# Part I TEST
## Частина «Читання»
## Reading

**Task 1**

**Read the text below. Match choices (A – H) to (1–5). There are three choices you do not need to use. Write your answers on the separate answer sheet.**

### 3D Printing: the Future of Food Production?

**1.** _____

3D printing is becoming more and more popular. We are now able to print things such as clothing, prosthetic limbs, musical instruments and prototype cars. People and businesses are able to create the things they need very quickly and easily using 3D printers. But can you imagine printing food?

**2.** _____

Some scientists are trying to revolutionise the dining experience by doing this. They hope that having a 3D printer in the kitchen will become as commonplace as the microwave or blender. Scientists say that they are easy to use: you simply have to select a recipe and put the raw food 'inks' into the printer. You can also modify the instructions to make the food exactly how you want it. This means that it would be very quick and easy to create tasty and nutritious meals.

**3.** _____

Using 3D printers to create your meals would also be saving the environment. There would be less need for traditional growing, transporting and packaging processes as food production would be a lot more efficient. For example, alternative ingredients such as proteins from algae, beetroot leaves and insects could be converted into tasty products!

**4.** _____

Printing food could also help people who suffer from dysphasia (a swallowing disorder). Elderly people also consider it difficult to chew and swallow. So, the pureed food can make it easier for them and to relieve pain. One of the ways it does this is through novel designs and textures. The technology employed enables to create foods that appear enticing to this category of people. They could program the printer to print softer versions of their favourite foods so that they would not have trouble swallowing them.

**5.** _____

However, some people think that a future of 3D-printed food would be a disaster. It could take away many jobs, including those for growing, transporting and packaging food. Imagine a world where there was no need for farming or growing crops and the same tastes and textures could be printed from a raw 'food ink'. Likewise, traditional cafés and restaurants might lose business. Also, there are concerns about the nutritional value of printed food: is it really possible to get the nutrients we need from food-based inks and gels? What's more, cooking and eating together with family and friends has long been a traditional and enjoyable activity. It is hard to imagine a world where the pastime of cooking is dead and meals can be created at the touch of a button.

*(**Adapted from:** https://learnenglishteens.britishcouncil.org/magazine/science-and-technology/3d-printing-future-food-production)*

**A** 3D food printing makes everyday life easier.
**B** Harmful consequences of printed food production to individuals and society.
**C** Increasingly extensive use of 3D printing.
**D** Traditional food production processes would be more efficient.
**E** Environmentally friendly technology.

**F** Production of 3D-printed food would have disastrous environmental effects.
**G** New possibilities for the groups with special needs.
**H** New food production technology would simplify cooking and save time.

**Task 2**

**Read the text below. For questions (6–10) choose the correct answer (A, B, C or D). Write your answers on the separate answer sheet.**

**Video Games are Good for You!**

For years video games have been criticized for making people more antisocial, overweight or depressed. But now researchers are finding that games can actually change us for the better and improve both our body and mind.

Games can help to develop physical skills. Pre-school children who played interactive games have been shown to have improved motor skills, for example they can kick, catch and throw a ball better than children who don't play video games. A study of surgeons who do microsurgery in Boston found that those who played video games were 27 per cent faster and made 37 per cent fewer errors than those who didn't. Vision is also improved, particularly telling the difference between shades of grey. This is useful for driving at night, piloting a plane or reading X-rays.

Games also benefit a variety of brain functions, including decision-making. People who play action-based games make decisions 25 per cent faster than others and are no less accurate, according to one study. It was also found that the best gamers can make choices and act on them up to six times a second, four times faster than most people. In another study by researchers from the University of Rochester in New York, experienced gamers were shown to be able to pay attention to more than six things at once without getting confused, compared with the four that most people can normally keep in mind. Additionally, video games can also reduce gender differences. Scientists have found that women who play games are better able to mentally manipulate 3D objects.

There is also evidence that gaming can help with psychological problems. At the University of Auckland in New Zealand, researchers asked 94 young people diagnosed with depression to play a 3D fantasy game called SPARX and in many cases, the game reduced symptoms of depression more than conventional treatment. Another research team at Oxford University found that playing Tetris shortly after exposure to something very upsetting – in the experiment, a film of traumatic scenes of injury and death was used – can actually prevent people having disturbing flashbacks.

The effects are not always so positive, however. Indiana University researchers carried out brain scans on young men and found evidence that violent games can alter brain function after as little as a week of play, affecting regions in the brain associated with emotional control and causing more aggressive behaviour in the player. But Daphne Bavelier, one of the most experienced researchers in the field, says that the violent action games that often worry parents most may actually have the strongest beneficial effect on the brain. In the future, we may see many treatments for physical and neurological problems which incorporate the playing of video games.

