Approximately ten thousand years ago, when the first permanent human settlements emerged after about 2 million years of hunter-gatherer society, the total population of the earth was only about 5 million people. Not until the beginning of the nineteenth century did the population exceed 1 billion. During that time, the human species had a negligible influence on the ecology of the planet as a whole.

By the beginning of the twentieth century, however, the population stood at 2 billion. By 1950, it was 2.5 billion. Then, in the next fifty years, it more than doubled to 6.1 billion. According to United Nations' projections, although the rate of population growth will stabilize and may fall in the future, the total population will continue to increase significantly and will reach 9.3 billion by 2050. All of this growth will be in less developed countries, which will be home to more than 85 percent of the world's people in 2050. Today, as a direct result of population growth, the impact of human activities on the world's ecology is already substantial. In the future, it may be catastrophic.

Studies have shown that runaway population growth represents a massive threat to the environment on the local, national, and global levels. In areas of Nepal, for example, the pressure of overpopulation and poverty forces farmers into the hills, where they cut down the vegetation to provide wood for heating and construction, food for their animals, and land to raise crops. In a short time, the fertile topsoil is eroded by rain because it is now without the protection offered by natural vegetation. The hillside fields then become unproductive, incapable of supporting the people who have settled there.

Elsewhere, in the world's tropical zones, to provide employment and earn money from exports, nations like Indonesia, Malaysia, and Thailand have been cutting down their hardwood forests faster than they can replace these valuable resources. Brazil, in a desperate attempt to relieve poverty and create economic growth, has permitted the destruction of vast areas of its Amazon rain forest for agricultural use. The sad irony is that much of the cleared land proves unsuitable for traditional farming after a few years because the destruction of the forest has interrupted the recycling of natural nutrients to the soil.

By 2000, at least half the world's tropical forests had disappeared. Their destruction has consequences that are felt at cross national borders and globally. First, the burning of the forests releases large amounts of carbon dioxide into the atmosphere - emissions that are contributing to potentially disastrous changes in global climate patterns. Second, as the forests vanish, so too does their diverse plant and animal life. Thus, the human race may be losing, along with the tropical forests, a vast potential source of scientific knowledge.

Clearly, if action is not taken soon, the ecological damage caused by overpopulation and unwise development threatens to run out of control. A partial solution to the crisis may lie in family-planning programs that have been operating in a number of developing countries for some time.
Indonesia, for example, the family-planning program established a large number of village centers that distribute free contraceptives and information about birth control. The program has had considerable success. Between 1972 and 1988, the fertility rate fell by almost 40 percent, and the number of couples practicing birth control increased fifty-fold. A reduction in the birthrate has also been experienced by other countries with family-planning programs, including South Korea, Thailand, Mexico, and Tunisia. And there is clear evidence, too, that lower birthrates can bring economic benefits to developing nations. According to a 2002 U.N. report, declines in the birthrate accounted for 33 percent of the economic growth in East Asia between 1960 and 1995.

As a response to the problem, birth-control programs are necessary but, for at least one good reason, not sufficient. Since a large proportion of the population of developing countries consists of children below reproductive age, the world's population is certain to grow when these children reach adulthood and begin having children. Even if birth control becomes widely accessible and acceptable, therefore, a fifty percent increase in the world's population is inevitable by 2050.

According to most experts, the second essential component of a solution to the overpopulation-environment problem is social and economic development. The history of the industrial world clearly shows that birthrates fall and stabilize at a significantly lower level when a society offers the majority of its people an acceptably high standard of living. Prosperity, better educational and career opportunities, especially for women, adequate health care, and relative financial security for people in their old age are probably all factors that have contributed to the low, stable birthrates of affluent nations. For this reason, most experts believe that the birthrates of less-developed nations will decline as their populations experience the benefits of economic development.

