





MATURITA 2023

EXTERNÁ ČASŤ

ANGLICKÝ JAZYK úroveň C1

**NEOTVÁRAJTE, POČKAJTE NA POKYN!
PREČÍTAJTE SI NAJPRV POKYNY K TESTU!**

- Test obsahuje **90 úloh**.
- Na vypracovanie testu budete mať **150 minút**.
- Na začiatku každej úlohy sa z inštrukcií dozviete, ktorý odpovedový hárok máte použiť.
- V teste sa stretnete s dvoma typmi úloh:
 - Pri úlohách s výberom odpovede vyberte správnu odpoveď spomedzi niekoľkých ponúkaných možností, z ktorých je vždy správna iba jedna. Správnu odpoveď vyznačte krížikom do príslušného políčka odpovedového hárka označeného piktogramom .
 - Pri úlohách s krátkou odpoveďou, ktorých odpoveď tvorí jedno slovo (prípadne zložený slovesný tvar) alebo niekoľko slov, píšete do príslušného políčka odpovedového hárka označeného piktogramom .
- Pri práci smiete používať iba pero s čiernou alebo modrou náplňou. Nesmiete používať zošity, slovníky, učebnice ani inú literatúru.
- **Podrobnejšie pokyny na vyplňovanie odpovedového hárka sú na poslednej strane testu. Prečítajte si ich.**

Želáme vám veľa úspechov!

Začnite pracovať, až keď dostanete pokyn!

SECTION I
LISTENING
30 points

This section of the test has three parts. You will hear four recordings which you will listen to twice. While listening, answer the questions in the appropriate part of the test.

Part 1: Two Interviews (10 points)

*In this part, you will hear two different extracts. In the first extract, you will hear an interview with Duma Arantes, a Portuguese painter. In the second extract, you will hear an interview with Sophie Turner, a popular English actress who starred in the American fantasy TV series "Game of Thrones". For the following statements 01–10, choose the correct answer (A), (B), (C) or (D). There is always only **one** correct answer.*

Mark your answers on the answer sheet labelled with a .

Now you have 2 minutes to read the tasks.

Extract 1: An Interview with Duma Arantes (5 points)

01 One of the initial phases of Duma Arantes' creative procedure includes .

- (A) searching the photos from Portuguese artists
- (B) developing photos in a creative and original way
- (C) extracting and processing a section of the photo
- (D) drawing the photo and creating her own version of it

02 Duma Arantes' preference of oil techniques is given by the paint's .

- (A) potential for her own creativity and originality
- (B) qualities allowing the addition of more layers to the canvas
- (C) possibilities of using a different mix of liquids
- (D) qualities leading to evenness and plasticity

03 Graphic design is .

- (A) something that allows Duma Arantes to apply her own imagination
- (B) something that is integrated in Duma Arantes' paintings
- (C) an artistic branch Duma Arantes studied at university
- (D) the style that gives Duma Arantes space for variations

04 Duma Arantes' female faces represent .

- (A) various women's stories
- (B) certain prototypes of women
- (C) a global but varied image of women's world
- (D) contradictory interpretations of women's status

- 05** Duma Arantes perceives her paintings as .
- (A) artwork transferred to like-minded spectators
 - (B) something art observers must unveil themselves
 - (C) a message for the spectator to identify with
 - (D) expressions of beauty to be fascinated by viewers

Extract 2: An Interview with Sophie Turner (5 points)

- 06** What makes the film *X-Men: Dark Phoenix* non-identical with the former films is its .
- (A) focus on the superhero character
 - (B) being far more effect-driven
 - (C) depiction of a variety of characters
 - (D) being far more action-based for the viewers

- 07** Sophie Turner after learning she would play the character of Jean Grey again.
- (A) was entirely positive
 - (B) had contradictory feelings
 - (C) became absorbed in reading the script
 - (D) was introduced to Simon Kinberg

- 08** Sophie Turner perceives shooting of *Game of Thrones* as .
- (A) a long-lasting and intense experience for her
 - (B) a moving and touching story for all the TV viewers
 - (C) an extremely rewarding time for the whole cast
 - (D) an opportunity to cultivate friendships with other actors

- 09** In her adolescent years, Sophie Turner .
- (A) was brought up as a celebrity in her family
 - (B) was offered some minor roles by producers
 - (C) experienced some trauma in her personal life
 - (D) lacked confidence and felt uncertain in life

- 10** Sophie Turner believes she has become more mature at an early age due to .
- (A) the number of roles she was able to take
 - (B) the type of character she played
 - (C) growing up with adults during her adolescence
 - (D) becoming engaged with the world of politicians



Part 2: The Power of Thank You (10 points)

In this part, you will hear a radio programme in which a psychologist explains how introducing a little gratitude into your lives reduces stress and makes you powerful. The expert will mention five problems and five ways of solving them. There are two blocks of five matching questions. You will have to match all ten questions while you are listening to this recording. Read the questions carefully before you listen.

