LISTENING

Task 1

Keys

Questions 1-10

1 C
2 B
3 C
4 metal/metals
5 space
6 memory
7 solar
8 oil
9 waste
10 tests

Script

Listening Task 1

Narrator: Today we're going to look at an important area of science, namely nanotechnology. So what is it? Nano means tiny, so it's science and engineering on the scale of atoms and molecules. The idea is that by controlling and rearranging atoms, you can literally create anything. However, as we'll see, the science of the small has some big implications affecting us in many ways.

There's no doubt that nanotechnology promises so much for civilisation. However, all new technologies have their teething problems. And with nanotechnology, society often gets the wrong idea about its capabilities [1].

Numerous science-fiction books and movies have raised people's fears about nanotechnology – with scenarios such as inserting little nano-robots into your body that monitor everything you do without you realising it, or self-replicating nano-robots that eventually take over the world.

So how do we safeguard such a potentially powerful technology? Some scientists recommend that nano-particles be treated as new chemicals with separate safety tests and clear labelling [2].

They believe that greater care should also be taken with nano-particles in laboratories and factories [2]. Others have called for a withdrawal of new nano products *such as cosmetics and a temporary halt to many kinds of nano-tech research. But as far as I'm concerned there's a need to plough ahead with the discoveries and applications of nanotechnology* [3].

I really believe that most scientists would welcome a way to guard against unethical uses of such technology. We can't go around thinking that all innovation is bad, all advancement is bad. As with the debate about any new technology, it is how you use it that's important. So let's look at some of its possible uses.

Thanks to nanotechnology, there could be a major breakthrough in the field of transportation with the production of more durable metals [4]. These could be virtually unbreakable, lighter and much more pliable leading to planes that are 50 times lighter than at present. *Those same improved capabilities will dramatically reduce the cost of travelling into space making it more accessible to ordinary people* [5] and opening up a totally new holiday destination.

In terms of technology*, the computer industry will be able to shrink computer parts down to minute sizes. We need nanotechnology in order to create a new generation of computers that will work even faster and will have a million times more memory* [6] but will be about the size of a sugar cube.

Nanotechnology could also revolutionise the way that we generate power. The cost of solar cells will be drastically reduced so harnessing this energy will be far more economical [7] than at present.

But nanotechnology has much wider applications than this and could have an enormous impact on our environment. For instance, tiny airborne nano-robots could be programmed to actually rebuild the ozone layer, which could lessen the impact of global warming on our planet. That's a pretty amazing thought, isn't it? On a more local scale, this new technology *could help with the clean-up of environmental disasters as nanotechnology will allow us to remove oil and other contaminants from the water far more effectively* [8]. And, if nanotechnology progresses as expected – as a sort of building block set of about 90 atoms – *then you could build anything you wanted from the bottom up. In terms of production, this means that you only use what you need and so there wouldn't be any waste* [9].

The notion that you could create anything at all has major implications for our health. It means that we'll eventually be able to replicate anything. This would have a phenomenal effect on our society. In time it could even lead to the eradication of famine through the *introduction of machines that produce food to feed the hungry.*

But it's in the area of medicine that nanotechnology may have its biggest impact. How we detect disease will change as tiny biosensors are developed to analyse tests in minutes rather than days [0]. There's even speculation nano-robots could be used to slow the ageing process, lengthening life expectancy.

As you can see, I'm very excited by the implications that could be available to us in the next few decades. Just how long it'll take, I honestly don't know.

PART 2

11. True
Relevant Phrase: **"In fact, the signal your phone broadcasts is so strong, if your eyes could see radio waves, your phone would be visible from Jupiter."** (**1**)

12. Not Given
Relevant Phrase: **"At least your special eyes would be able to see this if the sky wasn't flooded with interference from routers, satellites, and, of course, people flying who haven't put their phones on airplane mode."** (**2**)

13. False
Relevant Phrase: **"You see, this setting isn't to protect your flight, it's to protect everyone else in your flight path."** (**3**)

14. True
Relevant Phrase: **"Cell towers managing the calls assign each phone involved their own wavelength. This specific color ensures you're not picking up other people's calls."** (**4**)

15. True
Relevant Phrase: **"Especially when cell towers receive too many signals at once, such as during regional emergencies, when everyone's trying to use their phones."** (**5**)

16.
Not Given
Relevant Phrase: **"Phones on planes are very far from cell towers, so they work overtime to send the loudest signals they can in search of service."** (This section doesn't mention fines.) (**6**)

Script

Right now, invisible signals are flying through the air all around you. Beyond the spectrum of light your eyes can see, massive radio waves as wide as houses carry information between computers, GPS systems, cell phones, and more. **In fact, the signal your phone broadcasts is so strong, if your eyes could see radio waves, your phone would be visible from Jupiter.** (**1**)

At least your special eyes would be able to see this **if the sky wasn't flooded with interference from routers, satellites, and, of course, people flying who haven't put their phones on airplane mode.** (**2**)

You see, **this setting isn't to protect your flight, it's to protect everyone else in your flight path.** (**3**)

Cell phones connect to networks by emitting information in the form of electromagnetic waves; specifically, radio waves, which occupy this band of the electromagnetic spectrum. These radio waves come in a range of wavelengths, and let's imagine your special eyes see the various wavelengths as different colors.

