яких можна трансформувати лексичні одиниці англійської мови в осмислене висловлювання з метою вираження широкого спектру понять, відношень та причинно-наслідкових зв'язків;
- правила синтаксису й пунктуації, які дозволяють розпізнавати й створювати різноманітні за стилем усні та письмові висловлювання;

➤ **уміти:**

- сприймати на слух монологічні, діалогічні та полілогічні висловлювання, різні за тематикою та стилем;
- розрізняти експліцитне та імпліцитне значення лінгвоодиниць, особливості інтонування та логічного наголошування;
- реагувати на основні ідеї та розпізнавати суттєво важливу інформацію під час участі в дискусіях і бесідах, сприйняття аудіальної інформації;
- будувати монологічне висловлювання, чітко аргументуючи свою думку щодо широкого кола питань, пов'язаних із побутом, навчанням, фаховою діяльністю, суспільним життям;
- розуміти автентичні тексти загальної тематики, кореспонденцію, інструкції, пояснення до графіків та діаграм, рекламні повідомлення;
- писати зрозумілі, деталізовані тексти різного стилю та тематики, пов'язані з особистою й професійною сферами;

➤ **мати навички:**

- розпізнавання та використання складних граматичних конструкцій і словотвірних засобів англійської мови;
- оформлення особистої й ділової кореспонденції;
- заповнення бланків документів із високим ступенем лексичної та граматичної коректності.

Запропоновані контрольні роботи покликані перевірити наведені знання, уміння й навички здобувачів вищої освіти<sup>1</sup>.

Контрольна робота для **денної форми навчання**, зважаючи на часові обмеження, являє собою спрощений варіант міжнародних тестів TOEFL та IELTS і відповідно складається з таких частин:

**1.** Завдання із секції **«Reading»**, запропоноване в 5 варіантах (час виконання — 20 хв.).

Курсантам і студентам пропонують прочитати текст (наукового або публіцистичного стилю) і протягом відведено часу оформити на аркуші контрольної роботи відповіді до **13 завдань** за цим текстом. З-поміж завдань наявні такі типи: на встановлення відповідності, з вибором однієї правильної відповіді, на поцінування поданої інформації за критерієм *true / false / not given*, з короткою відповіддю, із заповненням пропусків у тексті.

Кожна правильна відповідь, оформлена без орфографічних, пунктуаційних, лексичних і граматичних помилок, оцінюється *2 балами*. Відповідно максимальна кількість балів, яку можна заробити за виконання завдань цієї секції, — **26**.

**2.** Завдання із секції **«Listening»** — одне для всієї групи, при цьому викладач використовує інтернет-ресурси онлайн-тестування: <http://ieltsionlinetests.com>, <http://lengish.com/tests/toefl> (час виконання — 10 хв.)

Курсанти і студенти сідають за комп'ютери, заходять на один з указаних сайтів і за настановою викладача вибирають один із варіантів аудіозапису для прослуховування. Запис слухають лише раз і дають короткі письмові відповіді на **10 запитань** до нього, які висвічуються на екрані, у своїй контрольній роботі. З-поміж завдань наявні такі типи: з короткою відповіддю, із заповненням пропусків у тексті.

Кожна правильна відповідь, оформлена без орфографічних, пунктуаційних, лексичних і граматичних помилок, оцінюється *2 балами*. Відповідно максимальна кількість балів, яку можна заробити за виконання завдань цієї секції, — **20**.

**3.** Завдання із секції **«Writing»**, запропоноване в 10 варіантах (час

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<sup>1</sup> Завдання для секції «Reading» узяті з посібників *IELTS 8–9 with Answers. Examination Paper from University of Cambridge. ESOL Examinations: English for Speakers of Other Languages. Cambridge University Press, 2009–2010*. Завдання для секції «Writing» узяті із сайту [www.ielts-exam.net](http://www.ielts-exam.net).

виконання — 40 хв.).

Кожен курсант і студент отримує певну тему-запитання, відповідь на яке він має оформити у вигляді есе. Загальний обсяг есе має становити не менше 150 і не більше 250 слів.

Завдання з письма оцінюють за 54-бальною шкалою, виходячи з чотирьох параметрів: *зміст* (наскільки повно виконано поставлене завдання), *послідовність викладу думки* (наскільки зрозуміло викладено тезу, аргументи, висновки), *лексичне розмаїття й граматна побудова висловлювання* (правильність і різноманітність граматичних конструкцій). Відповідно оцінка може бути знижена, якщо курсант / студент:

- відхилився від теми;
- не відповідає на якесь із запитань у завданні;
- хаотично викладає думки;
- кілька разів повторює ту саму ідею;
- переписує слова й фрази із завдання;
- складає громіздкі речення;
- використовує багато зворотів, нетипових для англійської мови;
- недоречно користується лексикою або вживає неправильні форми слів;
- через неправильне написання змінює значення слова;
- використовує україномовну структуру речень;
- припускається орфографічних та пунктуаційних помилок.

### Критерії оцінювання есе

Бали	Зміст	Послідовність викладу думки	Лексичне розмаїття	Граматна побудова висловлювання
50–54	Повна відповідь на поставлене запитання з повним обґрунтуванням	Зосередженість на викладі думки; правильний поділ тексту на абзаци	Використання великого обсягу лексики й фразеології, наявність незначних помилок («описок»)	Використання розмаїття граматичних конструкцій, наявність незначних помилок («описок»)
44–49	Повна відповідь на поставлене запитання з гарним, але	Незначні відхилення від логічного викладу думки, не зовсім	Використання значного обсягу лексики й фразеології,	Використання розмаїття граматичних конструкцій,

	неповним обґрунтуванням	доречний поділ на абзаци	наявність незначних помилок у слововживанні й написанні слів	незначні помилки та окремі не зовсім доречні граматичні конструкції
38–43	Наявна відповідь на всі запитання завдання й чітка точка зору, однак може простежуватися тенденція до надмірного узагальнення або деякі ідеї можуть залишатися не до кінця розкритими	Інформація організована логічно із використанням відповідних мовних засобів зв'язку, хоча їх застосування може бути не завжди доречним; кожен абзац відповідає певній мікротемі	Використання достатнього обсягу лексики, однак деякі слова та фразеологізми можуть бути стилістично недоречними; можуть бути наявні спорадичні помилки в слововживанні, написанні та/або словотворенні	Використання розмаїття складних конструкцій, однак із наявністю поодиноких граматичних і пунктуаційних помилок
32–37	Деякі питання розкриті у висловлюванні більшою мірою, ніж інші, позиція щодо теми та провідні ідеї висловлені нечітко	Наявні порушень у викладі думки, деякі речення не несуть смислового навантаження, зв'язок між окремими думками прослідковується нечітко; поділ на абзаци наявний, але не завжди логічний	Використання обсягу лексики, достатнього для відповіді на завдання; недоречне використання фразеології, помилки у написанні й будові слів, які, проте, не заважають сприйняттю змісту	Змішування простих і складних речень; граматичні й пунктуаційні помилки, які, проте, не заважають сприйняттю змісту
26–31	Відповідь до завдання є частковою; висловлена певна точка зору, однак її обґрунтування є не зовсім	Інформація організована, однак наявні логічні порушення в розвитку думки; текст може не поділятися на абзаци або	Використання обмеженого обсягу лексики, який мінімально відповідає змісту висловлювання; спорадичні	Використання обмеженого набору граматичних конструкцій; наявність незначної кількості складних речень із помилками в будові;

	доречним; наявні основні ідеї, однак нерозвинені	поділятися недоречно	помилки в написанні слів створюють труднощі для сприйняття	спорадичні граматичні та пунктуаційні помилки створюють труднощі для сприйняття
20–25	Тема розкрита мінімально, точка зору незрозуміла; наявні певні основні ідеї, але їх важко виділити в тексті	Наявна інформація не впорядкована логічно, важко простежити розвиток думки; текст може не поділятися на абзаци або поділятися недоречно	Використання лише базового словникового запасу; ті самі слова й фрази повторюються; значна кількість лексичних і словотвірних помилко може спричиняти незрозумілість тексту	Використання надзвичайно обмеженої кількості граматичних конструкцій; неправильно побудовані речення переважають; велика кількість пунктуаційних помилко
14–19	Неточне сприйняття завдання; відсутня чітка точка зору; наявні кілька ідей, які здебільшого нерозвинуті	Відсутня логічна організація викладу думок, використані засоби зв'язку речень можуть не відповідати логічному зв'язку окремих думок	Використання дуже обмеженого обсягу лексики; велика кількість помилко у написанні й словотворенні, яка майже цілком порушує розуміння	Значна кількість помилко у простих граматичних конструкціях, ігнорування пунктуаційних норм, що майже цілком порушує розуміння
8–13	Висловлювання лише частково пов'язане з темою; не висловлена власна точка зору; може бути наявна спроба представити одну-дві ідеї, але вони нерозвинені	Наявна слабка спроба створити зв'язний текст за допомогою мовних засобів зв'язку	Використання надзвичайно обмеженого обсягу лексики, значна кількість орфографічних та словотвірних помилко	Відсутність правильно побудованих простих речень; часте використання замість речень фраз

1–7	Висловлювання абсолютно непов'язане з темою завдання	Повідомлення абсолютно незв'язне	Правильне використання лише окремих слів	Нездатність правильно будувати жодні типи речень
0	Не написано жодної відповіді до завдання			

### Система оцінювання контрольної роботи

Система нарахування балів за завдання контрольної роботи базується на методичних указах до оцінювання завдань міжнародних іспитів.

Загалом за виконання запропонованих завдань можна набрати **100 балів**. Відповідність між кількістю балів та оцінкою: 90–100 балів — А, 80–89 балів — В, 65–79 балів — С, 55–64 бали — D, 50–54 бали — E, 35–49 балів — FX, 1–34 бали — F.