*For questions 11–15, choose from the first list marked (A)–(H) the problem which is being described. For questions 16–20, choose from the second list marked (A)–(H) the practical way of solving this problem. Be careful, there are **three** extra possibilities which you do not need to use. There is always only **one** correct answer.*

Mark your answers on the answer sheet labelled with a .

Now you have 2 minutes to read the tasks.

1 st LIST	
Questions 11–15	Options (A)–(H): PROBLEMS
<p><input type="checkbox"/> 11 Problem No 1: <input type="text"/></p>	<p>(A) Negativism in your thinking.</p> <p>(B) Appreciation of basics of life.</p> <p>(C) Role of pleasant memories.</p> <p>(D) Insufficient gratitude from employers.</p> <p>(E) Consulting problems with professional.</p> <p>(F) Acknowledgement of personal kindness.</p> <p>(G) Recognition of your own qualities.</p> <p>(H) Expressing gratitude in a literary form.</p>
<p><input type="checkbox"/> 12 Problem No 2: <input type="text"/></p>	
<p><input type="checkbox"/> 13 Problem No 3: <input type="text"/></p>	
<p><input type="checkbox"/> 14 Problem No 4: <input type="text"/></p>	
<p><input type="checkbox"/> 15 Problem No 5: <input type="text"/></p>	

2nd LIST

Questions 16–20

Options (A)–(H): SOLUTIONS

16 Solution No 1:

17 Solution No 2:

18 Solution No 3:

19 Solution No 4:

20 Solution No 5:

(A) Show a similar respect to the elderly.

(B) Overcome pessimistic reactions.

(C) Express your thanks with a handwritten card.

(D) Show you are grateful even for daily routines.

(E) Appreciate the simple things in life.

(F) Reflect on memories with delight.

(G) Encourage them to boost their performance.

(H) Discuss such things with an expert.



**Part 3: An Interview with Grant Cardone,
an International Sales Expert (10 points)**

You will hear an interview with an international sales expert, business innovator, motivational speaker, author and actor Grant Cardone. Complete the sentences 21–30, which summarize the information from the text. Use **one to three** words in your answers (the number of words is indicated in brackets). To complete some of the sentences, you may have to use word forms different from those you heard in the recording.

Write your answers on the answer sheet labelled with a .

Now you have 2 minutes to read the sentences.

<p>21 Before publishing his first book, Grant Cardone had created <input type="text"/> <input type="text"/> <input type="text"/> for the employees of his company.</p>	(3 words)
<p>22 “Whatever it takes” is not only the initial name of Grant Cardone’s TV, but also his personal <input type="text"/>.</p>	(1 word)
<p>23 The top level of any effort people can connect with is taking <input type="text"/> <input type="text"/>.</p>	(2 words)
<p>24 Grant Cardone illustrates how <input type="text"/> <input type="text"/> can be applied to both business and personal life.</p>	(2 words)
<p>25 If people seek inspiration, they need to identify their <input type="text"/>.</p>	(1 word)
<p>26 Grant Cardone’s recipe for success implies not letting yourself be <input type="text"/> <input type="text"/> by negative people.</p>	(2 words)
<p>27 For Grant Cardone, evading responsibility equals <input type="text"/> <input type="text"/> <input type="text"/>.</p>	(3 words)

<p>28</p>	<p>Grant Cardone states there is a correlation between <input type="text"/> and productivity.</p>	<p>(1 word)</p>
<p>29</p>	<p>According to Grant Cardone's philosophy, there is no reason for getting anxious about <input type="text"/> and time efficiency.</p>	<p>(1 word)</p>
<p>30</p>	<p>Acquiring an appropriate job and <input type="text"/> sensibly may also lead to success.</p>	<p>(1 word)</p>



SECTION II
LANGUAGE IN USE
30 points

This section of the test has two parts. To complete this section of the test, you will need approximately 40 minutes.

Part 1: Lethal White (20 points)

*Read the following text and decide which word or phrase (A), (B), (C) or (D) best fits into each space numbered 31–50. There is always only **one** correct answer. There is an example at the beginning (00).*

Example: (00) – (C)

Mark your answers on the answer sheet labelled with a .

For reasons not entirely related to the complexity of the plot, Lethal White **00** one of the most challenging books J. K. Rowling has written and it's also one of her favourites. Let's read a passage.

The Chiswell case maintained its singular character even when their client was no more.

As the usual cumbersome procedures and formalities **31** the corpse, Strike and Robin were escorted from Ebury Street to Scotland Yard, where **32**. Strike knew that a tornado of speculation must be whirling through the newsrooms of London at the death of a government minister, and sure enough, by the time they emerged from Scotland Yard six hours later, the colourful details of Chiswell's private life **33** across TV and radio. Opening the internet browsers on their phones **34** brief news items from news sites, as a tangle of baroque theories spread across blogs and social media, in which a multitude of cartoonish Chiswells died at the hand of myriad **35** foes. As he rode in a taxi back to Denmark Street, Strike read how Chiswell the corrupt capitalist **36** murdered by the Russian mafia after failing to pay back interest on some seedy, illegal transaction, while Chiswell the defender of **37** English values had surely been dispatched by vengeful Islamists after his attempt to resist the rise of sharia law.

