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FIRST LANGUAGE ENGLISH **0500/01**

Paper 1 Reading **For examination from 2027**

SPECIMEN INSERT **2 hours**

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INFORMATION

- This insert contains the reading texts.
- You may annotate this insert and use the blank spaces for planning. **Do not write your answers** on the insert.

This document has **6** pages. Any blank pages are indicated.

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Read **Text A** and then answer **Question 1(a)–(f)** on the question paper.

Text A: Horses

To understand the history of horses and how they have changed over time, we must first visualise a creature no larger than a small dog living around 55 million years ago in the forests of what is now America. We call this animal Eohippus (or 'dawn horse'). Meanwhile, in another part of the world – now Europe and Asia – another animal was developing. Also small, a forest dweller and eater of leaves, this ancient ancestor only faintly resembled the horse we know today and had four toes on its front feet.

These early prototype horses were followed by bigger, better models. By the time humans arrived on Earth around 5 million years ago, the horse was already firmly established. Horses clearly interested our ancestors, inspiring artists as early as the Stone Age. Before engines, horses provided transport, though modern-day roles favour leisure and sport. But there's a big difference between observing animals for artistic inspiration and harnessing them, so where and when, did horses first go from wild to tame?

Scientists identified several options. The discovery of a frozen, mummified foal in Siberia was initially tempting. Meanwhile, ancient horse samples from Iberia, the area containing modern-day Spain, seemed promising; whilst numerous, detailed and life-sized depictions of the creatures in cave art, alongside other domesticated animals such as goats, suggested proximity.

But the archaeological site that really captivated researchers was the ancient settlement at Botai. Here excavations produced an astonishing 300 000 bone fragments: over 90 per cent were derived from horses, with evidence that mouthpieces (used when riding horses) may have damaged their teeth. Scientists found pottery shards containing chemical traces of mare's milk, potentially consumed as yogurt or cheese. In addition, fenced-off areas within the structure where groups of horses could have been kept meant that Botai was seen as the most likely place that horses were first tamed, though there was no way to confirm this or be sure these were the horses that spread around the world as human-managed livestock.

More recently, scientists analysed DNA from as far back as 42 800 years ago. The result: horses in Botai were not the genetic origin for modern domestic horses, but a distinct smaller species naturally prone to dental issues. Evidence from elsewhere indicates that horses may have been domesticated independently by different groups of people, showing the importance of horses.

Tantalisingly, scientists are unable to pinpoint just one culture, attributing the explosion in horse-based transport and technology to the Bronze Age – the invention of the spoked wheel unlocking the potential of these elegant, living machines, powered only by grass.

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Read **Text B** and then answer **Questions 2(a)** and **2(b)** on the question paper.

Text B: A very special foal

Blake Russell was sleeping when his phone rang: one of his mares was giving birth. Russell is used to waking up for late-night deliveries, but this foal was special. It was a clone of a rare wild horse, a Takhi, a now-endangered species that once roamed central Asia. 'I was so relieved it was breathing!', Russell recalls.

You might be surprised that cloned animals exist – they do, but disappointingly this amazing technology has rarely been considered for endangered animals. Before that phone call, cloning had only successfully produced a single animal of any such species alongside many failed attempts. Blake's new horse, Ollie, is the second of his kind. He's a genetic copy of the world's first cloned Takhi, Kurt (born two years before). Both Kurt and Ollie were made using frozen cells originally taken from a male horse decades ago. The understandably expensive process involved scientists transferring DNA from a donor cell into a hollowed-out egg from the surrogate (a domestic horse). The embryo then grew in the laboratory before being transplanted. None of the animal's genes changed in the process, so each foal is an identical twin of the original male horse – just born at a later time.

The scientists behind this incredible effort say this second successful birth indicates cloning might someday become a viable strategy for saving endangered species, though not every species is suitable for cloning. The technology relies on having cell samples from animals – sometimes difficult to obtain.

Sandy-coloured, with large heads, Takhis are shorter than their domesticated relatives. Centuries of hunting and habitat disruption made them practically extinct. Successful reintroduction from conventional breeding programmes in zoos into the wild means today they number about 1900. Nearly all of these are descended from just 12 animals captured from native habitats, resulting in a reduced gene pool of wild horses, so scientists looked to cloning for the answer.

Opponents bleat about tampering with nature. Some claim cloning creates genetic errors. Admittedly, not all attempts at cloning have been successful and early clones of endangered animals did die young, plus, even if he remains healthy, Ollie won't be released into the wild. But his grandchildren will – further reinforcing the need for environmental action, not distracting attention as critics argue.

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Read **Text C** and then answer **Questions 3(a)–(d)** and **4** on the question paper.

Text C: Riding across America

In 1955, following a serious illness, Annie Wilkins had to leave her farm. Over the next year, she rode her horse, Hero, from Maine on the east coast of America to Los Angeles (LA) on the west coast – a journey of over 5000 km. The following text is about part of that journey.

Annie reached Redding by sunset. To her astonishment, jostling crowds lined the street. Had everyone really come out just to watch her ride by? She grinned and waved back, coming to a halt as yet more well-wishers swarmed and buzzed around her, demanding autographs. Redding's mayor, keen to publicise his modest town, offered a free room at its fanciest hotel, where a very special visitor – television personality Marty Green – was waiting to meet Annie with an official invitation to appear on his popular TV show in LA.

Annie did not recognise the celebrity's name, though this wasn't the first time she'd encountered journalists. No, that had all started way back, just weeks into her ride ...

Annie had been on the road for around an hour that morning, when a car pulled up and two people got out, introducing themselves as reporters. Annie answered their questions patiently. Back then they'd seemed more interested in how many layers of warm clothing she was wearing than what motivated her. She'd waited while they took an interminable number of photographs, unaware her image would soon be in newspapers all around the district: 63-year-old woman trying to cross America on a horse!

In those early days, she'd travelled without a map. Not knowing exactly how far she'd get, having no set itinerary was best. Annie avoided getting lost by sticking to main roads and stopping helpful passersby, soon learning that 'just up the road' meant different things to different people. Everyone seemed happy to offer suggestions: a town she'd probably make before sundown, a family who might have a spare bed. Battling all weathers and her recurring cough, she'd ridden and led Hero over mountains, across streams and alongside busy traffic.

Annie figured Redding to LA would take another two months. She took Green's details, promising to call when, if, she arrived in LA. Only small local newspapers had covered her exploits to date; she knew national media would take over now. How had she expected to go so far with so little money? She was fortunate interest had grown in her story, inspiring donations and letters of support for their 'role model'.

To begin with people had taken sides: some thought her journey a grand adventure, others saw it as imprudence and folly.

At one town, Annie had been unexpectedly ambushed and interrogated by a vet – hired by an unscrupulous newspaper editor sniffing around for a juicy headline. Annie remained courteous, explaining she'd averaged under 24 km daily, carried feed and drew water from natural sources. Yes, she'd had to camp out occasionally, but Hero had invariably bedded down under cover every night. The vet, frowning, regarded the horse solemnly, picking up each hoof in turn and examining it minutely. The editor watched his performance.

'No problems,' the vet finally pronounced his verdict, and left.

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Her generous hosts that night had prepared a comfortable stall and a hay-net bursting with fragrant herbs for Hero, who tucked in happily. Annie ran her fingers through her wiry grey hair, gazing up at the vast night sky and breathing in freedom. What if Hero really had been ill? She'd come so far already, should she just stop? She'd left home in mud season: an insipid landscape of beige and brown, an air of apology about her. This new life offered companionship, colour and opportunity. She knew now she wouldn't quit.

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