*(**Adapted from:** https://learnenglishteens.britishcouncil.org/skills/reading/upper-intermediate-b2-reading/video-games-are-good-you)*

**6. Only relatively recently people have started to realize _____.**

**A** the harmful effect of video games
**B** the beneficial effect of video games
**C** how harmful video games are to gamers' physical condition and mental health
**D** how much video games affect the people that play them

**7. What is TRUE according to the text?**

**A** Women who play video games demonstrate better spacial reasoning.
**B** Women who play video games demonstrate faster reaction speeds.
**C** Women who play video games demonstrate reduced stress levels
**D** Women who play video games demonstrate better multitasking ability.

**8. Video gamers' decision-making speed is significantly improved by _____.**

**A** years of gaming experience
**B** long periods of game playing
**C** playing video games in short bursts
**D** playing certain types of video games

**9. According to the text, the video game Tetris helps people to _____.**

**A** improve their concentration
**B** overcome depression
**C** forget anxious experiences
**D** make decisions faster

**10. From the text we can say that violent video games _____.**

**A** have no negative effects on players
**B** only affect players' brains after extended hours of play
**C** may have positive and negative effects on the brain
**D** only affect players' brains in beneficial ways

**Task 3**

**Read the texts below. Match choices (A – H) to (11–16). There are two choices you do not need to use. Write your answers on the separate answer sheet.**

**Robots: Friend or Foe?**

What is the future of artificial intelligence (AI)? Will it be possible for robots to be autonomous? If so, when will that happen and will it be a good thing? We asked four experts what they think.

**11.** I would say that we are quite a long way off developing the computing power or the algorithms for fully autonomous AI, though I do think it will happen within the next thirty or forty years. We will probably remain in control of technology and it will help us solve many of the world's problems. However, no one really knows what will happen if machines become more intelligent than humans. They may help us, ignore us or destroy us. I suppose that AI will have a positive influence on our future lives.

**12.** I have to admit that the potential consequences of creating something that can match or surpass human intelligence frighten me. Even now, scientists are teaching computers how to learn on their own. At some point in the near future, their intelligence may well take off and develop at an ever-increasing speed. Human beings evolve biologically very slowly and we would be quickly superseded. In the short term, there is the danger that robots will take over millions of human jobs, creating a large underclass of unemployed people. This could mean large-scale poverty and social unrest. In the long term, machines might decide the world would be better without humans.

**13.** Personally, I think it's fascinating to consider how we'll speed up our evolution as a species by augmenting our bodies. Imagine if you could implant a computer inside our brain! Soon we'll be able to do

just that and enhance our mathematical ability, audiovisual perception and our memory, and this idea is only going to become more and more commonplace.

**14.** AI is popping up in the world around us. Recent developments include self-driving cars and drones carrying life-saving equipment to people at sea. Granted, there have been a few teething problems: one woman who was asleep on the floor had her hair eaten by her robot vacuum cleaner and there have been fatal accidents with self-driving cars. But progress always comes at a cost, and for me the advantages far outweigh the disadvantages.

**15.** I'm a member of the Campaign to Stop Killer Robots. Forget the movie image of a terrifying Terminator stamping on human skulls and think of what's happening right now: military machines like drones, gun turrets and sentry robots are already being used to kill with very little human input. The next step will be autonomous 'murderbots', following orders but ultimately deciding who to kill on their own. It seems clear to me that this would be completely unethical and dangerous for humanity. We need to be very cautious indeed about what we ask machines to do.

**16.** There was a time when functional robots were just figments of the imagination but that is not so. Today, technology has progressed to a point that people can enjoy the benefits of robotics in their everyday lives. From robot pets to robot vacuum cleaners and even robotic limbs these inventions are going to change the way people live for sure. This is very promising especially in the military field because pretty soon soldiers will no longer need to be sacrificed in the front lines.

*(**Adapted from**: https://learnenglishteens.britishcouncil.org/skills/reading/advanced-c1-reading/robots-friend-or-foe)*

**Which expert _____?**

**A** thinks that it is extremely interesting to observe how fast humans can change
**B** is sure that AI will influence our future positively
**C** warns about obvious hazards to human life
**D** is sure that AI will be entirely independent in the next few decades
**E** believes that robotics has a great perspective to save a lot of people's lives
**F** says that scientists are studying how computers are learning
**G** holds the opinion that benefits of AI prevail over the negative aspects
**H** is scared of possible far-reaching effects for society

## Task 4

**Read the text below. Choose from (A – H) the one which best fits each space (17–22). There are two choices you do not need to use. Write your answers on the separate answer sheet.**

### Cooking Up a Life-changing Invention

When 18-year-old Richard O'Shea from County Cork, Ireland, won top prize at the BT Young Scientist & Technology Exhibition 2019 for his project entitled "A biomass-fired cooking stove for developing countries", he couldn't contain his excitement. Richard had designed a stove that hot using no more than scraps of wood and that **(17)** _____. Not only that, it could be built from old tin cans and nails using just a Swiss army knife.