Контрольна робота для **заочної форми навчання** також містить елементи завдань міжнародних тестів TOEFL та IELTS, однак з огляду на дистанційний характер виконання частина «Listening» замінена в ній на **тест із граматики**, який містить **20 запитань**. Кожна правильна відповідь оцінюється 1 балом, тож максимальна кількість балів, яку можна заробити за виконання завдань цієї частини, — **20**, як і в секції «Listening». Відповідно загальна система оцінювання цієї контрольної роботи є такою самою, як і для слухачів денної форми навчання.

**Увага!** Під час виконання контрольних робіт не потрібно переписувати жодні формулювання із завдань. Слід лише вказати назву секції та отриманий варіант, пронумерувати запитання й дати відповіді на них.

**Завдання модульної контрольної роботи  
з навчальної дисципліни  
«ІНОЗЕМНА МОВА ДЛЯ МІЖНАРОДНИХ ТЕСТІВ TOEFL ТА IELTS»  
(денна форма навчання)**

**1. Секція «Reading»**

*Варіант 1*

Reading

**READING**

**READING PASSAGE 1**

You should spend about 20 minutes on **Questions 1–13**, which are based on Reading Passage 1 below.

## William Henry Perkin

### *The man who invented synthetic dyes*

William Henry Perkin was born on March 12, 1838, in London, England. As a boy, Perkin's curiosity prompted early interests in the arts, sciences, photography, and engineering. But it was a chance stumbling upon a run-down, yet functional, laboratory in his late grandfather's home that solidified the young man's enthusiasm for chemistry.

As a student at the City of London School, Perkin became immersed in the study of chemistry. His talent and devotion to the subject were perceived by his teacher, Thomas Hall, who encouraged him to attend a series of lectures given by the eminent scientist Michael Faraday at the Royal Institution. Those speeches fired the young chemist's enthusiasm further, and he later went on to attend the Royal College of Chemistry, which he succeeded in entering in 1853, at the age of 15.

At the time of Perkin's enrolment, the Royal College of Chemistry was headed by the noted German chemist August Wilhelm Hofmann. Perkin's scientific gifts soon caught Hofmann's attention and, within two years, he became Hofmann's youngest assistant. Not long after that, Perkin made the scientific breakthrough that would bring him both fame and fortune.

At the time, quinine was the only viable medical treatment for malaria. The drug is derived from the bark of the cinchona tree, native to South America, and by 1856 demand for the drug was surpassing the available supply. Thus, when Hofmann made some passing comments about the desirability of a synthetic substitute for quinine, it was unsurprising that his star pupil was moved to take up the challenge.

During his vacation in 1856, Perkin spent his time in the laboratory on the top floor of his family's house. He was attempting to manufacture quinine from aniline, an inexpensive and readily available coal tar waste product. Despite his best efforts, however, he did not end up with quinine. Instead, he produced a mysterious dark sludge. Luckily, Perkin's scientific training and nature prompted him to investigate the substance further. Incorporating potassium dichromate and alcohol into the aniline at various stages of the experimental process, he finally produced a deep purple solution. And, proving the truth of the famous scientist Louis Pasteur's words 'chance favours only the prepared mind', Perkin saw the potential of his unexpected find.



Historically, textile dyes were made from such natural sources as plants and animal excretions. Some of these, such as the glandular mucus of snails, were difficult to obtain and outrageously expensive. Indeed, the purple colour extracted from a snail was once so costly that in society at the time only the rich could afford it. Further, natural dyes tended to be muddy in hue and fade quickly. It was against this backdrop that Perkin's discovery was made.

Perkin quickly grasped that his purple solution could be used to colour fabric, thus making it the world's first synthetic dye. Realising the importance of this breakthrough, he lost no time in patenting it. But perhaps the most fascinating of all Perkin's reactions to his find was his nearly instant recognition that the new dye had commercial possibilities.

Perkin originally named his dye Tyrian Purple, but it later became commonly known as mauve (from the French for the plant used to make the colour violet). He asked advice of Scottish dye works owner Robert Pullar, who assured him that manufacturing the dye would be well worth it if the colour remained fast (i.e. would not fade) and the cost was relatively low. So, over the fierce objections of his mentor Hofmann, he left college to give birth to the modern chemical industry.

With the help of his father and brother, Perkin set up a factory not far from London. Utilising the cheap and plentiful coal tar that was an almost unlimited byproduct of London's gas street lighting, the dye works began producing the world's first synthetically dyed material in 1857. The company received a commercial boost from the Empress Eugénie of France, when she decided the new colour flattered her. Very soon, mauve was the necessary shade for all the fashionable ladies in that country. Not to be outdone, England's Queen Victoria also appeared in public wearing a mauve gown, thus making it all the rage in England as well. The dye was bold and fast, and the public clamoured for more. Perkin went back to the drawing board.

Although Perkin's fame was achieved and fortune assured by his first discovery, the chemist continued his research. Among other dyes he developed and introduced were aniline red (1859) and aniline black (1863) and, in the late 1860s, Perkin's green. It is important to note that Perkin's synthetic dye discoveries had outcomes far beyond the merely decorative. The dyes also became vital to medical research in many ways. For instance, they were used to stain previously invisible microbes and bacteria, allowing researchers to identify such bacilli as tuberculosis, cholera, and anthrax. Artificial dyes continue to play a crucial role today. And, in what would have been particularly pleasing to Perkin, their current use is in the search for a vaccine against malaria.

## Questions 1–7

Do the following statements agree with the information given in Reading Passage 1?

In boxes 1–7 on your answer sheet, write

**TRUE** if the statement agrees with the information  
**FALSE** if the statement contradicts the information  
**NOT GIVEN** if there is no information on this

- 1 Michael Faraday was the first person to recognise Perkin's ability as a student of chemistry.
- 2 Michael Faraday suggested Perkin should enrol in the Royal College of Chemistry.
- 3 Perkin employed August Wilhelm Hofmann as his assistant.
- 4 Perkin was still young when he made the discovery that made him rich and famous.
- 5 The trees from which quinine is derived grow only in South America.
- 6 Perkin hoped to manufacture a drug from a coal tar waste product.
- 7 Perkin was inspired by the discoveries of the famous scientist Louis Pasteur.

## Test 1

## Questions 8–13

Answer the questions below.

Choose **NO MORE THAN TWO WORDS** from the passage for each answer.

Write your answers in boxes 8–13 on your answer sheet.

- 8 Before Perkin's discovery, with what group in society was the colour purple associated?
- 9 What potential did Perkin immediately understand that his new dye had?
- 10 What was the name finally used to refer to the first colour Perkin invented?
- 11 What was the name of the person Perkin consulted before setting up his own dye works?
- 12 In what country did Perkin's newly invented colour first become fashionable?
- 13 According to the passage, which disease is now being targeted by researchers using synthetic dyes?

## READING

## READING PASSAGE 1

You should spend about 20 minutes on **Questions 1–13**, which are based on Reading Passage 1 below.

- A** Hearing impairment or other auditory function deficit in young children can have a major impact on their development of speech and communication, resulting in a detrimental effect on their ability to learn at school. This is likely to have major consequences for the individual and the population as a whole. The New Zealand Ministry of Health has found from research carried out over two decades that 6–10% of children in that country are affected by hearing loss.
- B** A preliminary study in New Zealand has shown that classroom noise presents a major concern for teachers and pupils. Modern teaching practices, the organisation of desks in the classroom, poor classroom acoustics, and mechanical means of ventilation such as air-conditioning units all contribute to the number of children unable to comprehend the teacher's voice. Education researchers Nelson and Soli have also suggested that recent trends in learning often involve collaborative interaction of multiple minds and tools as much as individual possession of information. This all amounts to heightened activity and noise levels, which have the potential to be particularly serious for children experiencing auditory function deficit. Noise in classrooms can only exacerbate their difficulty in comprehending and processing verbal communication with other children and instructions from the teacher.
- C** Children with auditory function deficit are potentially failing to learn to their maximum potential because of noise levels generated in classrooms. The effects of noise on the ability of children to learn effectively in typical classroom environments are now the subject of increasing concern. The International Institute of Noise Control Engineering (I-INCE), on the advice of the World Health Organization, has established an international working party, which includes New Zealand, to evaluate noise and reverberation control for school rooms.
- D** While the detrimental effects of noise in classroom situations are not limited to children experiencing disability, those with a disability that affects their processing of speech and verbal communication could be extremely vulnerable. The auditory function deficits in question include hearing impairment, autistic spectrum disorders (ASD) and attention deficit disorders (ADD/ADHD).
- E** Autism is considered a neurological and genetic life-long disorder that causes discrepancies in the way information is processed. This disorder is characterised by interlinking problems with social imagination, social communication and social interaction. According to Janzen, this affects the ability to understand and relate in typical ways to people, understand events and objects in the environment, and understand or respond to sensory stimuli. Autism does not allow learning or thinking in the same ways as in children who are developing normally.

## Test 2

Autistic spectrum disorders often result in major difficulties in comprehending verbal information and speech processing. Those experiencing these disorders often find sounds such as crowd noise and the noise generated by machinery painful and distressing. This is difficult to scientifically quantify as such extra-sensory stimuli vary greatly from one autistic individual to another. But a child who finds any type of noise in their classroom or learning space intrusive is likely to be adversely affected in their ability to process information.

