Inside:

Short-Answer Question 4

☑ Scoring Guidelines
☑ Student Samples
☑ Scoring Commentary
Question 4: No Stimulus

3 points

General Scoring Notes

- Each point is earned independently.
- **Accuracy**: These scoring guidelines require that students demonstrate historically defensible content knowledge. Given the timed nature of the exam, responses may contain errors that do not detract from their overall quality, as long as the historical content used to advance the argument is accurate.
- **Clarity**: Exam responses should be considered first drafts and thus may contain grammatical errors. Those errors will not be counted against a student unless they obscure the successful demonstration of the content knowledge, skills, and practices described below.
- **Describe**: Provide the relevant characteristics of a specified topic. Description requires more than simply mentioning an isolated term.
- **Explain**: Provide information about how or why a historical development or process occurs or how or why a relationship exists.

(A) Identify ONE scientific or technological development that contributed to the Green Revolution.

**Examples that earn this point include the following:**

- The development of chemical fertilizers was one contribution.
- Genetically modified crops and organisms (GMOs) contributed to the Green Revolution.
- The Green Revolution included new crop varieties that could survive in drier climates.
- A development was new equipment, such as tractors.

(B) Explain ONE way in which the Green Revolution benefited populations in the developing world.

**Examples that earn this point include the following:**

- By providing increased food crops, it prevented starvation and food shortages due to overpopulation.
- By increasing the availability of crops, it led to population growth.
- By providing new technologies that increased productivity, the Green Revolution allowed populations to pursue other economic activities.

(C) Explain ONE way in which the Green Revolution affected the environment within the developing world.

**Examples that earn this point include the following:**

- Increased use of fertilizers sometimes caused chemical runoff or pollution.
- The increasing size of monoculture agriculture limited crop diversity and soil integrity in some cases.
- The spread of new technologies like tractors led to the industrialization of agriculture, which resulted in water and air pollution.

Total for question 4 3 points

© 2022 College Board
4a) One scientific development that contributed to the Green Revolution was the use of pesticides.
4b) One way the Green Revolution benefited population in the developing world was more accessibility to food in underdeveloped countries allowing population growth.
4c) One way the Green Revolution affected the environment was deforestation. Underdeveloped countries used the Green revolution as a form of income, so to get more room to farm they had to cut down trees.
Write your answer to SHORT-ANSWER QUESTION 3 or 4 on this page only. Do NOT write outside the box. Do not skip lines.

a) One scientific or technological development that contributed to the Green Revolution was the use of GMOs in crops.

b) One way the Green Revolution benefitted populations in the developing world was by increasing populations and improving health. For example, golden rice, which was a GMO, was introduced to India. This rice was able to grow in harsh climates and had additional health benefits such as providing nutrients and vitamins that were lacking in their diet. With the introduction of golden rice due to the Green Revolution, the Indian population was able to grow since they had more food available to harvest and nutrients they were able to get from the genetically modified rice.

c) One way the Green Revolution affected the environment in the developing world was the improvement of soil quality and agriculture. For example, there were new farming techniques that were able to preserve the environment, but also improve the efficiency of agriculture. With these new improvements in agricultural practices, the countries were able to implement them into their environment which greatly benefitted the soil, crops, and environment in general while also keeping and improving the efficiency of agriculture.
SAQ 4 Sample 4C Page 1 of 1

Important: After you have completed your response to either Question 3 or Question 4, completely fill in the circle that corresponds to the question you answered.

Write your answer to SHORT-ANSWER QUESTION 3 or 4 on this page only. Do NOT write outside the box. Do not skip lines.

4. a. Scientists discovering Greenhouse gases led to people opening their eyes to climate change, and resulted in many people becoming more climate conscious.
   b. The green revolution led to better agricultural output, which in turn raised birth rates and increased population.
   c. The green revolution created advances in agriculture which left less room for the growing population because crops took up too much room.

End of response area for Question 3 or Question 4

© 2021 College Board, College Board, Advanced Placement, AP, and the acorn logo are registered trademarks of College Board. Unauthorized reproduction or use of any part of this test is prohibited and may result in cancellation of scores and possible prosecution to the fullest extent of the law.
Short Answer Question 4

Note: Student samples are quoted verbatim and may contain spelling and grammatical errors.

Overview

Responses to this question were expected to demonstrate understanding of the Green Revolution. In part A students were asked to identify a scientific or technological advancement that contributed to the Green Revolution. Part B required an explanation of how the innovations of the Green Revolution benefited populations in the developing world. Part C required responses that explained how the Green Revolution impacted the environment within the developing world.

Sample: 4A
Score: 3

a) The response earned 1 point for identifying pesticides as a technological development that contributed to the Green Revolution.

b) The response earned 1 point for explaining “more accessibility to food in underdeveloped countries allowing population growth” as a way that the Green Revolution benefited populations in the developing world.

c) The response earned 1 point for explaining that deforestation was one way that the Green Revolution affected the environment within the developing world.

Sample: 4B
Score: 2

a) The response earned 1 point for identifying GMOs as a key development during the Green Revolution.

b) The response earned 1 point for explaining that the Green Revolution tech (GMO golden rice) provided more food and increased India’s population.

c) The response did not earn the point because “new farming techniques” is too vague to be a creditable explanation.

Sample: 4C
Score: 1

a) The response did not earn the point because it inaccurately identifies greenhouse gases as a development that contributed to the Green Revolution.

b) The response earned 1 point for explaining how “better agricultural output” led to an increase in population.

c) The response did not earn the point because it fails to explain how the Green Revolution affected the environment.