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0510/21

May/June 2020

2 hours

You must answer on the question paper.

No additional materials are needed.

- Answer **all** questions.
- Use a black or dark blue pen.
- Write your name, centre number and candidate number in the boxes at the top of the page.
- Write your answer to each question in the space provided.
- Do **not** use an erasable pen or correction fluid.
- Do **not** write on any bar codes.
- Dictionaries are **not** allowed.

- The total mark for this paper is 80.
- The number of marks for each question or part question is shown in brackets [].

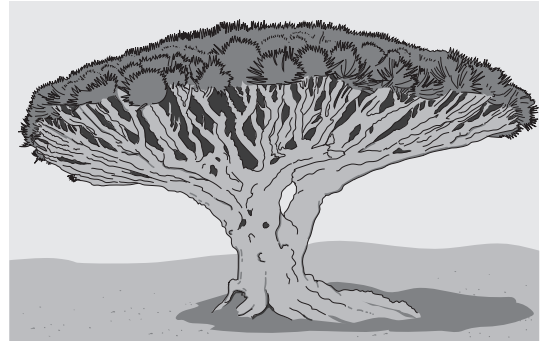
This document has **16** pages. Blank pages are indicated.

Exercise 1

Read the article about the Socotra dragon tree, and then answer the following questions.

The Socotra dragon tree

The Socotra dragon tree is an unusual tree, as it looks rather like an open umbrella. It is found on the island of Socotra, off the coast of Africa. Although the island is nearer to Somalia than Yemen, it actually belongs to the latter.



The island of Socotra has been separated from the mainland for 34 million years, and this has led to its unique flora. Of the 825 different plant species found there, 37% do not occur anywhere else in the world, and the same is true of 90% of its reptiles. Because of these factors, there is increased tourism to the area. While this is improving the island's economy, it has also resulted in more building work, which has had an impact on the areas where the trees live.

Reaching an average height of ten metres, the trees are commonly found in the Haggeher mountains and the flat areas in the centre and east of the island. These regions experience frequent low clouds at certain times of the year, which provide the trees with the moisture they need. However, because of climate change, the amount of rain is decreasing, which scientists think will have an effect on the trees.

The dragon tree has been important for centuries. The tree produces a sticky liquid called resin, and this is taken as a medicine by people on the island, and in many parts of the world. As early as 60 CE, people referred to this resin as cinnabar, and in the seventeenth and eighteenth centuries, it was used to give a rich colour to the world-famous violins made by the Stradivarius family.

The design of the tree's leaves is important. They measure up to sixty centimetres long and only three centimetres wide. When rain falls on the surface of each leaf, the long narrow shape allows the tiny drops of water to run down to the roots of the tree. The leaves are densely-packed, and provide shade for young trees growing beneath the adult tree. Socotra dragon tree leaves have traditionally been harvested and used to make ropes. If there is increased demand for ropes, the effect on the trees could be a concern.

Like the leaves, the flowers appear at the ends of the branches. They are small and greenish-white in colour, and produce green berries which gradually turn black as they ripen. They become orange when they are fully ripe. Farmers on the island feed the berries to their animals as they are thought to be good for them. Eating too many though can cause sickness, which is why they are only given in small quantities. If animals are allowed to feed in areas where there are Socotra trees, there is a danger that any young trees could be eaten before they have the chance to develop.

The importance of the island of Socotra, and the smaller islands nearby, is recognised internationally because of their unique plant and animal life. International commercial trade in the various species found there is controlled and new nature zones have been created. Researchers are working on projects to grow young trees, but widespread efforts are needed in order to ensure that the Socotra dragon tree will survive for future generations.

- 1 Which country is the island of Socotra part of?
..... [1]
- 2 What percentage of Socotra's plants can only be found on the island?
..... [1]
- 3 How tall do Socotra dragon trees typically grow?
..... [1]
- 4 What enables the Socotra dragon trees to grow well in particular locations on the island?
..... [1]
- 5 How is the substance that the Socotra dragon trees produce used today?
..... [1]
- 6 How do the trees' leaves benefit Socotra dragon trees? Give **two** details.
.....
..... [2]
- 7 What colour are the Socotra dragon trees' mature berries?
..... [1]
- 8 What problem must people be aware of when feeding berries to their animals?
..... [1]
- 9 What factors can negatively affect the future of the Socotra dragon trees? Give **four** details.
.....
.....
.....
..... [4]

[Total: 13]

Exercise 2

Read the article about four people (**A–D**) who are describing an activity they enjoy. Then answer Question **10 (a)–(j)**.