When you make a call, your phone generates a radio wave signal which it throws to the nearest cell tower. If you're far from service, your phone will expend more battery power to send a higher amplitude signal in an effort to make a connection. Once connected, this signal is relayed between cell towers all the way to your call's recipient.

Since your call isn't the only signal out here, **cell towers managing the calls assign each phone involved their own wavelength. This specific color ensures you're not picking up other people's calls.** (**14**)

But there are only so many colors to choose from. And since the advent of Wi-Fi, the demand for ownership of these wavelengths has increased dramatically. With all these signals in the air and a limited number of colors to assign, avoiding interference is increasingly difficult.

Especially when cell towers receive too many signals at once, such as during regional emergencies, when everyone's trying to use their phones. (**15**)

But other sources of interference are more preventable, like phones searching for signals from thousands of meters in the sky. Phones on planes are very far from cell towers, so they work overtime to send the loudest signals they can in search of service.

But since planes travel so quickly, the phones might find themselves much closer to a cell tower than expected—blasting it with a massive signal that drowns out those on the ground.

So when you fly without using airplane mode, you're essentially acting as a military radio jammer—sending out giant radio waves that interfere with nearby signals. Even on the ground, almost all our electronics emit rogue radio waves, slowing down our internet and making our calls choppy.

READING

Multiple-choice assignments based on the provided text

1. ***B***

2. *B*

3. ***B***

4. *B*

5. *B*

6. ***C***

7. *B*

8. *B*

9. *C*

10. *B*

11. *C*

Determine whether each statement is True or False according to the information in the text. Write "T" for True, "F" for False in the space provided.

12. *F*

13. *T*

14. *F*

15. *T*

16. *T*

17. *T*

18. *F*

19. *T*

20 *F*

USE OF ENGLISH

1 b
2 c
3 c
4 c
5 d
6 c
7 c
8 d
9 c
10 c
11 b
12 a
13 d
14 c
15 b
16 b
17 a
18 b
19 a
20 c

WRITING - КРИТЕРИИ ОЦЕНИВАНИЯ

Максимальное количество баллов: 14

Внимание! При оценке 0 по критерию "РКЗ" выставляется общая оценка 0

<table>
<tr><th>Решение коммуникативной задачи (максимум 4 баллов)</th><th>ОРГАНИЗАЦИЯ ТЕКСТА (максимум 3 балла</th><th colspan="3">ЯЗЫКОВОЕ ОФОРМЛЕНИЕ ТЕКСТА (максимум 6 баллов)</th></tr>
<tr><td rowspan="2">4 баллов

Коммуникативная задача полностью выполнена – дан план перепланировки аэропорта по заданным параметрам.

Участник соблюдает особенности полуофициального или официального стиля

Объем работы либо соответствует заданному, либо отклоняется от заданного не более чем на 10% (в сторону увеличения – не больше 198 слов[1]) или на 10 % в сторону уменьшения (не меньше 135 слов).</td><td rowspan="2">3 балла

Текст построен логически правильно. Есть вступление и заключение.

Текст правильно разделен на абзацы.

Присутствуют средства логической связи.</td><td>Лексика (максимум 3 балла)</td><td>Грамматика (максимум 3 балла)</td><td>Орфография и пунктуация (максимум 1 балл)</td></tr>
<tr><td>3 балла

Участник демонстрирует грамотное и уместное употребление лексики.

В работе возможна 1 лексическая ошибка.</td><td>3 балла

Участник демонстрирует грамотное и уместное употребление грамматических структур (разнообразие структур для обозначения будущих изменений).

В работе возможна 1 грамматическая ошибка.</td><td></td></tr>
<tr><td></td><td>2 балла

В работе возможны 2-3 лексические ошибки.</td><td>2 балла

В работе имеются 2 – 3 грамматические ошибки.</td><td></td></tr>
<tr><td>3 - 1 балл

За каждый нераскрытый параметр снимается один балл

Коммуникативная задача выполнена частично – составленный текст не соответствует заданным параметрам: 1 –3 аспекта не выполнены</td><td>2 - 1 балл

Имеются отдельные нарушения логики или абзацного членения текста (1 нарушение). Отсутствует вступление И/ИЛИ заключение</td><td>1 балл

В работе имеются 4-5 лексические ошибки.</td><td>1 балл

В работе имеются 4-5 ошибок.</td><td>1 балл

В работе имеются 1 - 2 орфографические и/или пунктуационные ошибки.</td></tr>
</table>

0 баллов Коммуникативная задача **не** выполнена. Содержание не отвечает заданным параметрам. Или объем менее 135 слов.	**0 баллов** Имеются 2 и более нарушения логики или абзацного членения текста. Отсутствует вступление и заключение. Отсутствуют средства логической связи.	**0 баллов** В работе имеются многочисленные ошибки в употреблении лексики (6 и более).	**0 баллов** В тексте присутствуют многочисленные грамматические ошибки, затрудняющие его понимание (6 и более).	**0 баллов** В тексте присутствуют 3 и более орфографические и/или пунктуационные ошибки, затрудняющие понимание.

[1] Если работа состоит из 199 или более слов, проверке подлежат первые 180 слов.