- F** The attention deficit disorders are indicative of neurological and genetic disorders and are characterised by difficulties with sustaining attention, effort and persistence, organisation skills and disinhibition. Children experiencing these disorders find it difficult to screen out unimportant information, and focus on everything in the environment rather than attending to a single activity. Background noise in the classroom becomes a major distraction, which can affect their ability to concentrate.
- G** Children experiencing an auditory function deficit can often find speech and communication very difficult to isolate and process when set against high levels of background noise. These levels come from outside activities that penetrate the classroom structure, from teaching activities, and other noise generated inside, which can be exacerbated by room reverberation. Strategies are needed to obtain the optimum classroom construction and perhaps a change in classroom culture and methods of teaching. In particular, the effects of noisy classrooms and activities on those experiencing disabilities in the form of auditory function deficit need thorough investigation. It is probable that many undiagnosed children exist in the education system with 'invisible' disabilities. Their needs are less likely to be met than those of children with known disabilities.
- H** The New Zealand Government has developed a New Zealand Disability Strategy and has embarked on a wide-ranging consultation process. The strategy recognises that people experiencing disability face significant barriers in achieving a full quality of life in areas such as attitude, education, employment and access to services. Objective 3 of the New Zealand Disability Strategy is to 'Provide the Best Education for Disabled People' by improving education so that all children, youth learners and adult learners will have equal opportunities to learn and develop within their already existing local school. For a successful education, the learning environment is vitally significant, so any effort to improve this is likely to be of great benefit to all children, but especially to those with auditory function disabilities.
- I** A number of countries are already in the process of formulating their own standards for the control and reduction of classroom noise. New Zealand will probably follow their example. The literature to date on noise in school rooms appears to focus on the effects on schoolchildren in general, their teachers and the hearing impaired. Only limited attention appears to have been given to those students experiencing the other disabilities involving auditory function deficit. It is imperative that the needs of these children are taken into account in the setting of appropriate international standards to be promulgated in future.

**Questions 1–6**

Reading Passage 1 has nine sections, **A–I**.

Which section contains the following information?

*Write the correct letter, **A–I**, in boxes 1–6 on your answer sheet.*

- 1** an account of a national policy initiative
- 2** a description of a global team effort
- 3** a hypothesis as to one reason behind the growth in classroom noise
- 4** a demand for suitable worldwide regulations
- 5** a list of medical conditions which place some children more at risk from noise than others
- 6** the estimated proportion of children in New Zealand with auditory problems

**Questions 7–10**

*Answer the questions below.*

Choose **NO MORE THAN TWO WORDS AND/OR A NUMBER** from the passage for each answer.

*Write your answers in boxes 7–10 on your answer sheet.*

- 7** For what period of time has hearing loss in schoolchildren been studied in New Zealand?
- 8** In addition to machinery noise, what other type of noise can upset children with autism?
- 9** What term is used to describe the hearing problems of schoolchildren which have not been diagnosed?
- 10** What part of the New Zealand Disability Strategy aims to give schoolchildren equal opportunity?

Test 2

Questions 11 and 12

Choose **TWO** letters, **A–F**.

Write the correct letters in boxes 11 and 12 on your answer sheet.

The list below includes factors contributing to classroom noise.

Which **TWO** are mentioned by the writer of the passage?

- A** current teaching methods
- B** echoing corridors
- C** cooling systems
- D** large class sizes
- E** loud-voiced teachers
- F** playground games

Question 13

Choose the correct letter, **A, B, C** or **D**.

Write the correct letter in box 13 on your answer sheet.

What is the writer's overall purpose in writing this article?

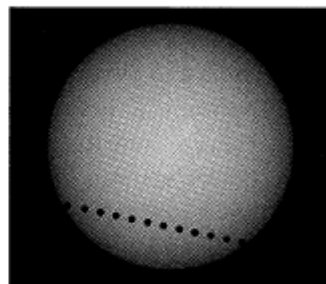
- A** to compare different methods of dealing with auditory problems
- B** to provide solutions for overly noisy learning environments
- C** to increase awareness of the situation of children with auditory problems
- D** to promote New Zealand as a model for other countries to follow

## READING PASSAGE 2

You should spend about 20 minutes on **Questions 14–26**, which are based on Reading Passage 2 below.

## Venus in transit

*June 2004 saw the first passage, known as a 'transit', of the planet Venus across the face of the Sun in 122 years. Transits have helped shape our view of the whole Universe, as Heather Cooper and Nigel Henbest explain*



- A** On 8 June 2004, more than half the population of the world were treated to a rare astronomical event. For over six hours, the planet Venus steadily inched its way over the surface of the Sun. This 'transit' of Venus was the first since 6 December 1882. On that occasion, the American astronomer Professor Simon Newcomb led a party to South Africa to observe the event. They were based at a girls' school, where – it is alleged – the combined forces of three schoolmistresses outperformed the professionals with the accuracy of their observations.
- B** For centuries, transits of Venus have drawn explorers and astronomers alike to the four corners of the globe. And you can put it all down to the extraordinary polymath Edmond Halley. In November 1677, Halley observed a transit of the innermost planet, Mercury, from the desolate island of St Helena in the South Pacific. He realised that, from different latitudes, the passage of the planet across the Sun's disc would appear to differ. By timing the transit from two widely-separated locations, teams of astronomers could calculate the parallax angle – the apparent difference in position of an astronomical body due to a difference in the observer's position. Calculating this angle would allow astronomers to measure what was then the ultimate goal: the distance of the Earth from the Sun. This distance is known as the 'astronomical unit' or AU.
- C** Halley was aware that the AU was one of the most fundamental of all astronomical measurements. Johannes Kepler, in the early 17<sup>th</sup> century, had shown that the distances of the planets from the Sun governed their orbital speeds, which were easily measurable. But no-one had found a way to calculate accurate distances to the planets from the Earth. The goal was to measure the AU; then, knowing the orbital speeds of all the other planets round the Sun, the scale of the Solar System would fall into place. However, Halley realised that Mercury was so far away that its parallax angle would be very difficult to determine. As Venus was closer to the Earth, its parallax angle would be larger, and Halley worked out that by using Venus it would be possible to measure the

## Test 2

Sun's distance to 1 part in 500. But there was a problem: transits of Venus, unlike those of Mercury, are rare, occurring in pairs roughly eight years apart every hundred or so years. Nevertheless, he accurately predicted that Venus would cross the face of the Sun in both 1761 and 1769 – though he didn't survive to see either.

- D** Inspired by Halley's suggestion of a way to pin down the scale of the Solar System, teams of British and French astronomers set out on expeditions to places as diverse as India and Siberia. But things weren't helped by Britain and France being at war. The person who deserves most sympathy is the French astronomer Guillaume Le Gentil. He was thwarted by the fact that the British were besieging his observation site at Pondicherry in India. Fleeing on a French warship crossing the Indian Ocean, Le Gentil saw a wonderful transit – but the ship's pitching and rolling ruled out any attempt at making accurate observations. Undaunted, he remained south of the equator, keeping himself busy by studying the islands of Mauritius and Madagascar before setting off to observe the next transit in the Philippines. Ironically after travelling nearly 50,000 kilometres, his view was clouded out at the last moment, a very dispiriting experience.
- E** While the early transit timings were as precise as instruments would allow, the measurements were dogged by the 'black drop' effect. When Venus begins to cross the Sun's disc, it looks smeared not circular – which makes it difficult to establish timings. This is due to diffraction of light. The second problem is that Venus exhibits a halo of light when it is seen just outside the Sun's disc. While this showed astronomers that Venus was surrounded by a thick layer of gases refracting sunlight around it, both effects made it impossible to obtain accurate timings.
- F** But astronomers laboured hard to analyse the results of these expeditions to observe Venus transits. Johann Franz Encke, Director of the Berlin Observatory, finally determined a value for the AU based on all these parallax measurements: 153,340,000 km. Reasonably accurate for the time, that is quite close to today's value of 149,597,870 km, determined by radar, which has now superseded transits and all other methods in accuracy. The AU is a cosmic measuring rod, and the basis of how we scale the Universe today. The parallax principle can be extended to measure the distances to the stars. If we look at a star in January – when Earth is at one point in its orbit – it will seem to be in a different position from where it appears six months later. Knowing the width of Earth's orbit, the parallax shift lets astronomers calculate the distance.
- G** June 2004's transit of Venus was thus more of an astronomical spectacle than a scientifically important event. But such transits have paved the way for what might prove to be one of the most vital breakthroughs in the cosmos – detecting Earth-sized planets orbiting other stars.



**Questions 14–17**

Reading Passage 2 has seven paragraphs, **A–G**.

Which paragraph contains the following information?

*Write the correct letter, **A–G**, in boxes 14–17 on your answer sheet.*

- 14** examples of different ways in which the parallax principle has been applied
- 15** a description of an event which prevented a transit observation
- 16** a statement about potential future discoveries leading on from transit observations
- 17** a description of physical states connected with Venus which early astronomical instruments failed to overcome

**Questions 18–21**

*Look at the following statements (Questions 18–21) and the list of people below.*

*Match each statement with the correct person, **A, B, C** or **D**.*

*Write the correct letter, **A, B, C** or **D**, in boxes 18–21 on your answer sheet.*

- 18** He calculated the distance of the Sun from the Earth based on observations of Venus with a fair degree of accuracy.
- 19** He understood that the distance of the Sun from the Earth could be worked out by comparing observations of a transit.
- 20** He realised that the time taken by a planet to go round the Sun depends on its distance from the Sun.
- 21** He witnessed a Venus transit but was unable to make any calculations.

**List of People**

- A** Edmond Halley
- B** Johannes Kepler
- C** Guillaume Le Gentil
- D** Johann Franz Encke

**Questions 22–26**

Do the following statements agree with the information given in Reading Passage 2?

*In boxes 22–26 on your answer sheet, write*

<b>TRUE</b>	<i>if the statement agrees with the information</i>
<b>FALSE</b>	<i>if the statement contradicts the information</i>
<b>NOT GIVEN</b>	<i>if there is no information on this</i>

- 22** Halley observed one transit of the planet Venus.
- 23** Le Gentil managed to observe a second Venus transit.
- 24** The shape of Venus appears distorted when it starts to pass in front of the Sun.
- 25** Early astronomers suspected that the atmosphere on Venus was toxic.
- 26** The parallax principle allows astronomers to work out how far away distant stars are from the Earth.

## READING

## READING PASSAGE 1

You should spend about 20 minutes on **Questions 1–13**, which are based on Reading Passage 1 below.

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## The life and work of Marie Curie

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Marie Curie is probably the most famous woman scientist who has ever lived. Born Maria Skłodowska in Poland in 1867, she is famous for her work on radioactivity, and was twice a winner of the Nobel Prize. With her husband, Pierre Curie, and Henri Becquerel, she was awarded the 1903 Nobel Prize for Physics, and was then sole winner of the 1911 Nobel Prize for Chemistry. She was the first woman to win a Nobel Prize.

From childhood, Marie was remarkable for her prodigious memory, and at the age of 16 won a gold medal on completion of her secondary education. Because her father lost his savings through bad investment, she then had to take work as a teacher. From her earnings she was able to finance her sister Bronia's medical studies in Paris, on the understanding that Bronia would, in turn, later help her to get an education.

In 1891 this promise was fulfilled and Marie went to Paris and began to study at the Sorbonne (the University of Paris). She often worked far into the night and lived on little more than bread and butter and tea. She came first in the examination in the physical sciences in 1893, and in 1894 was placed second in the examination in mathematical sciences. It was not until the spring of that year that she was introduced to Pierre Curie.

Their marriage in 1895 marked the start of a partnership that was soon to achieve results of world significance. Following Henri Becquerel's discovery in 1896 of a new phenomenon, which Marie later called 'radioactivity', Marie Curie decided to find out if the radioactivity discovered in uranium was to be found in other elements. She discovered that this was true for thorium.

Turning her attention to minerals, she found her interest drawn to pitchblende, a mineral whose radioactivity, superior to that of pure uranium, could be explained only by the presence in the ore of small quantities of an unknown substance of very high activity. Pierre Curie joined her in the work that she had undertaken to resolve this problem, and that led to the discovery of the new elements, polonium and radium. While Pierre Curie devoted himself chiefly to the physical study of the new radiations, Marie Curie struggled to obtain pure radium in the metallic state. This was achieved with the help of the chemist André-Louis Debierne, one of



#### Test 4

Pierre Curie's pupils. Based on the results of this research, Marie Curie received her Doctorate of Science, and in 1903 Marie and Pierre shared with Becquerel the Nobel Prize for Physics for the discovery of radioactivity.

The births of Marie's two daughters, Irène and Eve, in 1897 and 1904 failed to interrupt her scientific work. She was appointed lecturer in physics at the École Normale Supérieure for girls in Sèvres, France (1900), and introduced a method of teaching based on experimental demonstrations. In December 1904 she was appointed chief assistant in the laboratory directed by Pierre Curie.

The sudden death of her husband in 1906 was a bitter blow to Marie Curie, but was also a turning point in her career: henceforth she was to devote all her energy to completing alone the scientific work that they had undertaken. On May 13, 1906, she was appointed to the professorship that had been left vacant on her husband's death, becoming the first woman to teach at the Sorbonne. In 1911 she was awarded the Nobel Prize for Chemistry for the isolation of a pure form of radium.

During World War I, Marie Curie, with the help of her daughter Irène, devoted herself to the development of the use of X-radiography, including the mobile units which came to be known as 'Little Curies', used for the treatment of wounded soldiers. In 1918 the Radium Institute, whose staff Irène had joined, began to operate in earnest, and became a centre for nuclear physics and chemistry. Marie Curie, now at the highest point of her fame and, from 1922, a member of the Academy of Medicine, researched the chemistry of radioactive substances and their medical applications.

In 1921, accompanied by her two daughters, Marie Curie made a triumphant journey to the United States to raise funds for research on radium. Women there presented her with a gram of radium for her campaign. Marie also gave lectures in Belgium, Brazil, Spain and Czechoslovakia and, in addition, had the satisfaction of seeing the development of the Curie Foundation in Paris, and the inauguration in 1932 in Warsaw of the Radium Institute, where her sister Bronia became director.

One of Marie Curie's outstanding achievements was to have understood the need to accumulate intense radioactive sources, not only to treat illness but also to maintain an abundant supply for research. The existence in Paris at the Radium Institute of a stock of 1.5 grams of radium made a decisive contribution to the success of the experiments undertaken in the years around 1930. This work prepared the way for the discovery of the neutron by Sir James Chadwick and, above all, for the discovery in 1934 by Irène and Frédéric Joliot-Curie of artificial radioactivity. A few months after this discovery, Marie Curie died as a result of leukaemia caused by exposure to radiation. She had often carried test tubes containing radioactive isotopes in her pocket, remarking on the pretty blue-green light they gave off.

Her contribution to physics had been immense, not only in her own work, the importance of which had been demonstrated by her two Nobel Prizes, but because of her influence on subsequent generations of nuclear physicists and chemists.

## Questions 1–6

Do the following statements agree with the information given in Reading Passage 1?

In boxes 1–6 on your answer sheet, write

<b>TRUE</b>	<i>if the statement agrees with the information</i>
<b>FALSE</b>	<i>if the statement contradicts the information</i>
<b>NOT GIVEN</b>	<i>if there is no information on this</i>

- 1 Marie Curie's husband was a joint winner of both Marie's Nobel Prizes.
- 2 Marie became interested in science when she was a child.
- 3 Marie was able to attend the Sorbonne because of her sister's financial contribution.
- 4 Marie stopped doing research for several years when her children were born.
- 5 Marie took over the teaching position her husband had held.
- 6 Marie's sister Bronia studied the medical uses of radioactivity.

## Questions 7–13

Complete the notes below.

Choose **ONE WORD** from the passage for each answer.

Write your answers in boxes 7–13 on your answer sheet.

### Marie Curie's research on radioactivity

- When uranium was discovered to be radioactive, Marie Curie found that the element called **7** ..... had the same property.
- Marie and Pierre Curie's research into the radioactivity of the mineral known as **8** ..... led to the discovery of two new elements.
- In 1911, Marie Curie received recognition for her work on the element **9** .....
- Marie and Irène Curie developed X-radiography which was used as a medical technique for **10** .....
- Marie Curie saw the importance of collecting radioactive material both for research and for cases of **11** .....
- The radioactive material stocked in Paris contributed to the discoveries in the 1930s of the **12** ..... and of what was known as artificial radioactivity.
- During her research, Marie Curie was exposed to radiation and as a result she suffered from **13** .....

## READING PASSAGE 2

You should spend about 20 minutes on **Questions 14–26** which are based on Reading Passage 2 below.

### Young children's sense of identity

- A** A sense of self develops in young children by degrees. The process can usefully be thought of in terms of the gradual emergence of two somewhat separate features: the *self as a subject*, and the *self as an object*. William James introduced the distinction in 1892, and contemporaries of his, such as Charles Cooley, added to the developing debate. Ever since then psychologists have continued building on the theory.
- B** According to James, a child's first step on the road to self-understanding can be seen as the recognition that he or she exists. This is an aspect of the self that he labelled 'self-as-subject', and he gave it various elements. These included an awareness of one's own agency (i.e. one's power to act), and an awareness of one's distinctiveness from other people. These features gradually emerge as infants explore their world and interact with caregivers. Cooley (1902) suggested that a sense of the self-as-subject was primarily concerned with being able to exercise power. He proposed that the earliest examples of this are an infant's attempts to control physical objects, such as toys or his or her own limbs. This is followed by attempts to affect the behaviour of other people. For example, infants learn that when they cry or smile someone responds to them.
- C** Another powerful source of information for infants about the effects they can have on the world around them is provided when others mimic them. Many parents spend a lot of time, particularly in the early months, copying their infant's vocalizations and expressions. In addition, young children enjoy looking in mirrors, where the movements they can see are dependent upon their own movements. This is not to say that infants recognize the reflection as their *own* image (a later development). However, Lewis and Brooks-Gunn (1979) suggest that infants' developing understanding that the movements they see in the mirror are contingent on their own, leads to a growing awareness that they are distinct from other people. This is because they, and only they, can change the reflection in the mirror.
- D** This understanding that children gain of themselves as active agents continues to develop in their attempts to co-operate with others in play. Dunn (1988) points out that it is in such day-to-day relationships and interactions that the child's understanding of his- or herself emerges. Empirical investigations of the self-as-subject in young children are, however, rather scarce because of difficulties of communication: even if young infants can reflect on their experience, they certainly cannot express this aspect of the self directly.

#### Test 4

- E Once children have acquired a certain level of self-awareness, they begin to place themselves in a whole series of categories, which together play such an important part in defining them uniquely as 'themselves'. This second step in the development of a full sense of self is what James called the 'self-as-object'. This has been seen by many to be the aspect of the self which is most influenced by social elements, since it is made up of social roles (such as student, brother, colleague) and characteristics which derive their meaning from comparison or interaction with other people (such as trustworthiness, shyness, sporting ability).
- F Cooley and other researchers suggested a close connection between a person's own understanding of their identity and other people's understanding of it. Cooley believed that people build up their sense of identity from the reactions of others to them, and from the view they believe others have of them. He called the self-as-object the 'looking-glass self', since people come to see themselves as they are reflected in others. Mead (1934) went even further, and saw the self and the social world as inextricably bound together: 'The self is essentially a social structure, and it arises in social experience ... it is impossible to conceive of a self arising outside of social experience.'
- G Lewis and Brooks-Gunn argued that an important developmental milestone is reached when children become able to recognize themselves visually without the support of seeing contingent movement. This recognition occurs around their second birthday. In one experiment, Lewis and Brooks-Gunn (1979) dabbed some red powder on the noses of children who were playing in front of a mirror, and then observed how often they touched their noses. The psychologists reasoned that if the children knew what they usually looked like, they would be surprised by the unusual red mark and would start touching it. On the other hand, they found that children of 15 to 18 months are generally not able to recognize themselves unless other cues such as movement are present.
- H Finally, perhaps the most graphic expressions of self-awareness in general can be seen in the displays of rage which are most common from 18 months to 3 years of age. In a longitudinal study of groups of three or four children, Bronson (1975) found that the intensity of the frustration and anger in their disagreements increased sharply between the ages of 1 and 2 years. Often, the children's disagreements involved a struggle over a toy that none of them had played with before or after the tug-of-war: the children seemed to be disputing ownership rather than wanting to play with it. Although it may be less marked in other societies, the link between the sense of 'self' and of 'ownership' is a notable feature of childhood in Western societies.

**Questions 14–19**

Reading Passage 2 has eight paragraphs, **A–H**.

Which paragraph contains the following information?

*Write the correct letter, **A–H**, in boxes 14–19 on your answer sheet.*

**NB** You may use any letter more than once.

- 14** an account of the method used by researchers in a particular study
- 15** the role of imitation in developing a sense of identity
- 16** the age at which children can usually identify a static image of themselves
- 17** a reason for the limitations of scientific research into 'self-as-subject'
- 18** reference to a possible link between culture and a particular form of behaviour
- 19** examples of the wide range of features that contribute to the sense of 'self-as-object'

**Questions 20–23**

*Look at the following findings (Questions 20–23) and the list of researchers below.*

*Match each finding with the correct researcher or researchers, **A–E**.*

*Write the correct letter, **A–E**, in boxes 20–23 on your answer sheet.*

- 20** A sense of identity can never be formed without relationships with other people.
- 21** A child's awareness of self is related to a sense of mastery over things and people.
- 22** At a certain age, children's sense of identity leads to aggressive behaviour.
- 23** Observing their own reflection contributes to children's self awareness.

**List of Researchers**

- A** James
- B** Cooley
- C** Lewis and Brooks-Gunn
- D** Mead
- E** Bronson



## 2. Секція «Writing»

### Завдання для есе

Present a written argument or case to an educated reader with no specialist knowledge of the following topic. You should write at least 150 words. Use your own ideas, knowledge and experience and support your arguments with examples and relevant evidence.

**Variant 1.** *There are many different types of music in the world today. Why do we need music? Is the traditional music of a country more important than the International music that is heard everywhere nowadays?*

**Variant 2.** *Should wealthy nations be required to share their wealth among poorer nations by providing such things as food and education? Or is it the responsibility of the governments of poorer nations to look after their citizens themselves?*

**Variant 3.** *News editor decide what broadcast on television and what to print in newspaper. What factors do you think influence these decisions? Do we become used to bad news? Would it be better if more good news was reported?*

**Variant 4.** *The idea of having a single career is becoming an old-fashioned one. The new fashion mil be to have several careers or ways of earning money and further education will be something that continues throughout life.*

**Variant 5.** *We are becoming increasingly depend on computers. They are used in business, hospitals, crime detection and even to fly planes. What things will they be used in the future? Is this depends on computers a good thing or should we be more suspicious of their benefit?*

**Variant 6.** *Fatherhood ought to be emphasized as much as motherhood. The idea that women are solely responsible for deciding whether or not to have babies leads to the idea that they are also responsible for bringing the children up. To what extent do you agree or disagree?*

**Variant 7.** *“Prevention is better than cure”. Out of a country’s health budget, a large proportion should be diverted from treatment to spending on health education and preventative measures. To what extent do you agree or disagree with this statement?*

**Variant 8.** *Popular events like the football World Cup and other international sporting occasions are essential in easing international tensions and releasing patriotic emotions in a safe way. To what extent do you agree or disagree with this opinion?*

**Variant 9.** *When a country develops its technologies, the traditional skills and*

*ways of life die out. It is pointless to try and keep them alive. To what extent do you agree or disagree with this opinion?*

**Variant 10.** *In many countries children are engaged in some kind of paid work. Some people regard this as completely wrong, while others consider it as valuable work experience, important for learning and taking responsibility. What are your opinions on this?*

**Завдання контрольної роботи  
з навчальної дисципліни  
«ІНОЗЕМНА МОВА ДЛЯ МІЖНАРОДНИХ ТЕСТІВ TOEFL ТА IELTS»  
(заочна форма навчання)**

**1. Тест із граматики / Grammar Test**

The questions here test your knowledge of English grammar. Each question consists of a short written conversation, part of which has been omitted. Four words or phrases, labelled A, B, C, and D, are given below the conversation. **Choose the word or phrase that will correctly complete the conversation.**

**1. What year did you \_\_\_\_\_ university?**

- A. graduate
- B. graduate from
- C. graduating
- D. graduating from

**2. It seems to be getting worse. You had better \_\_\_\_\_ a specialist.**

- A. consult
- B. consult to
- C. consult for
- D. consult by

**3. Chicago is a large city, \_\_\_\_\_?**

- A. aren't it
- B. doesn't it
- C. won't it
- D. isn't it

**4. Don't leave your books near the open fire. They might easily \_\_\_\_\_.**

- A. catch to fire
- B. catch the fire
- C. catch on fire
- D. catch with fire

**5. Do you enjoy \_\_\_\_\_?**

- A. to swim

- B. swimming
- C. swim
- D. to swimming

**6. I have trouble \_\_\_\_.**

- A. to remember my password
- B. to remembering my password
- C. remember my password
- D. remembering my password

**7. Do you have \_\_\_\_ to do today? We could have a long lunch if not.**

- A. many work
- B. much work
- C. many works
- D. much works

**8. My brother will \_\_\_\_ for a few nights.**

- A. provide us up
- B. provide us in
- C. put us up
- D. put us in

**9. When will the meeting \_\_\_\_?**

- A. hold on
- B. hold place
- C. take on
- D. take place

**10. The board meeting was held \_\_\_\_.**

- A. at Tuesday
- B. on Tuesday
- C. with Tuesday
- D. in Tuesday

**11. Why don't you \_\_\_\_ us?**

- A. go to the house party with
- B. go together the house party with
- C. go the house party with

- D. together the house party with
- 12. That awful accident occurred \_\_\_\_\_.**
- A. before three weeks
  - B. three weeks before
  - C. three weeks ago
  - D. three weeks past
- 13. They didn't \_\_\_\_\_ John when he explained his decision.**
- A. agree to
  - B. agree with
  - C. agree
  - D. agree about
- 14. The social worker \_\_\_\_\_ the two old sisters who were ill.**
- A. called to the house of
  - B. called on the house of
  - C. called to
  - D. called on
- 15. Tomorrow is Paul's birthday. Let's \_\_\_\_\_ it.**
- A. celebrate
  - B. praise
  - C. honor
  - D. congratulate
- 16. If you don't understand the text, don't hesitate \_\_\_\_\_.**
- A. ask a question
  - B. asking a question
  - C. to ask a question
  - D. to asking a question
- 17. It's snowing. Would you like to \_\_\_\_\_ on Saturday or Sunday?**
- A. skiing
  - B. go to ski
  - C. go skiing
  - D. go ski
- 18. Our company didn't pay \_\_\_\_\_ for that banner advertisement.**
- A. much funds
  - B. many funds

C. many money

D. much money

**19. Do you feel like \_\_\_\_\_ now?**

A. swimming

B. to swim

C. swim

D. to go swimming

**20. Tom was thrilled to be \_\_\_\_\_ such a beautiful and interesting lady.**

A. introduced

B. introduced at

C. introduced with

D. introduced to

## 2. Секція «Reading»

### Варіант 1

Reading

#### READING

#### READING PASSAGE 1

You should spend about 20 minutes on **Questions 1–13**, which are based on Reading Passage 1 below.

## William Henry Perkin

### *The man who invented synthetic dyes*

William Henry Perkin was born on March 12, 1838, in London, England. As a boy, Perkin's curiosity prompted early interests in the arts, sciences, photography, and engineering. But it was a chance stumbling upon a run-down, yet functional, laboratory in his late grandfather's home that solidified the young man's enthusiasm for chemistry.

As a student at the City of London School, Perkin became immersed in the study of chemistry. His talent and devotion to the subject were perceived by his teacher, Thomas Hall, who encouraged him to attend a series of lectures given by the eminent scientist Michael Faraday at the Royal Institution. Those speeches fired the young chemist's enthusiasm further, and he later went on to attend the Royal College of Chemistry, which he succeeded in entering in 1853, at the age of 15.

At the time of Perkin's enrolment, the Royal College of Chemistry was headed by the noted German chemist August Wilhelm Hofmann. Perkin's scientific gifts soon caught Hofmann's attention and, within two years, he became Hofmann's youngest assistant. Not long after that, Perkin made the scientific breakthrough that would bring him both fame and fortune.

At the time, quinine was the only viable medical treatment for malaria. The drug is derived from the bark of the cinchona tree, native to South America, and by 1856 demand for the drug was surpassing the available supply. Thus, when Hofmann made some passing comments about the desirability of a synthetic substitute for quinine, it was unsurprising that his star pupil was moved to take up the challenge.

During his vacation in 1856, Perkin spent his time in the laboratory on the top floor of his family's house. He was attempting to manufacture quinine from aniline, an inexpensive and readily available coal tar waste product. Despite his best efforts, however, he did not end up with quinine. Instead, he produced a mysterious dark sludge. Luckily, Perkin's scientific training and nature prompted him to investigate the substance further. Incorporating potassium dichromate and alcohol into the aniline at various stages of the experimental process, he finally produced a deep purple solution. And, proving the truth of the famous scientist Louis Pasteur's words 'chance favours only the prepared mind', Perkin saw the potential of his unexpected find.

Historically, textile dyes were made from such natural sources as plants and animal excretions. Some of these, such as the glandular mucus of snails, were difficult to obtain and outrageously expensive. Indeed, the purple colour extracted from a snail was once so costly that in society at the time only the rich could afford it. Further, natural dyes tended to be muddy in hue and fade quickly. It was against this backdrop that Perkin's discovery was made.

Perkin quickly grasped that his purple solution could be used to colour fabric, thus making it the world's first synthetic dye. Realising the importance of this breakthrough, he lost no time in patenting it. But perhaps the most fascinating of all Perkin's reactions to his find was his nearly instant recognition that the new dye had commercial possibilities.

Perkin originally named his dye Tyrian Purple, but it later became commonly known as mauve (from the French for the plant used to make the colour violet). He asked advice of Scottish dye works owner Robert Pullar, who assured him that manufacturing the dye would be well worth it if the colour remained fast (i.e. would not fade) and the cost was relatively low. So, over the fierce objections of his mentor Hofmann, he left college to give birth to the modern chemical industry.

