## Cambridge $\operatorname{IGCSE}^{\text {TM }}(9-1)$



You must answer on the question paper.
No additional materials are needed.

## INSTRUCTIONS

- 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.


## INFORMATION

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


## Exercise 1

Read the article about deep natural holes in the ground containing water called 'cenotes', and then answer the following questions.

## Cenotes

Cenotes are deep water-filled holes, found in places where the land consists of a soft rock called limestone. They are formed when the surface rock has collapsed to expose water underneath.

Cenotes are especially associated with the Yucatán, a region of Central America mainly in Mexico. In fact, around 6000 of the estimated 12000 cenotes found worldwide are in the Yucatán. The 7000 cenotes located in Mexico as a whole mean it has far more than any other country.

The word 'cenote' comes from a language spoken by the Maya people, who have lived in the Yucatán for centuries, and can be translated as 'location with accessible groundwater'. Many Maya towns and villages were built near cenotes, because it was possible to drink the water in them. Although there is still debate about the exact origin of the region's name, some think it may come from 'land of the yucas', after a local plant named the 'yuca'.

Cenotes played a vital role in Maya culture. As well as providing life-giving water for their crops, people sometimes threw valuable items into the water as they believed it was a way of communicating with their ancestors.

Many cenotes in the Yucatán region are connected underground. Along the southern coast, they are often linked via long, flooded cave systems. Those in the northern area tend not to fit this pattern: most of them are completely separate from one another and are typically very deep.

Different types of cenote are named according to their shape. A 'cylinder cenote', for example, has walls which go straight down into the water from the surface. Then there is a 'jug cenote', which has a small hole in the ground leading to a much larger area of water below. A 'basin cenote', on the other hand, is shallow and shaped rather like a pond.

The Maya have always relied on the fish that live in cenotes for food. A typical sea or lake fish is silver, a colour which helps it hide from bigger fish that may want to eat it. In cenotes, however, which are often very dark, being silver is not an advantage, and transparent skin is common. In many cenotes, most creatures have very poor eyesight, as excellent vision is of little use in the darkness.

In recent years, divers have explored many cenotes and the caves linked to them. They have found evidence of wildlife that lived in the region thousands or even millions of years ago. While they are hopeful of one day finding the remains of a dinosaur, the bones of a creature which look like those of a modern-day elephant were recently discovered at a depth of 57 metres.

Cenotes were used by the Maya for bathing, but nowadays they are more popular for leisure purposes, particularly with tourists. Cenotes also attract divers, both professional and amateur. As a rule, divers who want to explore the open water areas of cenotes must ensure that natural light is visible to them when they're underwater. Those wishing to explore the cave systems that extend from cenotes must use a safety line and make sure they always dive with a partner.

Although most cenotes are found in Mexico, there are also interesting examples in other countries such as Belize and the USA. The former has one called the Great Blue Hole, which in contrast to the majority of cenotes, is located in the sea rather than on land. In the latter, one named Lazy Lagoon is notable for its huge size but is actually made up of three separate cenotes.

1 How many cenotes are there in the Yucatán?
$\qquad$

2 What does 'cenote' mean in the language of the Maya people?
$\qquad$

3 Which part of the Yucatán contains cenotes which are generally not joined together?
$\qquad$

4 What kind of cenote has a narrow opening above a wider pool of water?
$\qquad$

5 What are the typical features of the fish found in many cenotes? Give two details.
$\qquad$
$\qquad$

6 Which animal's skeleton is similar to the one found by cenote divers?
$\qquad$

7 What equipment should divers have when diving in caves connected to cenotes?
$\qquad$

8 What is unusual about one cenote in Belize?
$\qquad$

9 How was the water in cenotes important to the Maya people? Give four details.
$\qquad$
$\qquad$
$\qquad$
$\qquad$

## Exercise 2

Read the article about four people (A-D) who recently learned to drive. Then answer Question 10(a)-(j).

## Learning to drive

Four young people share their experiences of learning to drive.

## A Mohammed

I qualified to drive a month ago. To be honest, I had to be persuaded to start taking lessons. I live in a big city where the public transport's great, so I couldn't see much point in being able to drive. I'm glad my friends convinced me, though, as it's given me more freedom. I booked twelve lessons with the person who'd taught my older sister to drive. She was great, but even by the twelfth lesson, I still hadn't got used to the size of her car. It wasn't as if I had an accident: it just felt as though it was designed for someone much shorter than me. My instructor noticed that one week l'd be full of confidence while I was driving, and the next l'd be as nervous as I was in my first lesson. My college course was pretty stressful at various points while I was learning, so maybe that showed in the way I handled the car.