My favourite activity**A Tanya**

I enjoy different sports, but skateboarding is my absolute favourite. To me, it's my sport, my hobby, and even my daily mode of transport! I don't even own a bicycle any more! Skateboarding has shaped me into the person I am today. It's taught me to always get up after I fall, to never give up, to stick with something until I get it right and to be proud of what I have achieved. When I was little, I used to go to the skate park near my home and practise simple things like turns and small jumps. I was this little kid skating around and accidentally getting in the way of all the bigger kids. But they never yelled at me to get out of the way or said anything rude to me at all. In fact, some of these kids even gave me tips and showed me how to do certain tricks.

B Patricia

When I was five, my parents enrolled me in a gymnastics programme. I remember being really nervous before the class, but my cousin decided to start with me, and that gave me confidence. I began by learning the basics – like how to walk across the balance beam, and how to do forward rolls for the floor exercise. After two years, I was good enough to join the team, and I had classes with the older, more advanced gymnasts. They were good role models, as I could see how hard they worked. Soon I was competing nationally, even winning some individual medals. As competitions got harder, I had to learn new skills, including something called a back handspring. I had difficulty getting it right, although I practised a lot. Then I fell and damaged my shoulder, so I didn't enter anything for a year. I considered quitting, but actually, having a break for that year was good, and I decided to continue, which I know was the right move – I'm so happy I carried on.

C Danni

When I was about 11, I had no idea what sports I wanted to do. My sister did cross-country running at school and didn't like it because she always came last, but I decided to have a go. So I joined the school cross-country running club. Running in the heat was really hard, but I kept going, and got picked for the team. This took a lot of commitment, as I had to get up very early to go on training runs. Strange as it may seem, though, I've always liked early mornings! I remember my first competition. I was anxious about finishing in last place. Once the race started, I felt better and managed to stay in 8th place almost the whole time and I was able to move up to finish in 6th place. After that, I was determined to keep improving, and even when I'm not training for a particular event, I still go running.

D Eleanor

Parkour, also known as Free Running, is my favourite activity. It's the art of going over, under and around objects and obstacles as fast as possible for fun. That means leaping from rail to rail, climbing buildings, jumping over fences, and much more. Some people are worried that it's dangerous, or only for those who are extremely athletic. But when I do Parkour, I practise each part of a jump, checking each landing point for safety before doing it for real. Anyone can do it, and everyone progresses at a different rate and gets to different levels. Over time, it becomes easier and much more fun. A lot of people will also include some gymnastics, mixing in flips and flashy moves. This makes it really fun to watch – there are loads of videos online of people doing Parkour in incredible places. In Parkour, the world is my playground.

10 For each question, write the correct letter A, B, C or D on the line.

Which person ...

- (a) gives a reason for not participating in competitions? [1]
- (b) explains that people can combine skills from another sport in the activity? [1]
- (c) describes how she got advice from other people? [1]
- (d) explains that she wasn't put off doing an activity by someone else's bad experience? [1]
- (e) mentions positive characteristics she's developed through her interest? [1]
- (f) explains what she learned from watching other people? [1]
- (g) mentions having a lack of confidence before a competition? [1]
- (h) explains that the activity has a practical use in everyday life? [1]
- (i) says how people have to prepare well to avoid accidents? [1]
- (j) mentions that sharing a difficult experience was helpful? [1]

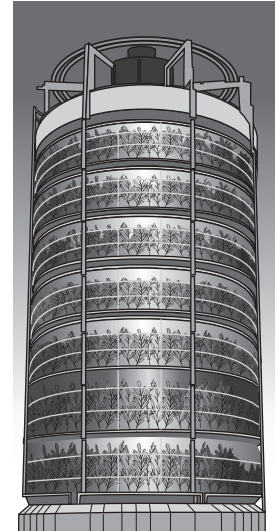
[Total: 10]

Exercise 3

Read the article about a new method of farming called vertical farming, and then complete the notes.

Vertical farming

In some cities around the world, people are growing food in tall buildings, in a process known as 'vertical farming'. Vertical farms are tall city blocks made of concrete and glass, and fitted with platforms where fruit and vegetables can be grown in a closed environment. With an ever-increasing world population, and water and land being limited resources, the question of how we are going to feed and house everyone is a serious one. If we need more land for housing, then farmlands and forests will shrink. But farmland is required to feed the population, and the forests are needed to produce oxygen and to support the life forms that are part of the ecology. Vertical farms are seen as one possible alternative to more traditional farming methods.



Vertical farms are designed to be built in cities, with the result that food is grown in the area where it will be eaten as cities are the places where most people live. Land for building these farms is more expensive, which is a fact that people who want to set up a vertical farm need to take into account.

And of course, growing the food is only the first stage. The next part is preparing and packaging the food, as in fact, much of what we eat is processed in some way. In order to have truly local food, there also need to be processing factories nearby. This presents its own set of problems, such as the pollution that these processing factories create.

Those people who support the idea of vertical farms point out that there are no insects to attack the plants. This is an increasingly important consideration for the many people nowadays who are concerned about the substances that are often sprayed onto the plants in open-field farms to prevent insect damage. In vertical farms, there is no need for chemicals, meaning the plants are organic. It is true, however, that insects are vital to the process of crop pollination, which is needed if plants are to produce fruit. This means that if vertical farms are completely insect-free environments, pollination needs to be done by hand, which takes time and labour.