As Richard explained to the judges: "Every day more than two billion people in the world have to cook their food without electricity, on stoves that **(18)** _____. And every year, thousands of people in developing countries die from smoke inhalation from cooking on these stoves in poorly ventilated homes. My design makes possible to build highly efficient, almost smoke-free stoves from everyday items. Hopefully, they can **(19)** _____".

As the winner of the competition, Richard received a trophy and a $5,000 prize, together with a $5,000 travel bursary to **(20)** _____. He also was given the honour of representing Ireland in the annual EU Young

Scientist Competition. The competition judges said Richard had made a very strong impression on them for coming up with a design that used simple materials that are very easy to find in third-world countries.

Richard now wants to **(21)** _____ as quickly as possible. He is currently working with charities to make this happen. Asked if he ever considered commercialising his design, Richard said: "This is not about making money. I don't want to **(22)** _____. I just want to get the stove into the hands of the people who need it as soon as possible". Richard's selflessness and enthusiasm make him a true role model for the youth of today!

*(**Adapted from:** Evans V., Dooley J. Exam Booster. Preparation for B2+ Level Exams. Student's Book. Express Publishing. p.124)*

**A** market my product
**B** improve the lives of people in the developing world
**C** visit Africa to test his stove
**D** produced almost no smoke
**E** helping people in the poorer countries of the world
**F** get his stove to developing countries
**G** working in Africa
**H** use wood as fuel

## Частина «Використання мови»
## Use of English

**Task 5**

**Read the text below. For questions (23–32) choose the correct answer (A, B, C or D). Write your answers on the separate answer sheet.**

### The Ig Nobel Prize

Most scientists dream of **(23)** _____ a Nobel Prize. It is the greatest award a scientist can be **(24)** _____ with and often comes after decades of careful research. Most often, winners are scientists who have **(25)** _____ important questions about existence or made discoveries that have helped advance the human race. But not every scientist works on **(26)** _____ projects that, for instance, try to cure diseases or **(27)** _____ life on other planets. There are also scientists who spend their time on the simpler, more mundane questions of science. Take, for example, the group of scientists from Newcastle, UK, who worked **(28)** _____ the fact that cows with pet names produce more milk that cows without pet names; or the team of Australian mathematicians who studies how many times you have to take a group photograph to make **(29)** _____ everyone has their eyes open. Both of these research projects were awarded not Nobel Prize, but Ig Nobel Prizes. The Ig Nobel Prizes began in 1991 to honour scientists who first make people laugh and then make them think. They are organized by a magazine called Improbable Research and, since 1995, the **(30)** _____ have been presented at a ceremony in Harvard University, USA. The committee that chooses the winners often **(31)** _____ former Nobel Prize winners as well as university lecturers and sci-fi writers. And **(32)** _____ the fact that the ceremony often involves lots of fun and laughter (including tradition of throwing paper airplanes onto the stage), the organizers always emphasise that the prizes are not meant to make fun of the winners. In fact, most winners thoroughly enjoy the occasion and fly across the world just to collect their awards.

*(**Adapted from:** Evans V., Dooley J. Exam Booster. Preparation for B2+ Level Exams. Student's Book. Express Publishing. p.127)*

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **23** | **A** | winning | **B** | gaining | **C** | earning | **D** | acquiring |
| **24** | **A** | awarded | **B** | granted | **C** | honoured | **D** | conferred |
| **25** | **A** | addressed | **B** | answered | **C** | referred | **D** | put |
| **26** | **A** | pilot | **B** | study | **C** | research | **D** | investigation |
| **27** | **A** | create | **B** | uncover | **C** | discover | **D** | reveal |
| **28** | **A** | off | **B** | around | **C** | through | **D** | out |
| **29** | **A** | ensure | **B** | assured | **C** | sure | **D** | aware |
| **30** | **A** | rewards | **B** | awards | **C** | prizes | **D** | decorations |
| **31** | **A** | consists | **B** | composes | **C** | covers | **D** | includes |
| **32** | **A** | although | **B** | even | **C** | despite | **D** | though |

**Task 6**

**Read the text below. For questions (33-42) choose the correct answer (A, B, C or D). Write your answers on the separate answer sheet.**

## It's All in the Genes

Our genes help to determine everything about us, from our physical appearance, to how we behave, to what diseases we are likely to get. In 1990, scientists embarked on an ambitious project: to identify every single one of the 25,000 or so genes that make up the human genome. Scientists now know the identity of all of our genes (although they have yet to figure out **(33)** _____ most do). Scientists say this knowledge brings them much closer to **(34)** _____ effective treatments for hundreds of illnesses. So far about 10,000 diseases **(35)** _____ that are caused by faulty genes. Scientists are confident that one day they will be able to cure diseases **(36)** _____ Huntington's disease by introducing healthy copies of genes into the bodies of people who have faulty genes. However, this day is still a long way off, as tremendous technical difficulties must be overcome before genes therapy becomes a reality.