## B Jing

I felt very nervous the first time I climbed into my driving instructor's car. It looked so shiny and expensive! I remember thinking, 'please don't let me damage it!' It all worked out fine, thankfully. My instructor couldn't believe that l'd never driven before, because I seemed to pick up everything he was teaching me straight away. I must admit, I was just as astonished as he was. My parents were worried about how often l'd want to borrow their car after I got my full driving licence, so they said they'd get me one of my own. It was incredibly kind of them, but it made me rush things and take my driving test a bit too soon. I passed, but I should have developed my skills further by doing a few additional sessions with my instructor. It would have been far more beneficial than trying to understand my dad's complicated explanations when I ask him about things I'm not sure of.

## C Serge

There was no question about whether I'd learn to drive or not. You have to be seventeen where I live, and I'd talk about it all the time before I was even old enough to start. I felt jealous when I saw friends whose seventeenth birthdays were before mine out with a driving instructor. When my turn came, I felt like I knew what I was doing, even as I got into the instructor's car for the first lesson. I was expecting to be able to do everything perfectly within four or five lessons, but of course that never happened. My dad reassured me that it takes time to be able to do things automatically, so I should just relax and enjoy it, which really helped. I'd love to have got a car as soon as I qualified, but my parents have promised that I can use theirs, more or less when I want, until I've saved up enough for my own.

## D Francesca

I was really keen to learn to drive, so started as soon as I possibly could. After an uncertain start, I soon developed confidence, but my instructor couldn't understand why I was so impatient during lessons. Whenever I made a mistake, I'd get angry and blame her, even though I knew she hadn't actually done anything wrong, and it was me that was at fault. After narrowly missing another vehicle when I was out with her one day, I finally had to admit what the problem was. I've always been competitive, so it was the thought of being the first of my group of friends to have a full driving licence that was the motivation behind me rushing so much. The instructor suggested having two lessons per week instead of one, to finish the course in half the time. Although my mum and dad were initially against taking her advice, they agreed once they realised it didn't mean paying for additional lessons, so I managed to achieve my ambition!

10 For each question, write the correct letter A, B, C or D on the line. Which person ...
(a) was unhappy with their driving instructor's vehicle? ..... [1]
(b) was determined to pass the test more quickly than other people? ..... [1]
(c) received some useful advice from a family member? ..... [1]
(d) was promised a car when they qualified to drive? ..... [1]
(e) almost had an accident during a driving lesson? ..... [1]
(f) wishes they'd had more lessons with their instructor? ..... [1]
(g) was initially unsure whether they wanted to learn to drive? ..... [1]
(h) was confident when they started learning to drive? ..... [1]
(i) suggests how well they drove during lessons depended on their mood? ..... [1]
(j) was surprised by how quickly they learned new skills? ..... [1]

## Exercise 3

Read the article about the famous American inventor, Thomas Edison, and then complete the notes.

## Thomas Edison

Thomas Edison, the great American businessman and inventor, came from modest beginnings to become one of the world's best-known inventors.

Edison was born on February 11, 1847, in Ohio, USA, the youngest of seven children. His father was involved in politics, while his mother was a talented schoolteacher and a major influence in Edison's early life.

In 1854, Edison's family moved to Port Huron, Michigan. Thomas attended school for only 12 weeks. He was unable to stay still for more than a few minutes in the classroom, and as a result of this was described as 'difficult' by his schoolteacher.

His mother decided he should learn at home instead. Although he was easily distracted from whatever he was doing, once he was free from the limitations of the school environment, Edison developed his own way of learning independently that would help him throughout his life.

At the age of 12, Edison convinced his parents to let him sell magazines at stations along a nearby railway line. Seeing his customers' dissatisfaction with how out-of-date many of the stories were, Edison began publishing his own small newspaper, which became a hit with passengers because it was so up-to-date. This was the first of many business projects where Edison saw a need and took advantage of the opportunity.