With the help of his father and brother, Perkin set up a factory not far from London. Utilising the cheap and plentiful coal tar that was an almost unlimited byproduct of London's gas street lighting, the dye works began producing the world's first synthetically dyed material in 1857. The company received a commercial boost from the Empress Eugénie of France, when she decided the new colour flattered her. Very soon, mauve was the necessary shade for all the fashionable ladies in that country. Not to be outdone, England's Queen Victoria also appeared in public wearing a mauve gown, thus making it all the rage in England as well. The dye was bold and fast, and the public clamoured for more. Perkin went back to the drawing board.

Although Perkin's fame was achieved and fortune assured by his first discovery, the chemist continued his research. Among other dyes he developed and introduced were aniline red (1859) and aniline black (1863) and, in the late 1860s, Perkin's green. It is important to note that Perkin's synthetic dye discoveries had outcomes far beyond the merely decorative. The dyes also became vital to medical research in many ways. For instance, they were used to stain previously invisible microbes and bacteria, allowing researchers to identify such bacilli as tuberculosis, cholera, and anthrax. Artificial dyes continue to play a crucial role today. And, in what would have been particularly pleasing to Perkin, their current use is in the search for a vaccine against malaria.



## Questions 1–7

Do the following statements agree with the information given in Reading Passage 1?

In boxes 1–7 on your answer sheet, write

**TRUE** if the statement agrees with the information  
**FALSE** if the statement contradicts the information  
**NOT GIVEN** if there is no information on this

- 1 Michael Faraday was the first person to recognise Perkin's ability as a student of chemistry.
- 2 Michael Faraday suggested Perkin should enrol in the Royal College of Chemistry.
- 3 Perkin employed August Wilhelm Hofmann as his assistant.
- 4 Perkin was still young when he made the discovery that made him rich and famous.
- 5 The trees from which quinine is derived grow only in South America.
- 6 Perkin hoped to manufacture a drug from a coal tar waste product.
- 7 Perkin was inspired by the discoveries of the famous scientist Louis Pasteur.

## Test 1

## Questions 8–13

Answer the questions below.

Choose **NO MORE THAN TWO WORDS** from the passage for each answer.

Write your answers in boxes 8–13 on your answer sheet.

- 8 Before Perkin's discovery, with what group in society was the colour purple associated?
- 9 What potential did Perkin immediately understand that his new dye had?
- 10 What was the name finally used to refer to the first colour Perkin invented?
- 11 What was the name of the person Perkin consulted before setting up his own dye works?
- 12 In what country did Perkin's newly invented colour first become fashionable?
- 13 According to the passage, which disease is now being targeted by researchers using synthetic dyes?

## READING

## READING PASSAGE 1

You should spend about 20 minutes on **Questions 1–13**, which are based on Reading Passage 1 below.

- A** Hearing impairment or other auditory function deficit in young children can have a major impact on their development of speech and communication, resulting in a detrimental effect on their ability to learn at school. This is likely to have major consequences for the individual and the population as a whole. The New Zealand Ministry of Health has found from research carried out over two decades that 6–10% of children in that country are affected by hearing loss.
- B** A preliminary study in New Zealand has shown that classroom noise presents a major concern for teachers and pupils. Modern teaching practices, the organisation of desks in the classroom, poor classroom acoustics, and mechanical means of ventilation such as air-conditioning units all contribute to the number of children unable to comprehend the teacher's voice. Education researchers Nelson and Soli have also suggested that recent trends in learning often involve collaborative interaction of multiple minds and tools as much as individual possession of information. This all amounts to heightened activity and noise levels, which have the potential to be particularly serious for children experiencing auditory function deficit. Noise in classrooms can only exacerbate their difficulty in comprehending and processing verbal communication with other children and instructions from the teacher.
- C** Children with auditory function deficit are potentially failing to learn to their maximum potential because of noise levels generated in classrooms. The effects of noise on the ability of children to learn effectively in typical classroom environments are now the subject of increasing concern. The International Institute of Noise Control Engineering (I-INCE), on the advice of the World Health Organization, has established an international working party, which includes New Zealand, to evaluate noise and reverberation control for school rooms.
- D** While the detrimental effects of noise in classroom situations are not limited to children experiencing disability, those with a disability that affects their processing of speech and verbal communication could be extremely vulnerable. The auditory function deficits in question include hearing impairment, autistic spectrum disorders (ASD) and attention deficit disorders (ADD/ADHD).
- E** Autism is considered a neurological and genetic life-long disorder that causes discrepancies in the way information is processed. This disorder is characterised by interlinking problems with social imagination, social communication and social interaction. According to Janzen, this affects the ability to understand and relate in typical ways to people, understand events and objects in the environment, and understand or respond to sensory stimuli. Autism does not allow learning or thinking in the same ways as in children who are developing normally.

## Test 2

Autistic spectrum disorders often result in major difficulties in comprehending verbal information and speech processing. Those experiencing these disorders often find sounds such as crowd noise and the noise generated by machinery painful and distressing. This is difficult to scientifically quantify as such extra-sensory stimuli vary greatly from one autistic individual to another. But a child who finds any type of noise in their classroom or learning space intrusive is likely to be adversely affected in their ability to process information.

- F** The attention deficit disorders are indicative of neurological and genetic disorders and are characterised by difficulties with sustaining attention, effort and persistence, organisation skills and disinhibition. Children experiencing these disorders find it difficult to screen out unimportant information, and focus on everything in the environment rather than attending to a single activity. Background noise in the classroom becomes a major distraction, which can affect their ability to concentrate.
- G** Children experiencing an auditory function deficit can often find speech and communication very difficult to isolate and process when set against high levels of background noise. These levels come from outside activities that penetrate the classroom structure, from teaching activities, and other noise generated inside, which can be exacerbated by room reverberation. Strategies are needed to obtain the optimum classroom construction and perhaps a change in classroom culture and methods of teaching. In particular, the effects of noisy classrooms and activities on those experiencing disabilities in the form of auditory function deficit need thorough investigation. It is probable that many undiagnosed children exist in the education system with 'invisible' disabilities. Their needs are less likely to be met than those of children with known disabilities.
- H** The New Zealand Government has developed a New Zealand Disability Strategy and has embarked on a wide-ranging consultation process. The strategy recognises that people experiencing disability face significant barriers in achieving a full quality of life in areas such as attitude, education, employment and access to services. Objective 3 of the New Zealand Disability Strategy is to 'Provide the Best Education for Disabled People' by improving education so that all children, youth learners and adult learners will have equal opportunities to learn and develop within their already existing local school. For a successful education, the learning environment is vitally significant, so any effort to improve this is likely to be of great benefit to all children, but especially to those with auditory function disabilities.
- I** A number of countries are already in the process of formulating their own standards for the control and reduction of classroom noise. New Zealand will probably follow their example. The literature to date on noise in school rooms appears to focus on the effects on schoolchildren in general, their teachers and the hearing impaired. Only limited attention appears to have been given to those students experiencing the other disabilities involving auditory function deficit. It is imperative that the needs of these children are taken into account in the setting of appropriate international standards to be promulgated in future.

**Questions 1–6**

Reading Passage 1 has nine sections, **A–I**.

Which section contains the following information?

*Write the correct letter, **A–I**, in boxes 1–6 on your answer sheet.*

- 1** an account of a national policy initiative
- 2** a description of a global team effort
- 3** a hypothesis as to one reason behind the growth in classroom noise
- 4** a demand for suitable worldwide regulations
- 5** a list of medical conditions which place some children more at risk from noise than others
- 6** the estimated proportion of children in New Zealand with auditory problems

**Questions 7–10**

*Answer the questions below.*

Choose **NO MORE THAN TWO WORDS AND/OR A NUMBER** from the passage for each answer.

*Write your answers in boxes 7–10 on your answer sheet.*

- 7** For what period of time has hearing loss in schoolchildren been studied in New Zealand?
- 8** In addition to machinery noise, what other type of noise can upset children with autism?
- 9** What term is used to describe the hearing problems of schoolchildren which have not been diagnosed?
- 10** What part of the New Zealand Disability Strategy aims to give schoolchildren equal opportunity?

Test 2

Questions 11 and 12

Choose **TWO** letters, **A–F**.

Write the correct letters in boxes 11 and 12 on your answer sheet.

The list below includes factors contributing to classroom noise.

Which **TWO** are mentioned by the writer of the passage?

- A** current teaching methods
- B** echoing corridors
- C** cooling systems
- D** large class sizes
- E** loud-voiced teachers
- F** playground games

Question 13

Choose the correct letter, **A, B, C** or **D**.

Write the correct letter in box 13 on your answer sheet.

What is the writer's overall purpose in writing this article?

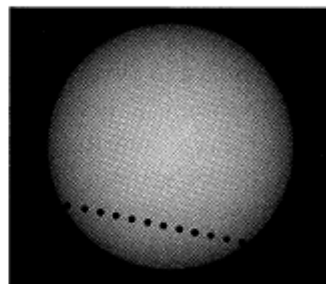
- A** to compare different methods of dealing with auditory problems
- B** to provide solutions for overly noisy learning environments
- C** to increase awareness of the situation of children with auditory problems
- D** to promote New Zealand as a model for other countries to follow

## READING PASSAGE 2

You should spend about 20 minutes on **Questions 14–26**, which are based on Reading Passage 2 below.