Our genes not only determine our susceptibility to various diseases. They **(37)** _____ determine how we respond to medicines! **(38)** _____ particular drug may cause side effects in some people, not work for **(39)** _____, while with yet others it may even make the illness **(40)** _____! Every year over 100,000 people die from the adverse effects of medicines, and another 2.2 million experience serious reactions.

Doctors wish they **(41)** _____ certain how a patient would respond to a medicine before they give it to them. Scientists say that once they **(42)** _____ how specific gene variations respond differently to medicines, doctors will be able to prescribe medicines based on an individual's unique genetic profile.

*(**Adapted from:** Evans V., Dooley J. Exam Booster. Preparation for B2+ Level Exams. Student's Book. Express Publishing. p.130)*

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **33** | **A** | whatever | **B** | which of | **C** | what | **D** | that |
| **34** | **A** | develop | **B** | developed | **C** | development | **D** | developing |
| **35** | **A** | had been identified | **B** | were identified | **C** | has been identified | **D** | have been identified |
| **36** | **A** | alike | **B** | like | **C** | as | **D** | likely |
| **37** | **A** | also | **B** | as well | **C** | too | **D** | either |
| **38** | **A** | The | **B** | An | **C** | A | **D** | no article |
| **39** | **A** | the others | **B** | others | **C** | the other | **D** | another |
| **40** | **A** | worse | **B** | worsen | **C** | worsened | **D** | worst |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **41** | **A** | can be | **B** | could be | **C** | could have been | **D** | will be able to be |
| **42** | **A** | understand | **B** | understood | **C** | had understood | **D** | will understand |

# PART II VOCABULARY FOCUS

***1. Complete the following sentences with a word or expression from the box.***

| **survey** | **patent** | **invention** | **discovery** | **studying** |
|---|---|---|---|---|
| **predict** | **technology** | **confirm** | **breakthrough** | **research** |
| **engineering** | **exploration** | **design** | **developed** | |

1. Scientists have made a major _____ in the treatment of cancer.
2. Detection of gravitation waves is considered as the greatest _____ of the 21st century.
3. They are going to _____ a new computer program that will help with the task.
4. Scientists have been carrying out _____ to find a cure for the disease.
5. After years of _____, Freud developed a theory of the mind which has changed for ever the way we view ourselves.
6. The _____ of space began with the launch of the satellite "Sputnik 1".
7. Until this discovery, the oldest examples of this _____ were the Oldowan tools from Tanzania, which date from about 2.6 million years ago.
8. The data are derived principally from the national _____ conducted by the American Health Care Association.
9. Some scientists _____ that the Earth's temperature will rise by as much as 5 degrees over the next 20 years.
10. The drugs are protected by _____ .
11. Einstein _____ the theory of reality, which replaced Newton's theories of gravity.
12. A lot of today's modern machines make use of Leonardo da Vinci's ball bearing. This _____ reduces the friction between two different moving surfaces and helps make machines more efficient.
13. Further studies are needed to _____ this hypothesis.
14. Electrical _____ at Massachusetts Institute of Technology is a very broad program that starts with basic circuit theory and moves into systems, physics of electronic devices, and quantum mechanics.

***2. Choose the best word which completes each of these sentences.***

1. For astronauts on long missions into space, boredom can be a real problem. In order to help the astronauts, scientists and doctors need to _____ what this feels like.

*a. found* *b. find out* *c. find* *d. find over*

2. It seems entirely _____ that there are teams of scientists around the world, attempting to discover the way the world works.

*a. organic* *b. real* *c. physical* *d. natural*

3. When you want to _____ a photograph, simply make a frame around the image with your hand and click your fingers.

*a. take* *b. make* *c. do* *d. get*

4. The distance from the Earth to the Sun is, _____ average, about 149 million kilometres.

*a. at* *b. by* *c. in* *d. on*

5. Do you know who _____ the planet Mars.

*a. discovered* *b. invented* *c. opened* *d. created*

6. He emailed me to _____ me on his news.

*a. update* *b. upgrade* *c. uphold* *d. upload*