When he was 15, Edison started working as a telegrapher. This involved using an early electronic device called a telegraph to send messages across long distances. However, his real love in life was experimenting and inventing things, so he spent much of his free time doing this. Edison's first commercially successful invention came from working with people whose job involved buying and selling things on international markets. They used machines which reported the prices on international markets. Edison noticed how poorly they worked, so he developed an improved stock ticker, as the devices were known, selling the design for $\$ 40000$. This enabled him to quit his job and spend all of his time inventing.

In 1877, after realising there was money to be made from it, Edison invented a machine for recording sound: the phonograph. While not commercially successful for another decade, it brought him worldwide fame.

Edison is famous for a range of inventions, although not all of them can be attributed to him. He was aware of the potential that developments in science and engineering at that time had for transforming people's lives, so he designed the first reliable light bulb. However, Edison realised that they would never sell in the quantities he hoped for if there were no businesses to provide power for people's homes. Therefore, in 1880, he set up a company to deliver electricity.

At the beginning of the 20th century, the motor car was in its early stages of development. As its popularity began to grow, Edison spotted that cars would benefit from a way of starting that didn't involve having to push them or turn a heavy handle, as was the case with early designs. His solution was a car battery, which was used to self-start the first mass-produced car, the Ford Model T. His model was used extensively in vehicles for many years.

Edison died on October 18, 1931, leaving behind a long list of useful inventions for future generations.

You are going to give a talk about Thomas Edison to your class at school. Prepare some notes to use as the basis for your talk.

Make short notes under each heading.
11 Details of Edison's education:
-
-
-
-

12 Examples of what Edison created:
-
-
-
-
-

## Exercise 4

13 Read the article about biofuels which are used to power some vehicles.
Write a summary about the advantages AND disadvantages of biofuels.
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.

## The advantages and disadvantages of biofuels

Fuels that have been produced from plants are known as biofuels. Of these, the most commonly used ones are bioethanol and biodiesel. These fuels work in the same way in your car as the traditional oil-based products that are widely used, such as petrol and diesel. Biofuels appear to offer many advantages, but there are several disadvantages too.

While biofuels perform very well in current engine designs, they can be relatively costly to produce. Perhaps as the demand for biofuels increases, they might become cheaper in the future, which in turn may make biofuels easier for the average consumer to afford one day. However, this is by no means guaranteed.

Unlike petrol and diesel, which have a single source in the form of crude oil, biofuels provide an attractive alternative. They can be made from different plant sources, for example from the parts of plants that are removed when crops such as wheat and corn are processed. In reality, however, rather than producing biofuel from a range of sources, a single species of plant tends to be grown specifically to make it. When the same species is grown every year in the same field, this eventually removes many of the important substances from the soil that plants need in order to grow. Therefore, biofuel production can result in harmful artificial chemicals being added to the soil, in order to deal with this issue.

Although creating fuel from plants may seem to be a wholly environmentally friendly thing to do, this is not entirely the case. Biofuel production processes require large amounts of energy, which is something that many people are unaware of. At least we will never run out of the plants used to create biofuel, which cannot of course be said for oil and coal.

Fuels made from oil generate large amounts of what are known as greenhouse gases when they are burnt. An example of these is carbon dioxide. These gases trap sunlight in the Earth's atmosphere and cause our planet to get warmer. Studies suggest that biofuels produce relatively small quantities of greenhouse gases, when compared to petrol and diesel.

A major issue for many countries is that they have no oil of their own. This means that they are obliged to rely on nations which do have supplies of oil within their territory. Biofuels reduce a nation's dependence on others for oil, however, making it an appealing choice for many countries.

As the global population is rising, the quantity of food required worldwide is also growing. This means that more land is needed in order to produce it. However, biofuel plants also take up space, which can limit the amount of food crops that can be grown. Ask anyone which they think is more important, food or biofuel, and the answer is obvious.

So while some people may see biofuels as a definite step in the right direction for the future of our planet, it is clear that this alternative technology is not without its problems.

## Exercise 5



14 You have been attending an after-school club for several weeks.
Write an email to a friend about the after-school club.
In your email, you should:

- explain how you found out about the club
- describe what you usually do in club meetings
- suggest improvements you would like to see at the club.

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.

## Exercise 6

15 In your class, you have been talking about whether being a professional athlete is an easy job. Your teacher has asked you to write an article about it.

Here are two comments from your classmates:


Write an article 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 article should be between 150 and 200 words long.
You will receive up to 8 marks for the content of your article, and up to 8 marks for the language used.

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