Strike returned to his attic flat only to collect his **38**, and decamped to the house of his old friends Nick and Ilsa, **39** a gastroenterologist and a lawyer. Robin, who at Strike's **40** had taken a taxi directly home to Albury Street, was given an insincere hug by Matthew, whose tissue-thin pretence of sympathy was worse, Robin felt, than **41** fury.

When she was summoned back to Scotland Yard for further **42**, she wasn't sure that her second interviewer was a policeman. The softly spoken man in a dark grey suit didn't reveal whom he worked for. Robin found this gentleman far more **43** than yesterday's police, even though they had, **44**, been forceful to the point of aggression. Robin told her new interviewer everything she had seen and heard in the Commons, omitting only the strange conversation between Della Winn and Aamir Mallik, **45** had been captured on the second listening device. As the interaction had taken place behind a closed door after normal working hours, she could only have heard it by using **46** equipment. Robin assuaged her **47** by telling herself that this

conversation could not possibly have anything to do with Chiswell's death, but squirming feelings of guilt and terror **48** her as she left the building for the second time. **49** by what she hoped was paranoia by this brush with the security services, that she called Strike from a payphone near the Tube, **50** using her mobile.

00 (A) was (B) had been (C) has been (D) will be

31 (A) veiled (B) enveloped (C) covered (D) hid

32 (A) they were separately interviewed (B) they separately were interviewed
(C) they separately interviewed (D) separately they were interviewed

33 (A) have been broadcast (B) would be broadcast
(C) are being broadcast (D) were being broadcast

34 (A) discovered (B) uncovered (C) exposed (D) revealed

35 (A) blurred (B) nebulous (C) hazy (D) foggy

36 (A) had been (B) has been (C) would be (D) is

37 (A) firm (B) solid (C) resilient (D) tough

38 (A) holding (B) means (C) properties (D) belongings

39 (A) subsequently (B) conversely (C) respectively (D) additionally

40 (A) endurance (B) permanence (C) insistence (D) persistence

41 (A) frank (B) wide (C) raw (D) outright

42 (A) interrogation (B) examination (C) inquiry (D) exploration

43 (A) intimidating (B) discouraging (C) subduing (D) petrifying

44 (A) at no time (B) at times (C) at any time (D) at all times

45 (A) what (B) who (C) that (D) which

46 (A) guarding (B) surveillance (C) watching (D) warden

47 (A) remorse (B) conscience (C) consciousness (D) reproach

48 (A) tracked (B) traced (C) pursued (D) preyed

49 (A) So consumed she was (B) So she was consumed
(C) So was she consumed (D) So consumed was she

50 (A) instead of (B) prior to (C) in addition to (D) in favour of

Part 2: Emotional Necessity or Just a Pet? (10 points)

In the following text, there are some missing words numbered 51–60. Use the word given in brackets to form a word that fits into the space in the same line. There is an example at the beginning (00).

Example: 00 – rapidly

Write your answers on the answer sheet labelled with a .

The number of people claiming they have a right to live with animals for their mental health – as well as to take them onto planes and into restaurants – has been growing 00 (rapid). In 2011, a for-profit company that sells official-looking vests and certificates for owners, had 2,400 service and emotional support animals in its 51 (register). Now the number is nearly 200,000. But the spread of such animals has also been met by concerns from landlords, airlines and other businesses that many Americans may be abusing the system.

Critics say that pet owners are obtaining phony certifications or letter from online therapists to avoid paying fees or to get 52 (permit) to take creatures where they wouldn't normally be allowed.

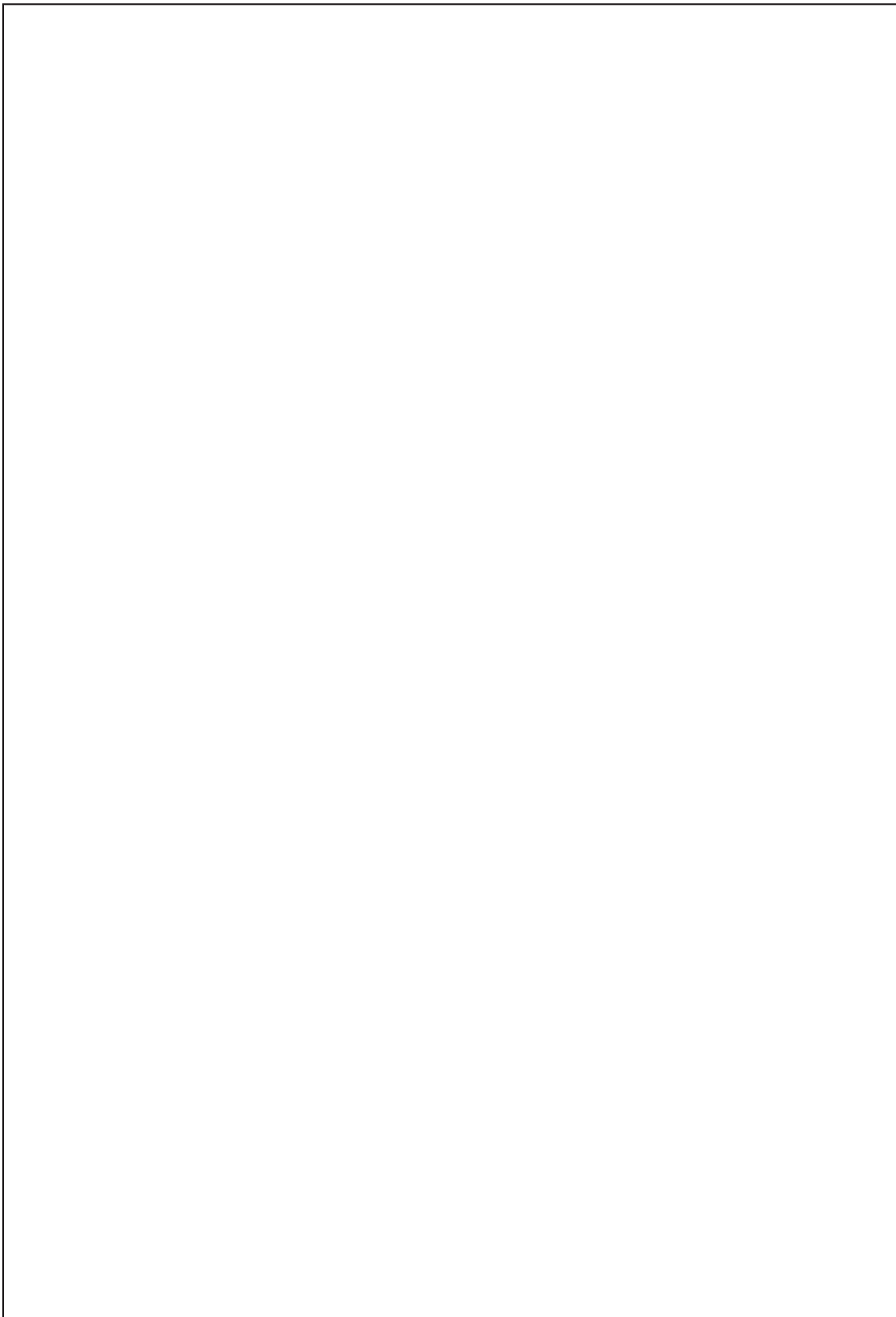
'You want to accommodate people with legitimate 53 (require), but that's harder to do when people apply for everything from reptiles to insects', said Amanda Gill, the government affairs director for the Florida Apartment Association.

More than two dozen state 54 (legislation) have enacted new laws to crack down on fraud. A law passed in Utah this year makes it a 55 (demeanor) to lie about a pet's being an emotional support animal, expanding a law already on the books that made it a crime to 56 (interpret) a pet as a Seeing Eye dog.

Oklahoma just passed a law clarifying that restaurants and stores have a right to keep support animals out. Virginia's law cracks down on websites that promise to provide verification letters of emotional support for a fee, without having any 57 (therapy) relationship with the animal's owner.

Advocates point out that therapy animals are protected by the Fair Housing Act, which requires landlords to make '58 (reason) accommodations' for people with 59 (able), like a wheelchair-accessible parking space. They worry that the new laws will embolden landlords to deny animals to tenants who need them.

Even some supporters of the new measures struggle over how to 60 (distinction) a legitimate need from a fraud. 'It's really hard to draw a bright line,' said Todd Weiler. 'To a larger extent, everybody could benefit from having a pet. When is it an emotional support animal, and when it is a pet?'



**SECTION III
READING
30 points**

This section of the test has four parts. To complete this section of the test, you will need approximately 70 minutes.

Part 1: August 10 (9 points)

*In this part, there are three themed texts. For the statements **61–69**, choose the answer **(A)–(D)** according to the texts. There is always only **one** correct answer.*

Mark your answers on the answer sheet labelled with a .

Passage 1: John Flamsteed (3 points)

On August 10, 1675, King Charles II and John Flamsteed lay the foundation stone of the Royal Observatory in Greenwich, London.

John Flamsteed, (born August 19, 1646, Denby, near Derby, Derbyshire, England – died December 31, 1719, Greenwich, London), founder of the Greenwich Observatory, and the first astronomer royal of England.

Poor health forced Flamsteed to leave school in 1662. He studied astronomy on his own and later (1670–74) continued his education at the University of Cambridge. In 1677 he became a member of the Royal Society. Qualifying as a priest in 1675, Flamsteed in 1684 received the income of the living of Burstow, Surrey. His report to the Royal Society on the need for a new observatory resulted in the founding (1675) of the Royal Greenwich Observatory, of which he was the first director (and hence Astronomer Royal). He found that he himself had to supply all the instruments at Greenwich, apart from a few gifts; he was forced to take private pupils to augment his income. There was also a small inheritance from his father, who died in 1688.

The latter part of Flamsteed's life passed in controversy over the publication of his excellent stellar observations. He struggled to withhold them until completed, but they were urgently needed by Isaac Newton and Edmond Halley, among others. Newton, through the Royal Society, led the movement for their immediate publication. In 1704 Prince George of Denmark undertook the cost of publication, and, despite the prince's death in 1708 and Flamsteed's objections, the incomplete observations were edited by Halley, and 400 copies were printed in 1712. Flamsteed later managed to burn 300 of them. His own star catalogue listed more stars (3,000) and gave their positions much more accurately than did any other previous work.

61 Flamsteed .

- (A) had to interrupt his university studies
- (B) asked the king to help build a new observatory
- (C) worked with his father
- (D) worked as a tutor for some time

62 It is obvious that .

- (A) Flamsteed did not want an incomplete work to be published
- (B) Flamsteed's observations were published by the Prince of Denmark
- (C) Flamsteed sent his work to Royal Observatory
- (D) Flamsteed was a wealthy person

63 The passage tells us that .

- (A) King Charles II helped Flamsteed furnish the observatory
- (B) Newton exerted pressure directly on Flamsteed
- (C) Flamsteed published a catalogue of stars simultaneously with Halley
- (D) Flamsteed, at one time, was employed as a clergyman



Passage 2: A 100-Year-Old Fruitcake (3 points)

A 100-year-old fruitcake was found in Antarctica on August 10, 2017 and is ‘almost’ edible. Conservators with the New Zealand-based Antarctic Heritage Trust recently found the 100-year-old dessert in Antarctica’s oldest building, a hut on Cape Adare. Wrapped in paper and the remains of a tin, the fruitcake is in “excellent condition”, according to the trust, and looks and smells almost edible.

British explorer Robert Falcon Scott likely brought the cake, made by the British biscuit company Huntley & Palmers, to Antarctica during their 1910–1913 Terra Nova expedition. The expedition’s Northern Party took shelter in the Cape Adare hut, which had been built by Norwegian Carsten Borchgrevink’s team in 1899, and left the fruitcake behind. A team has been excavating artifacts in the hut since 2016.

“Fruitcake was a popular item in English society at the time, and it remains popular today,” Lizzie Meek, conservation manager for artifacts at the trust, says via email. “Living and working in Antarctica tends to lead to a craving for high-fat, high-sugar food, and fruitcake fits the bill nicely, not to mention going very well with a cup of tea.”

Scott and his four-person crew reached the South Pole in 1912, but all five died on the return journey to their expedition base, the Terra Nova hut on Cape Evans.

Heritage Trust conservators have restored the 50-foot-long Terra Nova hut, the largest Antarctic building of its time, and several other portable wooden huts to look as they did a century ago. After restoring the huts’ artifacts – including the fruitcake – conservators returned them to their original locations within the huts.

“Fruitcake is not something that people usually get excited about, but this discovery shows what a spectacular environment for historic preservation the Antarctic is,” Clemson University historian Stephanie Barczewski said via email. It also highlights the “importance of protecting its fragile environment, because we don’t know what other amazing things we might find from the Heroic Age of exploration.”

64 The conservators have their base .

- (A) on Cape Adare
- (B) in New Zealand
- (C) in Antarctica
- (D) on Cape Evans

65 Scott and his team died .

- (A) on their way to South Pole
- (B) in their Terra Nova hut
- (C) between the South Pole and the Terra Nova hut
- (D) on Cape Adare

66 The passage mentions that .

- (A) the fruitcake was brought to Antarctica by Scott
- (B) the Antarctic can perfectly serve for preservation
- (C) a British biscuit company supplied explorers at the beginning
- (D) the conservators restored several wooden huts at their base

Passage 3: Felix Hoffmann (3 points)

Felix Hoffmann was born in Ludwigsburg, Germany, in 1868, the son of an industrialist. After finishing school, he initially aimed for a career as a pharmacist. His work in the field of pharmacy fascinated him so much that he decided to broaden his knowledge by studying chemistry. In 1891, he graduated from the University of Munich. On the recommendation of eventual Nobel Prize laureate Professor Adolf von Baeyer, under whom Hoffmann had studied, he joined “Farbenfabriken vorm. Friedr. Bayer & Co.” in 1894 to work as a chemist in the chemical laboratory.

It was mostly by chance that he made a discovery of historic significance on August 10, 1897. By acetylating salicylic acid with acetic anhydride, he succeeded in creating acetylsalicylic acid (ASA) in a chemically pure and stable form. The pharmacologist responsible for verifying these results was sceptical at first, yet the extent of this pharmaceutical wonder became clear once several large-scale studies to investigate the substance’s efficacy and tolerability had been completed: Hoffmann had discovered a pain-relieving, fever-lowering anti-inflammatory substance. The company then worked flat out to develop a cost-effective production process that would allow the promising active ingredient to be supplied as a pharmaceutical product. In 1899, it was launched for the first time with the trade name Aspirin™, initially as a powder supplied in glass bottles. Aspirin™ has made the Bayer name world-famous like no other drug product.

Shortly after the synthesis of acetylsalicylic acid, Hoffmann was made head of the pharmaceutical marketing department. Two years later he was granted full power of attorney. By the time he retired in 1928, his discovery was already a worldwide success. Yet the “inventor” of Aspirin™ remained unknown to the international public. He lived in Switzerland out of the public eye until his death in 1946.

67 From the passage, it is clear that .

- (A) Felix Hoffmann studied chemistry right after school
- (B) Felix Hoffmann was recommended by a university professor to work at Bayer & Co
- (C) Felix Hoffmann’s father was a manufacturer
- (D) Felix Hoffmann’s knowledge of chemistry was enhanced by himself

68 Felix Hoffmann’s invention .

- (A) happened after a rigorous preparation
- (B) was verified by a study of a pharmacologist
- (C) had one or two unsuitable side effects
- (D) was a product second to none for Bayer company

69 From the passage, we learn that .

- (A) Adolf von Baeyer was awarded a Nobel Prize
- (B) Aspirin was first produced as a solution in bottles
- (C) Felix Hoffmann gained international recognition
- (D) Hoffmann synthesized ASA when he was the head of marketing



Part 2: Culture Shock in Paris (6 points)

Read the following extract. Six paragraphs have been removed from the text. Complete the missing paragraphs (A)–(G) into the gaps 70–75. There is **one** extra paragraph which you do not need to use.

Mark your answers on the answer sheet labelled with a .

Every year the French capital welcomes tens of thousands of foreign students, but the student experience in France can be very different and disorientating, as British language student Toby Bryant found out.

My degree in Modern Languages at Newcastle University offers the opportunity to spend time abroad, either working or studying at a foreign university, so I leapt at the chance to hop across the Channel to Paris for a six-month internship. However, it's not all easy going. Here are some of the differences from life in Newcastle I wish I knew before I started in Paris.

70

Parisian life is expensive, so you'll need to budget accordingly before leaving – work a summer job if needs be. And that's even before we get talking about the rents. There is very little student-specific accommodation in Paris, so you will generally have to find your own place to stay and rents are very high, even for a tiny “chambre de bonne”.

71

Then I picnicked by the Seine or in one of the city's many green parks and later getting lost in Saint-Germain-des-Prés' quaint streets. By the way, the plus side to paying Paris rates is that you'll never complain about your local town's prices ever again!

72

There are great numbers of sports teams in the capital; every morning and every night the parks of *Vincennes* and *Boulogne* are full of yoga classes, boot camps and exercise classes of all types.

73

A lot of international courses offer the chance for students to work whilst abroad, instead of studying, which is an option I took advantage of. For sure, kissing goodbye to frequent lie-ins and 14-hours a week of lectures for a badly paid 39-hour a week internship was daunting. However, it's a decision that really made my time in Paris.

74

Parisian people do have a stern façade – there's nothing more daunting than the doors of a jam-packed rush-hour Metro sliding open and a formidable 60-year-old woman staring you down as you try to squeeze on. But flash a quick “bonjour” or “bonsoir”, and you'll see the faces start to change.

75

If you pick up on these little courtesies, try and try again every time your French fails and refuse to let their hard exterior frighten you off, you'll leave with a bunch of new Parisian friends.

(A) More often than not, I found myself crammed around a small terrace table with a group of colleagues chatting about the latest office gossip rather than boozing it up until the small hours in nightclubs.

(B) Isolating myself from other English-speakers and jumping in at the deep end is the best way to make my stay in Paris something really worthwhile. Working is a back door into authentic Parisian life and being seen as an equal to the locals – not just another lost foreigner.

(C) However, there are many Parisian activities which are free – especially the cultural ones where there are discounts for students and people aged under 26. I found myself wondering around world-famous museums such as The Louvre and The Musée d’Orsay without paying a penny.

(D) As a long-distance runner, I joined Urban Running, a club that specialises in training programmes and marathon preparation. It’s by joining a sports club that I made Parisian friends away from working/studying life and found my own space in the city’s bustling after-work activities.

(E) Student towns in the UK very much cater to the student diet of cheap booze and budget meals. Paris is not the same. One drink at a bar can set you back €5, and that’s if you make the 5pm–8pm “happy hours” that are dotted around the city and offer drinks deals. Otherwise, a large glass of wine or a pint of beer can creep up to around the €10 mark, depending on the area.

(F) Every time I walked past someone in the office or in my block of flats, we’d exchange greetings and every time someone in the canteen tucked into some food, a rally of “bon appetit” would come from surrounding people.

(G) Did you know that at university in France sports are highly encouraged and can even count as credits? You simply cannot make a short journey around Paris without seeing someone running, cycling, using one of the city’s free table tennis tables or outdoor gyms or kicking a football around.



Part 3: Sundrop Farms (6 points)

*Read the following text and complete the statements 76–81 with **one** or **two** words, based on the information given in the text. The statements do not follow in the same order as the information appears in the text.*

Write your answers on the answer sheet labelled with a .

Sundrop Farms is a developer, owner and operator of high tech greenhouse facilities which use a number of technology solutions to grow crops with less dependence on finite natural resources than conventional greenhouse production. Sundrop Farms opened its first pilot facility in Port Augusta, South Australia, in 2010 (operating as Seawater Greenhouse Australia Pty Ltd). This facility was originally designed as a Seawater Greenhouse. However, significant technology changes led to the Sundrop System, and the dissolution of the joint venture with Seawater Greenhouse Ltd. Sundrop Farms commissioned an expanded 20-hectare facility south of Port Augusta in 2016. Sundrop Farms has offices in London, UK and Adelaide, Australia.

The primary inputs to a greenhouse are heat, electricity, water, and nutrients. The Sundrop System is a collection of technologies which, when used in combination, reduce the need for finite resources in these inputs when compared with conventional greenhouse production. In Sundrop Farms' first facilities in South Australia, these technologies include concentrated solar power, thermal desalination, and steam-driven electricity generation. This is the first combined heat, power, and water system powered by solar energy for greenhouse production.

As of 2015, Sundrop Farms is constructing a 20-hectare solar-powered greenhouse facility near its original site, south of Port Augusta in South Australia. This facility, scheduled for completion in 2016, is expected to produce 15,000 tons of truss tomatoes (on the vine) each year to supply the Australian supermarket operator Coles under a ten-year contract. Sundrop Farms operations will be primarily powered by a new concentrated solar thermal power plant and seawater will be withdrawn from Spencer Gulf and desalinated to feed produce. The project was expected to generate around 100 jobs during the construction of the greenhouse facility (underway as of October 2015) and approximately 200 jobs once operational. In 2014, private equity firm Kohlberg Kravis Roberts invested \$100 million in the company. The development has been supported by the Government of South Australia which has provided approximately \$6 million in grant funding. A \$150 million development contract was awarded to John Holland in 2014 to construct the expanded facility over an 18–24 month time-frame and the total project cost is an estimated \$205 million. The \$175 million, highly productive “farm” opened in June 2016 and is now producing 10–15 per cent of Australia's truss tomatoes.

Sundrop Farms' 20-hectare expanded facility is powered by an Integrated Energy System based on the concentrated solar power (CSP) technology. The system is designed and delivered by Danish renewable energy specialist, Aalborg CSP, and it is the first large-scale CSP-based technology in the world to provide multiple energy streams – heating, fresh water and electricity – for horticultural activities. The 51,500 m² solar field comprises eSolar's Solar Collector System.

Commissioned in October 2016, the facility’s concentrated solar thermal plant peak heat production rate is 39 MW, and desalinates water while producing 1.5 MW of electricity.

Sundrop Farms’ original pilot facility desalinated seawater but did not return waste brine to Spencer Gulf. The brine was collected in ponds from which salt could be harvested. The company’s brine management plan changed with its 20-hectare expansion in 2014. Sundrop Farms sought and received approval from the South Australian Environment Protection Authority to discharge waste brine into Spencer Gulf at a salinity of 60 parts per thousand. The expanded facility discharged its brine into the cooling water outflow channel at the existing coal-fired Port Augusta power stations. Environmental approval from the Commonwealth Government via referral under the EPBC Act was neither required nor sought by Sundrop Farms for this project. Sundrop Farms continues to investigate commercially effective solutions for the recovery of minerals from brine at a large scale.

<p>76 The construction of the extended greenhouse was supposed to be finished within <input type="text"/> <input type="text"/>.</p>	<p>(2 words)</p>
<p>77 The power for Sundrop Farms facility is supplied by a system created by experts from <input type="text"/>.</p>	<p>(1 word)</p>
<p>78 Reduction of <input type="text"/> <input type="text"/> for the inputs is achieved through a collection of technologies.</p>	<p>(2 words)</p>
<p>79 The Sundrop System originated as a result of noteworthy <input type="text"/> <input type="text"/>.</p>	<p>(2 words)</p>
<p>80 Release of <input type="text"/> <input type="text"/> was approved by an Australian authority.</p>	<p>(2 words)</p>
<p>81 Coles is contractually required to be provided with tomatoes for <input type="text"/> <input type="text"/>.</p>	<p>(2 words)</p>



Part 4: Great Physicists (9 points)

Read the following extracts and choose the paragraph (A)–(D) in which you found the information from the statements 82–90. You can use the paragraphs more than once.

Mark your answers on the answer sheet labelled with a .

