

# CONCURSO DE ADMISSÃO AO CURSO DE FORMAÇÃO



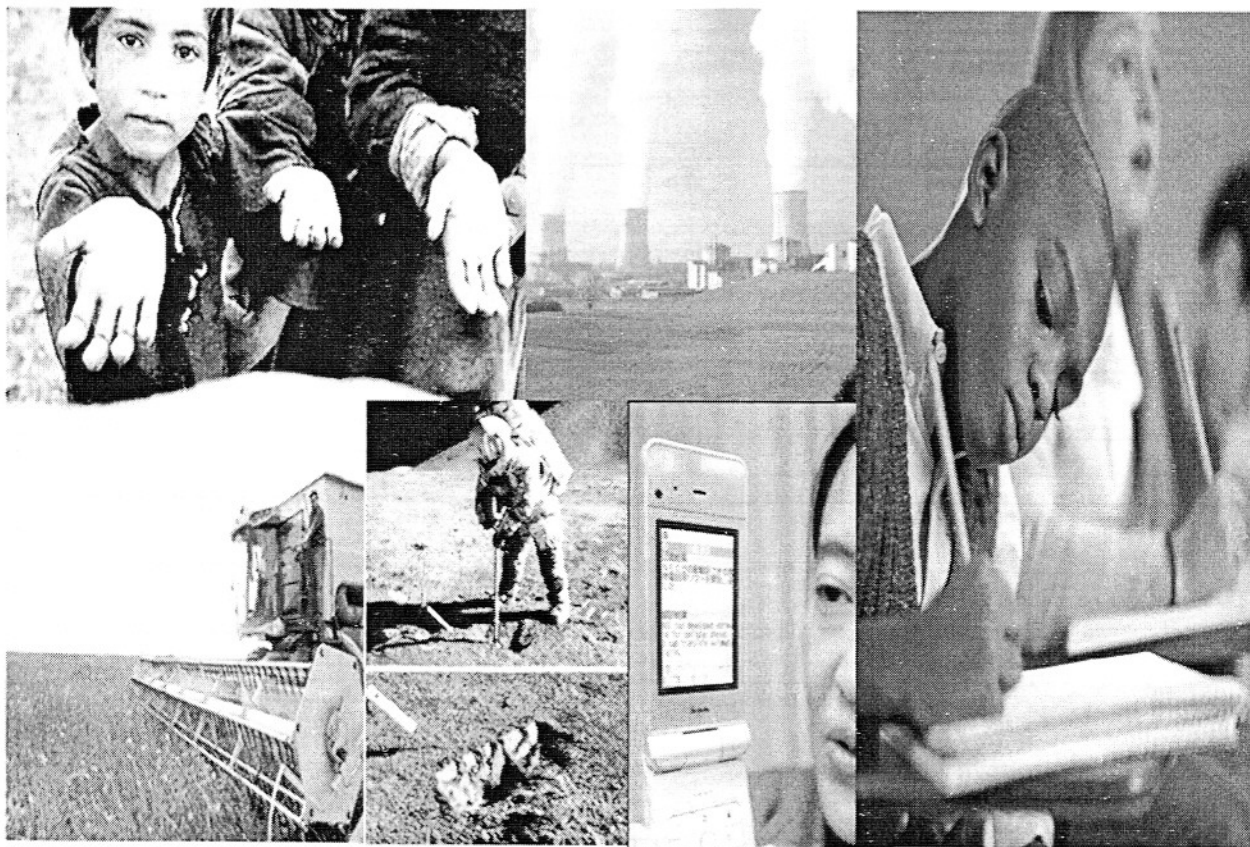
## PORTUGUÊS

### 2008

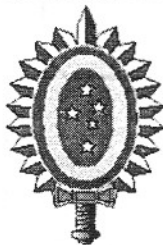
#### PRODUÇÃO DE TEXTO

Observe:

“A engenharia é a arte de organizar, dirigir homens e controlar as forças e os materiais da natureza para o benefício da raça humana.” Henry G. Stott.



Analisando a citação de Henry G. Stott e as imagens relacionadas acima, disserte, entre vinte e trinta linhas, sobre a responsabilidade do profissional de Engenharia frente à sociedade brasileira.



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AO  
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INGLÊS

LEIA O TEXTO A SEGUIR E RESPONDA ÀS QUESTÕES DE 1 A 10

**We'll Fill This Space; but First, a Nap**

Published in NYT – September, 2008.

“WASTE not life, in the grave will be sleeping enough”, wrote Benjamin Franklin, patron saint of American entrepreneurs.

Centuries later, the attitude toward sleep in America — and in American business, in particular — has scarcely changed. Corporate culture reveres the e-mail message sent at 3 a.m., the executive who rushes directly into a meeting from a red-eye flight. