Cambridge Assessment International Education

Cambridge IGCSE™

FIRST LANGUAGE ENGLISH **0500/12**

Paper 1 Reading **February/March 2025**

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.

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

Text A: *Animals that migrate*

You have probably heard about epic migrations, such as humpback whales travelling from the poles to the equator, or myriads of monarch butterflies arriving in Mexico every winter. Many creatures migrate, usually to find food, a safe place to breed or a suitable climate. For example, European swallows famously migrate south every winter to Africa or Asia.

Despite their feats of incredible endurance, animals that migrate tend to be more vulnerable to climate change, relying on multiple habitats to survive or complete their life cycle. Technology has facilitated research, improving understanding of migration, but there is a lot we don't know. Unlike emigration, when animals move to find a new, permanent place to live, migration involves a return journey. This and other factors, including that migration happens seasonally, make it different from other types of animal movement.

Astonished scientists recently discovered that plains zebras (the most common zebras) embark on an incredible journey of 480 km, the longest migration of all land mammals in Africa. The scientists fitted eight female zebras with satellite-tracked collars to monitor the herd's movements. Tagging a wild zebra is no easy task – a zebra kick can kill a lion – so the animals had to be sedated and docile before being approached. How the animals knew where to go and when to leave, especially when they'd never made the journey before, wasn't clear.

In a second study, researchers modelled migration routes of zebras using two different computer simulations. They were interested in two possible theories: simulated zebras could use perception and sense, for example, based on the current levels of vegetation growing in their surroundings, or they could use memory, that is information from previous migrations, to forecast where to go. The researchers compared their simulated tracks with real-life tracks from GPS-tagged zebras.

Preliminary findings indicate that the 'memory' simulation predicted the migration route more accurately than that using sense and perception, though years' more monitoring is required to figure out conclusively what drives zebras. Scientists will want to factor in the potential effects of predators such as lions on the route next time. Tracking data also showed that real zebras didn't all migrate to the same place and that once barriers such as fences were removed, zebras re-established migratory paths unused for generations, suggesting genetic influences. 'Protecting migration routes efficiently is only possible if we're sure how the animals migrate,' acknowledges the study's lead scientist.

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

Text B: *Zozu's story*

Zozu, like other white storks in Europe, typically flies to Africa for winter. Yet researchers tracking the bird using GPS discovered that he and a few pals skipped this year's gruelling migration across the Sahara Desert, stopping, instead, in cities like Madrid. Apparently, they'd developed a taste for the junk food in landfills (one shocking example featured in a recent book that turns data from studies tracing animal migration into a series of mind-blowing maps).

Nowadays, technology allows us to monitor, say, a herd of elephants or a flock of storks as they move across the globe. With global warming affecting migration routes, there's a new urgency in such research. It's bad news that many animals have stopped migrating: for example, parasites often have transmission stages requiring their host animal to stay in the same habitat, and speedy migration can avoid giving parasites a chance to take hold.

Zozu's story warns of one consequence as human populations become increasingly urban. Last year, researchers studied the effect of infrastructure in southern California, where mountain lion numbers are falling. Tracking the lions, researchers discovered their natural habitat was divided by eight lanes of traffic, houses and golf courses. Efforts to re-establish routes, using animal crossings such as underpasses, have failed.

Meanwhile, in the traditional migration destinations of sub-Saharan Africa, reductions in the time migratory birds spend there have implications for the ecosystem, limiting insect consumption, seed dispersal and pollination. Analysis of bird records indicates that some migratory species are spending 60 fewer days on average in Africa each winter. If trends continue, some will eventually spend the full year within Europe where the longer presence of traditionally migratory birds could lead to increased competition for resources among resident non-migratory species.

The book highlights the invaluable research generated by animal migration, citing insight applicable to aspects of human behaviour (baboons' movements as a group mirror crowd behaviour of human commuters). Monarch butterflies pictured in the book are just one species in decline – their migration an endangered activity since deforestation has destroyed potential stopover sites.

Read **Text C** and then answer **Questions 2(a)–(d)** and **Question 3** on the question paper.

Text C: *The last migration*

This story is set some years in the future. A scientist, Lotta, is involved in a research project studying migratory birds called terns.

I'm watching when the bird is caught. Her wing clips the hair-thin wire, closing the basket gently over her. I approach, not breathing, reluctant to scare her. She ruffles feathers, a small burst of defiance before my fingers close around her. I have to be quick now, deftly looping the band over her leg. The plastic tightens firmly, securing the lightweight tracker. The tracker blinks once, confirming it's working. Her heartbeat pounds fast and fragile inside my palm. I place her back in her nest, edging away. She explodes free, swooping at me suddenly, giving a shrill cry.

I grin, thrilled. I've been out here for days, pecked a dozen times, but have now tagged three terns. My tent was blown into the sea last night. My cheap rental car's blessedly warm.

I check my notes again before setting off: Ennis Malone. Captain of the fishing boat *Raven* – in the days when there were fish to catch.

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That evening, I find Ennis alone in the harbour café – a husk of a man. 'What would you say if I said I could find fish?' I say, opening the tracking software on my laptop and watching his eyebrows arch. The sight of blinking red lights melts me with relief. I'd no idea if this would work, but here they are, the three little birds that will fly south for the winter, taking me with them to learn their secrets. I'm not sure when dreaming of this last desperate project began, but it's part of me now as much as the instinct for breath. It swallowed me whole – a fantasy quest, securing a place on a fishing vessel and having its captain carry me far south following the longest natural migration of any living creature.

'I want to follow these birds,' I tell Ennis. 'They're part of the last colony.'

Ennis breathes out heavily, unsurprised. For decades, scientists warned about habitat destruction. Species after species were declared endangered, then extinct. There are no more monkeys in the rainforest, no bears in the once-frozen north, nor any other creature humankind hunted. Some birds remain, but there's no longer any funding for research.

'I've put trackers on three, but couldn't afford cameras,' I explain, doggedly following Ennis back to his vessel. 'They'll only help to pinpoint where the birds fly. Someone needs to witness how they survive, to learn. Take me south – we'll follow them. If there are fish left, those birds will find them.'

'No,' Ennis insists. 'There's no point.'

I wait all night on the harbour next to his boat. It's almost dawn when Ennis peers at me quizzically from the deck. 'You sure?'

I open the map I've made, showing him how the birds set out on separate paths, then merge together, following different routes to the fish. 'The spots vary,' I say. 'But the birds find them.' Wistfully, Ennis traces the lines on the map like memories through the Atlantic.

'Why did you name your boat after a bird, Ennis?' I ask.

'Because she flies too,' he smiles, nodding.

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Months later, the remote shore ahead is magnificent – but empty. I'd told myself it was over when the signals stopped after the last storm; still somehow I'd hoped to see birds, or something, anything, alive. The boat can go no further, so we continue on foot towards the ridge – the only movement anywhere. My heart breaks and then jumps … because something just flew across the sky. More somethings appear, swooping and soaring. I scramble to the summit and – oh, hundreds of terns smother an expanse of unspoiled ice below. Yet more dance upon the air. Dipping gracefully, diving hungrily, in a bay bubbling and thrashing with a million scales. Ennis reaches me with a low rumble of laughter, just as a huge whale fin crowns the sparkling surface. We gasp. What else is hiding in these clean, untouched waters – this sanctuary?

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