(A)	<p>Faraday's earliest science position was an assistant to Humphry Davy who was also a science enthusiast. Faraday was involved in the analysis of chlorine. He also carried out rough experiments on the diffusion of gases. In addition, he created an early form of what is the now called the Bunsen burner. He worked comprehensively in chemistry; he discovered chemicals like benzene and discovered that chlorine could be turned into a liquid.</p> <p>He was appointed the first-ever Fullerian Professor in Chemistry in the year 1833. He started to work on electromagnetism, which is what he is best known for, in 1821. He created devices that produced electromagnetic rotations. These developments led to the invention of the electric motor. Ten years later, Michael perceived that passing of current through a copper wire coil that was wrapped around iron caused current to be induced in the adjacent coil. In this way, he invented the very first transformer.</p>
Michael Faraday	
(B)	<p>Even as a student Tesla was inventive. He created a motor that did not need a commutator to function. A commutator is a device that switches the direction of a current in some generators or motors that run on electricity. Tesla invented a motor with coils that were arranged so that when alternating current energized them they cast a magnetic field that rotated at a predetermined speed. Tesla patented this rotating field motor in 1888. Fortunately, he was able to sell it at a time when the advocates of alternating current were in the market for such a motor. Tesla sold his patent to George Westinghouse.</p> <p>Tesla also made advances with frequency apparatuses and high voltage. He invented the Tesla coil, a system of arc lighting, a generator for high frequency currents, a system for wireless transmission and a high potential magnifying transmitter. The magnifying transmitter was a machine that could produce millions of electrical volts that manifested in long, spectacular arcs. Tesla formed his own company not long after leaving Edison with money from several investors. He held at least 278 patents.</p>
(C)	<p>Thomson entered Cambridge University in 1841 where he enjoyed an active life as a student. He participated in many activities, but science was his great love. He graduated four years later. He was a Second Wrangler, which was the second highest ranked undergraduate degree in maths. He was also named a fellow of his house and worked in the laboratory of the famous scientist, Henri Regnault, in Paris. At around this same time, the University of Glasgow elevated Thomson to the chair of natural philosophy. He was only 22 years old.</p> <p>Lord Kelvin invented the mirror galvanometer used in cable signalling and the siphon recorder, which was used to receive the signals. An avid seaman, he invented the first ship's compass that was free of the magnetic influence of any iron on the ship. He also invented a mechanism that predicted the tide. This was useful to predict the variations in sea level in any port. He suggested that gas thermometers be used for accurate temperature readings, and a thermometer scale is named after him. On the Kelvin thermometer scale, absolute zero is equal to -273 degrees Celsius. Absolute zero is where molecular movement ceases.</p>
William Thomson (Lord Kelvin)	

(D)**James Chadwick**

While at the university's department of physics, Chadwick became acquainted with scientists of the caliber of Hans Geiger and Niels Bohr, among the foremost physicists of their day. He spent his time developing the planetary theory of the atom, and had achieved a Master's degree by 1913. For his work, he was given the Exhibition Scholarship, which had been set up after the Great Exhibition of 1851.

Chadwick used these funds that this brought to go to study in Germany at the country's first specialized research institution near Berlin. Here, Geiger was his ultimate superior, an arrangement which suited Chadwick very well. His own research brought advances such as knowledge of the energy range of beta particles, something which Wolfgang Pauli later used to help develop his own theory that the particle, now known as the neutrino, must exist.

<i>Which...</i>	<i>Which paragraph?</i>
82 physicist also excelled in mathematics?	LETTER: <input type="checkbox"/>
83 physicist contributed to a theory of another physicist?	LETTER: <input type="checkbox"/>
84 physicist had the copyright for more than 250 inventions?	LETTER: <input type="checkbox"/>
85 physicist pursued things other than science?	LETTER: <input type="checkbox"/>
86 physicist looked into the action of the sea?	LETTER: <input type="checkbox"/>
87 physicist was given money for his achievements at university?	LETTER: <input type="checkbox"/>
88 physicist created a basic item of lab equipment?	LETTER: <input type="checkbox"/>
89 physicist contributed to an invention of a motor?	LETTER: <input type="checkbox"/>
90 physicist's invention was sold to an interested party?	LETTER: <input type="checkbox"/>

THE END

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Pokyny na vyplňovanie odpovedového hárka

Odpovedové hárky budú skenované, nesmú sa kopírovať, krčiť ani prehýbať.
Aby skener vedel prečítať vaše odpovede, musíte dodržať nasledujúce pokyny:

- Píšte perom s čiernou alebo modrou náplňou. Nepoužívajte tradičné plniace perá, veľmi tenko píšuce perá, obyčajné ceruzky ani pentelky.

- Riešenia **úloh s výberom odpovede** zapisujte krížikom .

- Správne zaznačenie odpovede (C)
A B C D

- Nesprávne zaznačenie odpovede (C)
A B C D

A	B	C	D
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

- V prípade chybného vyplnenia údajov alebo odpovedí postupujte podľa nasledujúcich pokynov.
V žiadnom prípade nepoužívajte nový odpovedový hárak.

- Keď sa pomýlite alebo neskôr zmeníte názor, úplne zaplňte políčko s nesprávnym krížikom a urobte nový krížik.

A	B	C	D
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

- Ak náhodou znovu zmeníte názor a chcete zaznačiť pôvodnú odpoveď, urobte krížiky do všetkých políčok a zaplnené políčko dajte do krúžku.

A	B	C	D
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

- Odpovede na **úlohy s krátkou odpoveďou** napíšte do príslušného poľa odpovedového hárka čitateľne písaným alebo tlačným písmom. Pri použití tlačného písma **rozlišujte veľké a malé písmená**.

Neotvárajte test, pokiaľ nedostanete pokyn!