The situation today, however, is more complex than this apparently simple solution would suggest. A first major complication is that one essential component of the solution-namely, economic development-is also one cause of the problem. Birthrates will not fall without economic development. However, most of the danger to the world's ecological systems comes directly from the attempts of nations to pursue economic development. A second complication is that the industrial world must now ask poorer nations to give up the same strategy for economic development that brought it prosperity-the exploitation of natural resources with little thought for the future. Let us remind ourselves of one historical cost of this strategy. In the course of their history, Europeans have destroyed almost 80 percent of the forests that originally covered their continent and North Americans have destroyed 75 percent of the forests covering North America. Today, Europeans and North Americans are asking the people of developing nations to cease doing what they themselves have been doing for centuries.

Because all countries have the right to pursue the goal of economic development for their people, two conclusions are unavoidable. First, the traditional development policies pursued by the poorer countries must be fundamentally revised. The policies now in operation will both exhaust those nations' ecological resources and cause serious, perhaps irreversible, damage to the world's ecology. They are, in a word, unsustainable. Second, because unsustainable economic development is a clear characteristic of the industrial world, it is the obligation of the most prosperous nations to lead the way. They can do so by modifying many of their unsustainable policies and practices and by offering economic and technical assistance to the poorer countries that are willing to do the same. In this way, they will be supporting, and not undermining, global efforts to encourage sustainable development.
A. Answer the following questions based on the reading text.

1. What are the effects of Nepal’s being poor and that some areas are overpopulated? (1,5 pts)

2. How can ecological damage be reduced or stopped? (1,5 pts)

3. What reason does the writer give for the claim that birth-control programs are only a partial solution to the overpopulation problem? (1 pt)
   a. It is unrealistic to imagine that birth control will be acceptable at present to all societies and cultures.
   b. It is unrealistic to expect that we can quickly make birth control freely available everywhere it is needed.
   c. The proportion of children in the world’s population guarantees a massive population increase in the future.
   d. Developing nations are becoming more prosperous and, as their people become wealthier, they can afford to have larger families.

4. Tick the factors contributing to a decline in nation’s birth-rate. (1,5 pts)
   __ High income
   __ Poverty
   __ Sufficient medical facilities
   __ Financial security for the elderly
   __ Tax reduction for people

5. _______________________ and 6. __________________________ complicate the process of finding an effective solution to the problem of overpopulation. (2 pts)

7. Which word in paragraph 1 means ‘very small and therefore unimportant’? (1 pt)

8. Which word in paragraph 9 means ‘the use of something in order to make a profit’? (1 pt)

9. What does 'Their' in paragraph 5, refer to? (1 pt)

10. What does 'they' in paragraph 10, refer to? (1 pt)
B. Complete the summary below with the information from the reading text. Some blanks may require more than one word. (1.5pts each)

Up until two hundred years ago, humans did not have a significant effect on the ecology of planet Earth. Because of the ____________ __________ in population in the last two centuries, damage to the ecology from human activities is considerable and may become much worse. Locally, people respond to the pressures of overpopulation in ways that ____________________ the ecology of the areas they live in. The destruction of the world's ________________ have negative consequences for the entire globe. Family-planning programs, which have proved to be ____________________ in some developing countries, could contribute to the solution of the overpopulation problem. The number of children currently in the world’s population means that birth-control cannot be the ________________ to the problem of overpopulation. ________________, which is also an answer to the problem of overpopulation, is also the cause of massive damage to the environment. In both developing and developed countries, ________________ economic development must be replaced by policies and practices that are sustainable.

Score: __/10,5
SAMPLE READING: ECOLOGY, OVERPOPULATION AND ECONOMIC DEVELOPMENT

SUGGESTED ANSWERS

1. Farmers move to the hills and cut down the vegetation.
2. Family-planning programs can be established.
3. C
4. High income
   - Sufficient medical facilities
   - Financial security for the elderly
5. Economic development
6. Exploitation of natural resources
7. Negligible
8. Exploitation
9. At least half of the world’s tropical forests
10. The most prosperous nations
11. (massive) increase
12. Destroy
13. Tropical forests
14. Successful
15. (sole) solution
16. (social and) economic development
17. Traditional / unsustainable