



Processo seletivo PPGECB - 2019.2
Prova de conhecimentos em língua Inglesa– PPGECB 2020.1

CPF do candidato: _____ MS () DR ()

Instruções para prova:

1. **Não insira seu NOME nas folhas de prova.** Sua única identificação será o número do CPF.
2. A prova tem duração de **duas** horas.
3. É permitido usar dicionário.
4. Todas as questões devem ser respondidas em Português.
5. Use caneta azul ou preta para responder. Respostas a lápis não serão consideradas.

Boa prova!



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Texto 1: The Health Benefits of Coffee

(disponível em: <https://www.scientificamerican.com/article/the-health-benefits-of-coffee>)

Fifty-four percent of American adults are coffee drinkers with the average intake being at least three cups of coffee per day. As you can guess, this adds up: the U.S. spends roughly \$40 billion on coffee each year. But the U.S. doesn't even break the top 20 in a ranking of countries by coffee consumption per capita, coming in only at number 22. Coffee consumption proves highest in Finland and Norway (rank #1) among the top coffee drinking countries in the world, although the Netherlands and Slovenia are not far behind.

Global demand is expected to increase by an extra 40-50 million bags of coffee over the next decade which is more than Brazil's entire yearly production. With the current threats to coffee crops that come with climate change, the world could possibly face a severe coffee shortage.

Coffee beans themselves have little to no taste at all. The flavor, the aroma of coffee: it all comes from the roasting process which releases a large number of chemicals from the tiny bean. In fact, the average cup of coffee contains more than 1,000 chemicals. To transfer those delicious chemicals to the hot water in our cup, we run water over those roasted beans. To increase our success, we both grind the beans to increase their surface area (and thus more exposure of those chemicals to the water) and heat the water since higher temperatures to speed up the removal of molecules from a solid.

Lucky for us coffee drinkers, smaller and more water soluble molecules like acids will get extracted first and those tend to be the tastier, less bitter flavors. Coffee drinkers are well aware that not every cup is created equal. The difference lies not in the beans themselves but in the preparation. For espresso, the beans are very finely ground (almost to the texture of powdered sugar) and the brewing time is much shorter than for regular drip coffee.

We are still discovering new additions to the list of benefits of drinking coffee. Here are some ways drinking coffee helps your body and your brain: it lowers the risk of developing Parkinson's disease, it can offer protection from type 2 diabetes; coffee lowers rates of depression; it is a great source of antioxidants who help our bodies combat cell damage; coffee lowers the risk of liver damage; many studies have linked coffee consumption to both reduced risk of coronary heart disease and possibly a moderate reduction in the risk of stroke among women.

So, are there any downsides to drinking coffee? The bitter taste of coffee acts as a warning sign that too much coffee, a kind of alkaloid, is not a good thing. Many alkaloids are toxic, so that bitter taste is our body's defense mechanism, warning our brain not to consume too much.

Current recommendations suggest not surpassing 400 milligrams of caffeine per day (about 3 to 5 cups of coffee, depending on your brew of choice). Too much coffee, and thus caffeine, can lead to anxiety, increased heart rate, and a lack of sleep. Science seems to be telling us that we can drink up guilt free, but as with most things, moderation is likely key.



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Texto 2: The Paradox of Growth

(disponível em: <https://blogs.scientificamerican.com/observations/the-paradox-of-growth>)

No phenomenon defining modern civilization has been more important and more pervasive than growth, and the seven post-1950 decades have seen an extraordinary concatenation of advances. On the global level, population has nearly tripled, harvests of grains have more than quadrupled, the consumption of energy has increased nearly sevenfold (and electricity generation is now nearly 30 times higher than it was) and the world uses nearly 10 times as much steel and more than 30 times as much nitrogen fertilizer. As a result, worldwide economic output is now more than 12 times higher than it was in 1950.

This growth has been translated into many welcome personal gains. Since 1950 the average global life expectancy at birth has increased by about 50 percent to more than 72 years, while the share of malnourished people has been reduced from more than 40 percent to less than 10 percent of the world's population. The average global per capita GDP has more than quadrupled, and an increase in the average size of everything from American houses (2.5 times bigger than in 1950) to European cars (more than doubled over that time) has become a common experience during a single lifetime.

On the same time, anthropogenic changes and degradation of the biosphere has reached an unprecedented intensity and extent. No major biome has escaped extensive destruction or modification by human activities; the decline of global biodiversity has been proceeding at rates that, on geological time scales, may already amount to the Earth's sixth mass extinction; many densely populated regions have seen reduced availability and reliability of water supply; and oceans and their biota have been affected by things such as massive accumulations of microplastics and coastal eutrophication. Concerns about these changes have been either intensified or overshadowed by worries about the impact of anthropogenic warming. Since 1950, carbon dioxide emissions from fossil fuel combustion, considered as tropospheric concentrations of the gas, have risen from less than 320 to more than 410 parts per million in 2018.

Despite the ubiquitous talk about sustainability, green economies and decarbonization, no nation has any thoughtful, deliberate long-term plans or policies that would lead to substantial slowdowns in the growth of energy, materials and economic output. Instead we are promised that future economic growth will be decoupled from energy and material consumption. The complete global decarbonization of energy use cannot be accomplished in just a decade or two because of the large mass and dominance of carbon-based fossil fuels (about 10 billion metric tons a year are used now, supplying 85 percent of global primary energy use) and because of the lack of readily available alternatives that could be deployed on the requisite scales and at affordable cost.

If the consensus climate models are right, then maintaining the past rates and modes of global economic growth is incompatible with staying within tolerable temperature limits through 2050—but we have no realistic plans to do away with incessant growth. In any case, rapid and drastic departures from those practices are not possible with our current technical capabilities, and they would only worsen existing global inequalities. I never make forecasts, but I wish I could be around in 2050 to see how the global civilization resolves this existential dilemma—or how it fails.



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As questões de número 1 a 6 são referentes ao texto 1:

1. No parágrafo 1 está destacado que os Estados Unidos, embora gastem muito com café anualmente não estão entre os primeiros consumidores mundiais da bebida.

a) (0,25) Que países estão nas primeiras colocações?

b) (0,25) Que colocação os Estados Unidos ocupam?

c) (0,5) Qual a média de consumo dos Estados Unidos?

2. (1,0) Segundo o texto, o Brasil produz café suficiente para o aumento de consumo mundial?

3. (1,0) O texto afirma que o café quase não tem gosto. De onde vem o aroma do café?

4. (1,0) Como conseguimos obter o melhor do sabor do café?



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5. (1,0) O texto menciona vários benefícios do café, que vão muito além de nos manter em estado mais alerta. Cite pelo menos dois desses benefícios.

6. (1,0) Quais os prejuízos da ingestão de café?

As questões de número 7 a 10 são referentes ao texto 2:

7. Segundo o texto 2, nos últimos 70 anos a civilização moderna passou por um grande crescimento, acompanhado por avanços em diversas áreas.

a) (0,5) Qual foi o crescimento médio populacional? Qual foi o aumento da demanda energética?

b) (0,5) A economia acompanhou este crescimento? Em quanto aumentou?

8. (1,0) Que ganhos pessoais a população teve em termos de saúde com esses índices de crescimento?



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9. (1,0) Este crescimento está gerando degradação ambiental sem precedentes. Indique dois exemplos desta degradação destacados no texto.

10. (1,0) Segundo o texto, a discussão sobre sustentabilidade e descarbonização está acoplada a atitudes efetivas? Explique.