## Venus in transit

*June 2004 saw the first passage, known as a 'transit', of the planet Venus across the face of the Sun in 122 years. Transits have helped shape our view of the whole Universe, as Heather Cooper and Nigel Henbest explain*



- A** On 8 June 2004, more than half the population of the world were treated to a rare astronomical event. For over six hours, the planet Venus steadily inched its way over the surface of the Sun. This 'transit' of Venus was the first since 6 December 1882. On that occasion, the American astronomer Professor Simon Newcomb led a party to South Africa to observe the event. They were based at a girls' school, where – it is alleged – the combined forces of three schoolmistresses outperformed the professionals with the accuracy of their observations.
- B** For centuries, transits of Venus have drawn explorers and astronomers alike to the four corners of the globe. And you can put it all down to the extraordinary polymath Edmond Halley. In November 1677, Halley observed a transit of the innermost planet, Mercury, from the desolate island of St Helena in the South Pacific. He realised that, from different latitudes, the passage of the planet across the Sun's disc would appear to differ. By timing the transit from two widely-separated locations, teams of astronomers could calculate the parallax angle – the apparent difference in position of an astronomical body due to a difference in the observer's position. Calculating this angle would allow astronomers to measure what was then the ultimate goal: the distance of the Earth from the Sun. This distance is known as the 'astronomical unit' or AU.
- C** Halley was aware that the AU was one of the most fundamental of all astronomical measurements. Johannes Kepler, in the early 17<sup>th</sup> century, had shown that the distances of the planets from the Sun governed their orbital speeds, which were easily measurable. But no-one had found a way to calculate accurate distances to the planets from the Earth. The goal was to measure the AU; then, knowing the orbital speeds of all the other planets round the Sun, the scale of the Solar System would fall into place. However, Halley realised that Mercury was so far away that its parallax angle would be very difficult to determine. As Venus was closer to the Earth, its parallax angle would be larger, and Halley worked out that by using Venus it would be possible to measure the

## Test 2

Sun's distance to 1 part in 500. But there was a problem: transits of Venus, unlike those of Mercury, are rare, occurring in pairs roughly eight years apart every hundred or so years. Nevertheless, he accurately predicted that Venus would cross the face of the Sun in both 1761 and 1769 – though he didn't survive to see either.

- D** Inspired by Halley's suggestion of a way to pin down the scale of the Solar System, teams of British and French astronomers set out on expeditions to places as diverse as India and Siberia. But things weren't helped by Britain and France being at war. The person who deserves most sympathy is the French astronomer Guillaume Le Gentil. He was thwarted by the fact that the British were besieging his observation site at Pondicherry in India. Fleeing on a French warship crossing the Indian Ocean, Le Gentil saw a wonderful transit – but the ship's pitching and rolling ruled out any attempt at making accurate observations. Undaunted, he remained south of the equator, keeping himself busy by studying the islands of Mauritius and Madagascar before setting off to observe the next transit in the Philippines. Ironically after travelling nearly 50,000 kilometres, his view was clouded out at the last moment, a very dispiriting experience.
- E** While the early transit timings were as precise as instruments would allow, the measurements were dogged by the 'black drop' effect. When Venus begins to cross the Sun's disc, it looks smeared not circular – which makes it difficult to establish timings. This is due to diffraction of light. The second problem is that Venus exhibits a halo of light when it is seen just outside the Sun's disc. While this showed astronomers that Venus was surrounded by a thick layer of gases refracting sunlight around it, both effects made it impossible to obtain accurate timings.
- F** But astronomers laboured hard to analyse the results of these expeditions to observe Venus transits. Johann Franz Encke, Director of the Berlin Observatory, finally determined a value for the AU based on all these parallax measurements: 153,340,000 km. Reasonably accurate for the time, that is quite close to today's value of 149,597,870 km, determined by radar, which has now superseded transits and all other methods in accuracy. The AU is a cosmic measuring rod, and the basis of how we scale the Universe today. The parallax principle can be extended to measure the distances to the stars. If we look at a star in January – when Earth is at one point in its orbit – it will seem to be in a different position from where it appears six months later. Knowing the width of Earth's orbit, the parallax shift lets astronomers calculate the distance.
- G** June 2004's transit of Venus was thus more of an astronomical spectacle than a scientifically important event. But such transits have paved the way for what might prove to be one of the most vital breakthroughs in the cosmos – detecting Earth-sized planets orbiting other stars.

**Questions 14–17**

Reading Passage 2 has seven paragraphs, **A–G**.

Which paragraph contains the following information?

*Write the correct letter, **A–G**, in boxes 14–17 on your answer sheet.*

- 14** examples of different ways in which the parallax principle has been applied
- 15** a description of an event which prevented a transit observation
- 16** a statement about potential future discoveries leading on from transit observations
- 17** a description of physical states connected with Venus which early astronomical instruments failed to overcome

**Questions 18–21**

*Look at the following statements (Questions 18–21) and the list of people below.*

*Match each statement with the correct person, **A, B, C** or **D**.*

*Write the correct letter, **A, B, C** or **D**, in boxes 18–21 on your answer sheet.*

- 18** He calculated the distance of the Sun from the Earth based on observations of Venus with a fair degree of accuracy.
- 19** He understood that the distance of the Sun from the Earth could be worked out by comparing observations of a transit.
- 20** He realised that the time taken by a planet to go round the Sun depends on its distance from the Sun.
- 21** He witnessed a Venus transit but was unable to make any calculations.

**List of People**

- A** Edmond Halley
- B** Johannes Kepler
- C** Guillaume Le Gentil
- D** Johann Franz Encke



**Questions 22–26**

Do the following statements agree with the information given in Reading Passage 2?

*In boxes 22–26 on your answer sheet, write*

<b>TRUE</b>	<i>if the statement agrees with the information</i>
<b>FALSE</b>	<i>if the statement contradicts the information</i>
<b>NOT GIVEN</b>	<i>if there is no information on this</i>

- 22** Halley observed one transit of the planet Venus.
- 23** Le Gentil managed to observe a second Venus transit.
- 24** The shape of Venus appears distorted when it starts to pass in front of the Sun.
- 25** Early astronomers suspected that the atmosphere on Venus was toxic.
- 26** The parallax principle allows astronomers to work out how far away distant stars are from the Earth.

## READING

## READING PASSAGE 1

You should spend about 20 minutes on **Questions 1–13**, which are based on Reading Passage 1 below.

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## The life and work of Marie Curie

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Marie Curie is probably the most famous woman scientist who has ever lived. Born Maria Skłodowska in Poland in 1867, she is famous for her work on radioactivity, and was twice a winner of the Nobel Prize. With her husband, Pierre Curie, and Henri Becquerel, she was awarded the 1903 Nobel Prize for Physics, and was then sole winner of the 1911 Nobel Prize for Chemistry. She was the first woman to win a Nobel Prize.

From childhood, Marie was remarkable for her prodigious memory, and at the age of 16 won a gold medal on completion of her secondary education. Because her father lost his savings through bad investment, she then had to take work as a teacher. From her earnings she was able to finance her sister Bronia's medical studies in Paris, on the understanding that Bronia would, in turn, later help her to get an education.

In 1891 this promise was fulfilled and Marie went to Paris and began to study at the Sorbonne (the University of Paris). She often worked far into the night and lived on little more than bread and butter and tea. She came first in the examination in the physical sciences in 1893, and in 1894 was placed second in the examination in mathematical sciences. It was not until the spring of that year that she was introduced to Pierre Curie.

Their marriage in 1895 marked the start of a partnership that was soon to achieve results of world significance. Following Henri Becquerel's discovery in 1896 of a new phenomenon, which Marie later called 'radioactivity', Marie Curie decided to find out if the radioactivity discovered in uranium was to be found in other elements. She discovered that this was true for thorium.

Turning her attention to minerals, she found her interest drawn to pitchblende, a mineral whose radioactivity, superior to that of pure uranium, could be explained only by the presence in the ore of small quantities of an unknown substance of very high activity. Pierre Curie joined her in the work that she had undertaken to resolve this problem, and that led to the discovery of the new elements, polonium and radium. While Pierre Curie devoted himself chiefly to the physical study of the new radiations, Marie Curie struggled to obtain pure radium in the metallic state. This was achieved with the help of the chemist André-Louis Debierne, one of



#### Test 4

Pierre Curie's pupils. Based on the results of this research, Marie Curie received her Doctorate of Science, and in 1903 Marie and Pierre shared with Becquerel the Nobel Prize for Physics for the discovery of radioactivity.

The births of Marie's two daughters, Irène and Eve, in 1897 and 1904 failed to interrupt her scientific work. She was appointed lecturer in physics at the École Normale Supérieure for girls in Sèvres, France (1900), and introduced a method of teaching based on experimental demonstrations. In December 1904 she was appointed chief assistant in the laboratory directed by Pierre Curie.

The sudden death of her husband in 1906 was a bitter blow to Marie Curie, but was also a turning point in her career: henceforth she was to devote all her energy to completing alone the scientific work that they had undertaken. On May 13, 1906, she was appointed to the professorship that had been left vacant on her husband's death, becoming the first woman to teach at the Sorbonne. In 1911 she was awarded the Nobel Prize for Chemistry for the isolation of a pure form of radium.

During World War I, Marie Curie, with the help of her daughter Irène, devoted herself to the development of the use of X-radiography, including the mobile units which came to be known as 'Little Curies', used for the treatment of wounded soldiers. In 1918 the Radium Institute, whose staff Irène had joined, began to operate in earnest, and became a centre for nuclear physics and chemistry. Marie Curie, now at the highest point of her fame and, from 1922, a member of the Academy of Medicine, researched the chemistry of radioactive substances and their medical applications.

In 1921, accompanied by her two daughters, Marie Curie made a triumphant journey to the United States to raise funds for research on radium. Women there presented her with a gram of radium for her campaign. Marie also gave lectures in Belgium, Brazil, Spain and Czechoslovakia and, in addition, had the satisfaction of seeing the development of the Curie Foundation in Paris, and the inauguration in 1932 in Warsaw of the Radium Institute, where her sister Bronia became director.

One of Marie Curie's outstanding achievements was to have understood the need to accumulate intense radioactive sources, not only to treat illness but also to maintain an abundant supply for research. The existence in Paris at the Radium Institute of a stock of 1.5 grams of radium made a decisive contribution to the success of the experiments undertaken in the years around 1930. This work prepared the way for the discovery of the neutron by Sir James Chadwick and, above all, for the discovery in 1934 by Irène and Frédéric Joliot-Curie of artificial radioactivity. A few months after this discovery, Marie Curie died as a result of leukaemia caused by exposure to radiation. She had often carried test tubes containing radioactive isotopes in her pocket, remarking on the pretty blue-green light they gave off.

