Cambridge International Examinations
Cambridge International General Certificate of Secondary Education

FIRST LANGUAGE ENGLISH **0500/23**

Paper 2 Reading Passages (Extended) **October/November 2016**

READING BOOKLET INSERT

2 hours

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READ THESE INSTRUCTIONS FIRST

This Reading Booklet Insert contains the reading passages for use with **all** the questions on the Question Paper.

You may annotate this Insert and use the blank spaces for planning. This Insert is **not** assessed by the Examiner.

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Part 1

Read **Passage A** carefully, and then answer **Questions 1** and **2** on the Question Paper.

Passage A: The Healer

Gant, formerly a doctor in a university hospital, is the only survivor of a time-travelling experiment that went horribly wrong, trapping him half a million years in the past.

When Gant first opened his eyes, he thought for an instant he was back at home in his city apartment. He sat up, looking wildly around in the dark of the cave and then remembered where he was. The noise frightened his wife and his son, Dun, and they rolled to their feet, crouching, ready to leap. Gant grunted reassuringly at them, and climbed off the moss-packed platform he had built for a bed. The barest glimmerings of dawn filtered into the cave. The remnants of the fire glowed at the mouth.

Gant poked the fire, put some chips of wood on it and blew on them. It had been a while since he had had such a vivid memory of his old life half a million years away. He looked at the wall where he kept his calendar, painfully scratched into the rock. It had been ten years ago today when he stepped into that steel cylinder in the Bancroft Building at the university. What was it he'd said? 'You need a medical doctor involved in the first trial run. You physicists won't learn anything about the physiological effects of time travel, and I want to be in on this ambitious project.'

Gant listened carefully at the mouth of the cave, near the carefully constructed log barrier. Outside he heard the sound of rustling brush and heavy breathing; he knew he could not leave now. He drank some water, foul-tasting despite having taught his family to boil it, then ate some dried snake with his wife and son. They all ate quietly.

Dawn came and he stepped to the mouth of the cave and listened. The great animal had left. He waved to his wife and Dun, dragged aside the barrier, and went out. He went along the face of the cliff with the heavy underbrush at its foot. He would go into it when he returned, to look for food.

In the marsh beyond was one of the many monuments to his vanity and failures. Among the jagged rocks and stunted tree stumps he had tried to grow penicillin* on the sweet juices of the fleshy plump berries that abounded in the region. He had crushed the berries to form pulpy, blood-red juices, which he placed in clumsily-carved bark receptacles. For three years he had tried to raise the soft and life-saving marshmallowy green mould, but all he ever produced was a revolting and pungent, slimy grey mass that rapidly rotted at the sun's touch, promising nothing.

He hefted the heavy stone axe in his right hand. He approached a cave, grunted loudly and then went in. The people inside held weapons and he was glad he had warned them of his approach. He ignored them and went straight to the back corner to see the little girl who had been left alone, her family fearful of her illness.

She sat leaning against the rock with her mouth hanging open, her eyes staring dully ahead. Her eyes were onyx black and empty, contrasting with the downy blanket of blonde hair that grew on her face. Gant snarled at her parents, whirled around, and snatched a bear-hide. He wrapped the limp and lifeless child in it and then felt the part of her forehead where there was no hair. It was burning hot, about 105 degrees. He placed her tiny frame on the rock and put his ear against her chest, hearing the solid concrete sound of filled lungs. It was full-blown pneumonia now: his earlier efforts to keep her hydrated and warm hadn't worked. She briefly woke, looking at him, wild-eyed, like a frightened rabbit as she gasped for breath. Gant picked her up and held her close, despite her parents' frantic grunts and gestures.

He sat with her for over an hour trying to make her comfortable. He held wet leaves to her forehead to cool her burning face. It didn't seem to help. He knew he couldn't save her.

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He hunted on his way home and killed a heavy-bodied animal that hung upside down from the lower branches of a tree. He found a large rock outcropping with a tiny spring coming out from under it. A mass of newly-sprouted shoots grew in the soggy ground; his wife and son hated eating greens but he knew these would be full of nutrients. He picked them and headed back to the cave. His family were there and their faces immediately brightened when they saw him and what he had brought.

** Penicillin – antibiotics used to treat bacterial infections. Penicillin was discovered in 1928.*

Part 2

Read **Passage B** carefully, and then answer **Question 3** on the Question Paper.

Passage B: Antibiotics

The greatest medical advance of the 20th century is now in doubt because of its own popularity. Antibiotics have saved the lives of millions of people suffering from tuberculosis, pneumonia, meningitis and other illnesses since the bacteria-killing treatment was first introduced in the 1940s. Today, unless concerted action is taken to curb antibiotic overuse and misuse in humans and animals, the world may be heading for a post-antibiotic age.

Minor ailments such as a throat infection and infected cuts could once again become fatal and operations such as organ transplants and hip replacements could become impossible to perform. The culprit is the misuse of antibiotics that has allowed certain bacterial infections to survive and adapt, become more potent, dangerous and difficult to treat. The resulting failure of first-line antibiotics also means that doctors have to resort to less conventional medications, many of which are more costly and associated with more serious side effects.

The rise of superbugs more powerful than antibiotics is one of the biggest challenges in global health, says the World Health Organization (WHO). 'Some experts say we are moving back to the pre-antibiotic age,' says Margaret Chan, the WHO's Director-General. 'A post-antibiotic era means, in effect, an end to modern medicine as we know it.'

It is a train wreck in slow motion – as University of Alberta medicine professor, Lynora Saxinger puts it. A form of tuberculosis now exists that is resistant to most drugs; the mortality rate is 50 per cent. This superbug that is resistant to fifteen widely used antibiotics was identified in India four years ago. Last year there were cases in a variety of countries across the world. Pharmaceutical companies are not developing new antibiotics to treat these superbugs, in part because of concern that irresponsible usage will make the new medicines ineffective before the investment in research and development can be recovered.

Treating healthy animals with antibiotics to boost production has led to resistance which then spreads to humans through the food chain. While the use of drugs to increase milk production is prohibited in Canada and the European Union, it is still approved for use in the USA and in many countries in Asia.

In some countries, antimicrobial resistance is spread through poor infection control and a lack of regulatory practices. Antibiotics are sold over the counter. Patients self-diagnose, fail to finish a course of treatment, or overuse these medications. Some patients give unfinished antibiotics to friends or relatives to take when they have a virus that antibiotics cannot cure. This creates the perfect environment for superbugs to develop and, in an age of mass global travel and medical tourism, they surge overseas.

Despite better regulations and public education campaigns, the misuse and overuse of antibiotics remains a problem. Across the world, many upper respiratory tract infections, including colds, sore throats and even some ear infections, should not be treated with antibiotics, yet often still are because patients demand them and doctors give in to their demands. Patients should understand that taking

an antibiotic unnecessarily increases the risk that they will become infected with a drug-resistant bacterium in the near future, as it creates an environment that allows antibiotic-resistant bugs to thrive.

Hospitals are also hotbeds for antibiotic-resistant infections. Thanks to the increased use of antibiotics, overcrowded conditions, and poor hygiene, thousands of patients come down with life-threatening infections while in hospitals every year and many die. The most notorious antibiotic-related hospital illness is *Clostridium difficile*, a bacterium that causes severe diarrhoea. The infection spreads among patients whose natural gut flora, healthy bacteria, have been wiped out by antibiotics. There have been outbreaks in hospitals in many countries across the world.

The world loves antibiotics – to death, or nearly so. A world without antibiotics seems unimaginable. But a world that loves them still has a chance to save them.

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