UFRN
UNIVERSIDADE FEDERAL DO RIO GRANDE DO NORTE

Exame de Proficiência 2020.1

Inglês

Ciências Exatas e da Terra

Instruções

1	Confira se os dados contidos na parte inferior desta capa estão corretos e, em seguida, assine no espaço reservado para isso. Se, em qualquer outro local deste Caderno, você assinar, rubricar, escrever mensagem, etc., será excluído do Exame.
2	Este Caderno contém 5 questões discursivas referentes à Prova da Língua Estrangeira escolhida pelo candidato. Não destaque nenhuma folha.
3	As respostas às questões deverão ser redigidas em PORTUGUÊS.
4	Se o Caderno estiver incompleto ou contiver imperfeição gráfica que impeça a leitura, solicite imediatamente ao Fiscal que o substitua.
5	Será avaliado apenas o que estiver escrito no espaço reservado para cada resposta, razão por que os rascunhos não serão considerados.
6	Escreva de modo legível, pois dúvida gerada por grafia, sinal ou rasura implicará redução de pontos.
7	Só será permitido o uso de dicionário INGLÊS/INGLÊS.
8	A Comperve recomenda o uso de caneta esferográfica, confeccionada em material transparente, de tinta preta. Em nenhuma hipótese se avaliará resposta escrita com grafite.
9	Utilize para rascunhos, o verso de cada página deste Caderno.
10	Você dispõe de, no máximo, três horas, para responder as 5 questões que constituem a Prova.
11	Antes de retirar-se definitivamente da sala, devolva ao Fiscal este Caderno.

Assinatura do Candidato: _____

COMPERVE
UNIVERSIDADE FEDERAL DO RIO GRANDE DO NORTE

ATENÇÃO! As respostas às questões deverão ser redigidas em PORTUGUÊS.

Questions 01 to 05 refer to the text below.

EARTH 2020: SCIENCE, SOCIETY, AND SUSTAINABILITY IN THE ANTHROPOCENE

Philippe D. Tortell

On April 22, 1970, millions of people took to the streets in cities and towns across the United States, giving voice to an emerging consciousness of humanity's impact on planet Earth. This first Earth Day was the brainchild of US Senator Gaylord Nelson, and organized by a grass roots movement coordinated by Denis Hayes, a 25-y-old Harvard student. The events included demonstrations, teach-ins, and community cleanups ("Trash Wednesday") in over 2,000 communities across the country. Protesters shut down Fifth Avenue in New York City, while students in Boston staged a "die-in" at Logan Airport, lying in coffins to raise awareness about airplane-related pollution. The protesters were mostly white, middle-class, and young, but their message also reached some in the older generation. Walter Cronkite, by then widely seen as the most trusted man in America, hosted a half-hour Earth Day special on the CBS Evening News. He had become increasingly concerned about "the fouled skies, the filthy waters, and the littered earth," as he put it, and he concluded the program with a call for the public to heed "the unanimous voice of the scientists warning that halfway measures and business as usual cannot possibly pull us back from the edge of the precipice."

Today, half a century later, Cronkite's words are eerily familiar. Since the first Earth Day, we have, no doubt, made significant progress in addressing many acute environmental problems, like acid rain and the ozone hole. However, other, more pernicious, threats have emerged, from climate change to global biodiversity loss; the warnings seem louder, and the edge of the precipice ever closer, as growing scientific evidence demonstrates planetary-scale human perturbations of the Earth system. In the face of these challenges, a look to the past can provide some important lessons.

The early signs of trouble came swiftly. A few weeks after the Rio Earth Summit, a select group of world leaders met again under very different circumstances. At the 1992 G7 Summit in Munich, leaders of the most powerful industrialized nations convened to discuss multilateral trade negotiations and economic growth. The resulting G7 communique' referenced the Earth Summit, but the Rio commitments to the developing world were largely ignored. Rather, the focus of G7 discussions was on the development of the World Trade Organization (WTO) as a replacement to the 1948 General Agreement on Tariffs and Trade. The WTO came into being in 1995, rapidly ushering in a new world economic regime. Within a short time frame, the organization greatly expanded the scope of international trade, helping to support economic growth in many of the world's developing nations. At the same time, the WTO shifted the framework to increased corporate rights in trade agreements, with significant environmental impacts. The North American Free Trade Agreement (NAFTA), which was established during this period, provides a case in point. On the one hand, it supported economic development in Mexico, helping to lift many people out of poverty; on the other hand, the agreement greatly strengthened corporate leverage over trade between Canada, the United States, and Mexico, impacting the rights of national governments for environmental protection and other social benefits.