Her contribution to physics had been immense, not only in her own work, the importance of which had been demonstrated by her two Nobel Prizes, but because of her influence on subsequent generations of nuclear physicists and chemists.

## Questions 1–6

Do the following statements agree with the information given in Reading Passage 1?

In boxes 1–6 on your answer sheet, write

<b>TRUE</b>	<i>if the statement agrees with the information</i>
<b>FALSE</b>	<i>if the statement contradicts the information</i>
<b>NOT GIVEN</b>	<i>if there is no information on this</i>

- 1 Marie Curie's husband was a joint winner of both Marie's Nobel Prizes.
- 2 Marie became interested in science when she was a child.
- 3 Marie was able to attend the Sorbonne because of her sister's financial contribution.
- 4 Marie stopped doing research for several years when her children were born.
- 5 Marie took over the teaching position her husband had held.
- 6 Marie's sister Bronia studied the medical uses of radioactivity.

## Questions 7–13

Complete the notes below.

Choose **ONE WORD** from the passage for each answer.

Write your answers in boxes 7–13 on your answer sheet.

### Marie Curie's research on radioactivity

- When uranium was discovered to be radioactive, Marie Curie found that the element called **7** ..... had the same property.
- Marie and Pierre Curie's research into the radioactivity of the mineral known as **8** ..... led to the discovery of two new elements.
- In 1911, Marie Curie received recognition for her work on the element **9** .....
- Marie and Irène Curie developed X-radiography which was used as a medical technique for **10** .....
- Marie Curie saw the importance of collecting radioactive material both for research and for cases of **11** .....
- The radioactive material stocked in Paris contributed to the discoveries in the 1930s of the **12** ..... and of what was known as artificial radioactivity.
- During her research, Marie Curie was exposed to radiation and as a result she suffered from **13** .....

## READING PASSAGE 2

You should spend about 20 minutes on **Questions 14–26** which are based on Reading Passage 2 below.

### Young children's sense of identity

- A** A sense of self develops in young children by degrees. The process can usefully be thought of in terms of the gradual emergence of two somewhat separate features: the *self as a subject*, and the *self as an object*. William James introduced the distinction in 1892, and contemporaries of his, such as Charles Cooley, added to the developing debate. Ever since then psychologists have continued building on the theory.
- B** According to James, a child's first step on the road to self-understanding can be seen as the recognition that he or she exists. This is an aspect of the self that he labelled 'self-as-subject', and he gave it various elements. These included an awareness of one's own agency (i.e. one's power to act), and an awareness of one's distinctiveness from other people. These features gradually emerge as infants explore their world and interact with caregivers. Cooley (1902) suggested that a sense of the self-as-subject was primarily concerned with being able to exercise power. He proposed that the earliest examples of this are an infant's attempts to control physical objects, such as toys or his or her own limbs. This is followed by attempts to affect the behaviour of other people. For example, infants learn that when they cry or smile someone responds to them.
- C** Another powerful source of information for infants about the effects they can have on the world around them is provided when others mimic them. Many parents spend a lot of time, particularly in the early months, copying their infant's vocalizations and expressions. In addition, young children enjoy looking in mirrors, where the movements they can see are dependent upon their own movements. This is not to say that infants recognize the reflection as their *own* image (a later development). However, Lewis and Brooks-Gunn (1979) suggest that infants' developing understanding that the movements they see in the mirror are contingent on their own, leads to a growing awareness that they are distinct from other people. This is because they, and only they, can change the reflection in the mirror.
- D** This understanding that children gain of themselves as active agents continues to develop in their attempts to co-operate with others in play. Dunn (1988) points out that it is in such day-to-day relationships and interactions that the child's understanding of his- or herself emerges. Empirical investigations of the self-as-subject in young children are, however, rather scarce because of difficulties of communication: even if young infants can reflect on their experience, they certainly cannot express this aspect of the self directly.

#### Test 4

- E Once children have acquired a certain level of self-awareness, they begin to place themselves in a whole series of categories, which together play such an important part in defining them uniquely as 'themselves'. This second step in the development of a full sense of self is what James called the 'self-as-object'. This has been seen by many to be the aspect of the self which is most influenced by social elements, since it is made up of social roles (such as student, brother, colleague) and characteristics which derive their meaning from comparison or interaction with other people (such as trustworthiness, shyness, sporting ability).
- F Cooley and other researchers suggested a close connection between a person's own understanding of their identity and other people's understanding of it. Cooley believed that people build up their sense of identity from the reactions of others to them, and from the view they believe others have of them. He called the self-as-object the 'looking-glass self', since people come to see themselves as they are reflected in others. Mead (1934) went even further, and saw the self and the social world as inextricably bound together: 'The self is essentially a social structure, and it arises in social experience ... it is impossible to conceive of a self arising outside of social experience.'
- G Lewis and Brooks-Gunn argued that an important developmental milestone is reached when children become able to recognize themselves visually without the support of seeing contingent movement. This recognition occurs around their second birthday. In one experiment, Lewis and Brooks-Gunn (1979) dabbed some red powder on the noses of children who were playing in front of a mirror, and then observed how often they touched their noses. The psychologists reasoned that if the children knew what they usually looked like, they would be surprised by the unusual red mark and would start touching it. On the other hand, they found that children of 15 to 18 months are generally not able to recognize themselves unless other cues such as movement are present.
- H Finally, perhaps the most graphic expressions of self-awareness in general can be seen in the displays of rage which are most common from 18 months to 3 years of age. In a longitudinal study of groups of three or four children, Bronson (1975) found that the intensity of the frustration and anger in their disagreements increased sharply between the ages of 1 and 2 years. Often, the children's disagreements involved a struggle over a toy that none of them had played with before or after the tug-of-war: the children seemed to be disputing ownership rather than wanting to play with it. Although it may be less marked in other societies, the link between the sense of 'self' and of 'ownership' is a notable feature of childhood in Western societies.

**Questions 14–19**

Reading Passage 2 has eight paragraphs, **A–H**.

Which paragraph contains the following information?

*Write the correct letter, **A–H**, in boxes 14–19 on your answer sheet.*

**NB** You may use any letter more than once.

- 14** an account of the method used by researchers in a particular study
- 15** the role of imitation in developing a sense of identity
- 16** the age at which children can usually identify a static image of themselves
- 17** a reason for the limitations of scientific research into 'self-as-subject'
- 18** reference to a possible link between culture and a particular form of behaviour
- 19** examples of the wide range of features that contribute to the sense of 'self-as-object'

**Questions 20–23**

*Look at the following findings (Questions 20–23) and the list of researchers below.*

*Match each finding with the correct researcher or researchers, **A–E**.*

*Write the correct letter, **A–E**, in boxes 20–23 on your answer sheet.*

- 20** A sense of identity can never be formed without relationships with other people.
- 21** A child's awareness of self is related to a sense of mastery over things and people.
- 22** At a certain age, children's sense of identity leads to aggressive behaviour.
- 23** Observing their own reflection contributes to children's self awareness.

**List of Researchers**

- A** James
- B** Cooley
- C** Lewis and Brooks-Gunn
- D** Mead
- E** Bronson

### 3. Секція «Writing»

#### Завдання для есе

Present a written argument or case to an educated reader with no specialist knowledge of the following topic. You should write at least 150 words. Use your own ideas, knowledge and experience and support your arguments with examples and relevant evidence.

**Variant 1.** *There are many different types of music in the world today. Why do we need music? Is the traditional music of a country more important than the International music that is heard everywhere nowadays?*

**Variant 2.** *Should wealthy nations be required to share their wealth among poorer nations by providing such things as food and education? Or is it the responsibility of the governments of poorer nations to look after their citizens themselves?*

**Variant 3.** *News editor decide what broadcast on television and what to print in newspaper. What factors do you think influence these decisions? Do we become used to bad news? Would it be better if more good news was reported?*

**Variant 4.** *The idea of having a single career is becoming an old-fashioned one. The new fashion mil be to have several careers or ways of earning money and further education will be something that continues throughout life.*

**Variant 5.** *We are becoming increasingly depend on computers. They are used in business, hospitals, crime detection and even to fly planes. What things will they be used in the future? Is this depends on computers a good thing or should we be more suspicious of their benefit?*

**Variant 6.** *Fatherhood ought to be emphasized as much as motherhood. The idea that women are solely responsible for deciding whether or not to have babies leads to the idea that they are also responsible for bringing the children up. To what extent do you agree or disagree?*

**Variant 7.** *“Prevention is better than cure”. Out of a country’s health budget, a large proportion should be diverted from treatment to spending on health education and preventative measures. To what extent do you agree or disagree with this statement?*

**Variant 8.** *Popular events like the football World Cup and other international sporting occasions are essential in easing international tensions and releasing patriotic emotions in a safe way. To what extent do you agree or disagree with this opinion?*

**Variant 9.** *When a country develops its technologies, the traditional skills and*



*ways of life die out. It is pointless to try and keep them alive. To what extent do you agree or disagree with this opinion?*

**Variant 10.** *In many countries children are engaged in some kind of paid work. Some people regard this as completely wrong, while others consider it as valuable work experience, important for learning and taking responsibility. What are your opinions on this?*

*Додаток*

*Зразок оформлення титульної сторінки  
для контрольної роботи слухачів заочної форми навчання*

**ДЕРЖАВНА СЛУЖБА УКРАЇНИ З НАДЗВИЧАЙНИХ СИТУАЦІЙ  
НАЦІОНАЛЬНИЙ УНІВЕРСИТЕТ ЦИВІЛЬНОГО ЗАХИСТУ  
УКРАЇНИ**

**Кафедра мовної підготовки**

**КОНТРОЛЬНА РОБОТА  
з навчальної дисципліни**

**«ІНОЗЕМНА МОВА ДЛЯ МІЖНАРОДНИХ ТЕСТІВ  
TOEFL TA IELTS»**

**ВИКОНАВ**  
слухач групи

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**ПЕРЕВІРИВ**

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