三重大　2012年

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次の英文を読んで，下記の設問に答えなさい。(＊印の付いた語句には注があります。)

Individual species and \*ecosystems have evolved over millions of years into a complex interdependence. This can be viewed as being akin to a vast jigsaw puzzle of inter-locking pieces. If you remove enough of the key pieces on which the framework is based, then the whole picture may be in danger of collapsing. (A)We have no idea how many key pieces we can afford to lose before this might happen, nor even in many cases, which are the key pieces. The ecological arguments for conserving biodiversity are therefore based on the premise that we need to preserve biodiversity in order to maintain our own life support systems.

Two linked issues which are currently of great ecological concern include world-wide deforestation and global climate change.

(B)Forests not only accommodate countless numbers of different species, but also play a critical role in regulating climate. The destruction of forest, particularly by burning, results in great increases in the amount of carbon in the atmosphere. This happens for two reasons. Firstly, there is a great reduction in the amount of carbon dioxide taken in by plants for photosynthesis and secondly, burning releases huge quantities of carbon dioxide into the atmosphere. (The 1997 fires in Indonesia’s rain forests are said to have added as much carbon to the atmosphere as all the coal, oil and gasoline burned that year in western Europe.) This is significant because (C)carbon dioxide (current / global warming trend / greenhouse gases / implicated / in / is / main / of / one / the / the).

Average global temperatures have been showing a steadily increasing trend. Snow cover and ice cover have decreased, deep ocean temperatures have increased and global sea levels have risen by 100-200 mm over the last century. If current trends continue, scientists predict that the earth could be on average 1°C warmer by 2025 and 3°C warmer by 2100. These changes, while small, could have drastic effects. (D)As an example, average temperatures in the last Ice Age were only 5°C colder than current temperatures.

Rising sea levels which could drown many of our major cities, extreme weather conditions resulting in drought, flooding and hurricanes, together with changes in the distribution of disease-bearing organisms are all predicted effects of climate change.

Forests also affect rainfall patterns through \*transpiration losses and protect the watershed of vast areas. (E)Deforestation, therefore, results in local changes in the amount and distribution of rainfall. It often also results in erosion and loss of soil, and often in flooding. Devastating flooding in many regions of China over the past few years has been largely attributed to deforestation.

(Barbara Corker, *Biodiversity and Conservation*)

注

ecosystem 生態系

transpiration 蒸散

1．下線部(A)を，thisが何を指すかを明らかにして，日本語に訳しなさい。

2．下線部(B)を日本語に訳しなさい。

3．下線部(C)が「二酸化炭素は，現在の地球温暖化傾向に影響する主要な温室効果ガスの一つである」という意味になるように，( )内の語句を並べ替えなさい。

4．下線部(D)はどのようなことを示すための例か，本文に即して日本語で説明しなさい。

5．下線部(E)を日本語に訳しなさい。