Fast forward about 25 years to the year 2020. As we have failed to achieve the aspirations of Rio and Kyoto, evidence for profound anthropogenic shifts in the Earth system has become increasingly clear. Large scientific advances in many fields, from computer modeling and remote sensing to geochemistry and genomics have ushered in a new era of Earth observation and insight. We now have the ability to observe and model the coupled terrestrial–ocean–atmosphere system with unprecedented resolution, while also unraveling the molecular diversity of microbial communities from mountaintops to deep ocean trenches. These tools have provided new ways of witnessing the rapid planetary-scale changes unfolding across different components of the Earth system, and predicting possible future scenarios. As humanity has been locked into a "business-as-usual" world, things are anything but usual for planet Earth.

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Over the three decades between 1990 and 2020, global fossil fuel consumption has grown by ~30%, and atmospheric CO2 concentrations have increased [from 350 to 410 ppm], more than they did over the entire period between 1700 and 1950. At the same time, global average temperature has increased by more than 0.5 °C since 1990, with significantly more warming (in excess of 2°C) over some polar regions. These perturbations have reverberated throughout the Earth system, and will continue to do so well into the foreseeable future.

The warming atmosphere has influenced global wind and precipitation patterns, and increased the intensity of extreme weather. Catastrophic fires across Australia, driven by a decade-long drought, are just one visible recent expression of this change. Atmospheric chemistry also continues to be impacted by human activities; despite significant reductions in atmospheric CFCs and Pb concentrations, there has been a sharp rise in airborne particulate matter in some regions, most notably in the developing world.

In the oceans, rising CO2 concentrations have led to noticeable acidification, with surface H+ concentrations in the waters at Station ALOHA near Hawaii decreasing by more than 10% over the past 30 years. At the same time, warming surface waters may have already begun altering ocean circulation patterns, influencing the distribution of nutrients and oxygen, and the uptake of atmospheric heat and CO2. Meanwhile, melting land-based ice sheets and glaciers have contributed to a 10-cm rise in global sea level since 1990, while the annual minimum extent of Arctic sea ice has decreased by about 20% (~2 million square kilometers) since 1970. Warming and acidified oceans have led to coral bleaching, enhanced dissolution of planktonic and coralline calcium carbon skeletons, and contraction of cold-water habitats. Direct human pressures on marine food resources have also become increasingly evident. In 1996, the global fisheries catch began to decline for the first time since the Second World War, despite increasing fishing effort. Smaller forage fish, such as sardines and anchovies, now make up a larger proportion of total catches, as large predatory fish, including swordfish and tuna, become increasingly scarce in the high seas.

The lessons of the past 50 years loom large as we reflect on the daunting environmental challenges we face today. History has provided many examples of our own failures as stewards of planet Earth, but there have also been some remarkable successes. Where there is will and motivation, there is no doubt that we can take bold and concrete actions to tackle grand societal challenges, informed by robust science. As Greta Thunberg said in a 2019 address to the US Congress, “You must unite behind the science. You must take action. You must do the impossible. Because giving up can never ever be an option.” As scientists, we must each recognize our own opportunities and responsibilities to help lead the way toward transformative societal change.

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Question 1

Write about the author's perspective on WTO and its relation to environmental issues and about the NAFTA's case.

Espaço para Resposta

Question 2

Write about the author's perspective on the new threats to the environment that have emerged since the first Earth Day.

Espaço para Resposta

Question 3

Present the author's explanation on how new technological and scientific advances have helped scientists observe planetary-scale changes.

Espaço para Resposta

Question 4

Write about the information the author gives related to warming over some polar regions and surface waters.

Espaço para Resposta

Question 5

- Translate the excerpt below in the space provided.
- The translated text should be clear and accurate in terms of structure and meaning.

> *The lessons of the past 50 years loom large as we reflect on the daunting environmental challenges we face today. History has provided many examples of our own failures as stewards of planet Earth, but there have also been some remarkable successes. Where there is will and motivation, there is no doubt that we can take bold and concrete actions to tackle grand societal challenges, informed by robust science. As scientists, we must each recognize our own opportunities and responsibilities to help lead the way toward transformative societal change.*

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