TEST 2

READING

Task 1

Read the texts below. Match choices (A–H) to (1–5). There are three choices you do not need to use.

A NEW GENERATION OF ANTIBIOTIC DRUGS

1 _____

Insects entombed in fossilized amber for tens of millions of years have provided the key to creating a new generation of antibiotic drugs that could wage war on modern diseases. Scientists have isolated the antibiotics from microbes found either inside the intestines of the amber-encased insects or in soil particles trapped with them when they were caught by sticky tree resin up to 130 million years ago. Spores of the microbes have survived an unprecedented period of suspended animation, enabling scientists to revive them in the laboratory.

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Research over the past two years has uncovered at least four antibiotics from the microbes and one has been able to kill modern drug-resistant bacteria that can cause potentially deadly diseases in humans. Present-day antibiotics have nearly all been isolated from micro-organisms that use them as a form of defense against their predators or competitors. But since the introduction of antibiotics into medicine 50 years ago, an alarming number have become ineffective because many bacteria have developed resistance to the drugs. The antibiotics that were in use millions of years ago may prove more deadly against drug-resistant modern strains of disease-causing

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Raul Cano, who has pioneered the research at the California Polytechnic State University, said the ancient antibiotics had been successful in fighting drug-resistant strains of staphylococcus bacteria, a 'superbug' that had threatened the health of patients in hospitals across the globe. He now intends to establish whether the antibiotics might have harmful side effects. 'The problem is how toxic they are to other cells and how easy they are to purify', said Cano.

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A biotechnology company, Ambergene, has been set up to develop the antibiotics into drugs. If any ancient microbes are revived that resemble present-day diseases, they will be destroyed in case they escape and cause new epidemics. Drug companies will be anxious to study the chemical structures of the prehistoric antibiotics to see how they differ from modern drugs. They hope that one ancient molecule could be used as a basis to synthesize a range of drugs.

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Cano's findings have been hailed as a break-through by scientists. Edward Golenburg, an expert on extracting DNA from fossilized life-forms at Wayne State University in Detroit, said: 'They appear to be verifiable, ancient spores. They do seem to be real.' Richard Lenski, professor of microbial ecology at Michigan State University, said the fight against antibiotic-resistant strains of bacteria such as tuberculosis and staphylococcus could be helped by the discovery. However, even the use of ancient antibiotics may not halt the rise of drug-resistant bacteria. Stuart Levy, a micro-biologist at Tufts University in Boston, warned that the bacteria would eventually evolve to fight back against the new drugs. 'There might also be an enzyme already out that can degrade it. So the only way to keep the life of that antibiotic going is to use it sensibly and not excessively,' he said.