The closed structure of a vertical farm means that the crops will be protected from extreme weather conditions. Global weather patterns are more and more unpredictable, and global warming is such a recognised problem that vertical farming is becoming increasingly attractive. Furthermore, the plants can grow all year round with the use of special lights. Of course, although the extra cost of this lighting is passed on to consumers, this is balanced by the fact that during the year a larger number of plants can be grown.

While we might not see vertical farms in every city for some years, there are a number of projects already under construction around the world, and some completed vertical farms are already producing food.

You are going to give a talk about the advantages and disadvantages of vertical farming to your class at school. Prepare some notes to use as the basis for your talk.

Make short notes under each heading.

11 Advantages of vertical farming:

-
-
-
-
-
- [6]

12 Disadvantages of vertical farming:

-
-
- [3]

[Total: 9]

Exercise 4

- 13** Read the article about a woman called Laura Baxter who enjoys taking part in long cycle races.

Write a summary of the advice Laura gives to people who are interested in taking part in a long cycle race.

Your summary should be about 100 words long (and no more than 120 words long).

You should use your own words as far as possible.

You will receive up to 8 marks for the content of your summary, and up to 8 marks for the style and accuracy of your language.

Long-distance cycling

by Laura Baxter

I have been cycling for as long as I can remember. I am what's called an ultra-endurance cyclist, which means I take part in long-distance bike races. All my races are at least 150 kilometres, although one year I cycled for over 3300 kilometres as part of the Trans Am Bike Race!

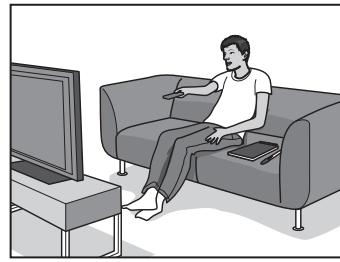
When I tell people about my interest in long-distance bike races, the first question they ask is 'Why?' Well, for me personally, the answer is that I love challenging myself, and of course, I love the great feeling I get when I complete a race – there's nothing like it. I've always set myself targets, and this is something I think everyone should do when getting ready for a big race. It really helps. For example, if you're planning to race 150 kilometres, build up your distance slowly and gradually, by a few kilometres every training session until you've reached that distance. It's all about teaching your body to keep going for longer.

It takes time to get ready for a race – there's no quick way to become 'race-fit'. Everyone has different training schedules. I personally like to begin around four months before a race, but of course everyone will have different amounts of time available. I find that riding long distances at a steady pace makes my body strong. Of course, like many people, I have a full-time job and lots of other commitments, but varying the lengths of the rides that you complete in any week helps you to organise your time. So although some rides are easier, I also do some really intense, difficult sessions, and at the end of the week I know I've covered enough distance.

It's a fact that no amount of training will get you through a distance event if you don't pay attention to your diet – your 'fuel'. All the research has shown that on race days, eating breakfast is key. You need a good start to give you the energy to keep going. If you don't, you are pretty much going into your ride only to find yourself exhausted before the end of the race. Experimenting with a variety of food while you're training is a good idea. But from my own personal experience, I would say it's a mistake to do so on the day of the event. It would be a real shame to have done all that work and not be able to complete your race.

I usually eat something within twenty minutes of starting my ride, though when you do this is really a matter of personal choice. But whenever you decide to eat, have small amounts at regular intervals throughout the race so that you don't start feeling tired and struggle to recover. Once you've completed your race, you might feel like collapsing on the floor or going to sleep for hours. But however long you've been cycling for, whether it's a one-day or multi-day event, an after-ride recovery drink or meal is essential. Then you can sit back, share experiences with other riders, and feel extremely proud of your achievement!

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Exercise 5

- 14** You recently watched an interesting documentary which helped you to do a homework project.

Write an email to a friend about the documentary.

In your email, you should:

- describe the documentary that you watched
- tell your friend about the homework project
- explain how the documentary helped you with your homework project.

The pictures above may give you some ideas, and you can also use some ideas of your own.

Your email should be between 150 and 200 words long.

You will receive up to 8 marks for the content of your email, and up to 8 marks for the language used.

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Exercise 6

- 15** Your school is going to make some improvements to the school library.

Your teacher has asked you to write a report about the school library.

In your report, say what students think about the library now, **and** suggest how the library could be improved.

Here are two comments from other students:



Sometimes I can't concentrate there.



The internet's really fast there.

Write a report for your teacher, giving your views.

The comments above may give you some ideas, and you can also use some ideas of your own.

Your report should be between 150 and 200 words long.

You will receive up to 8 marks for the content of your report, and up to 8 marks for the language used.

[Total: 16]

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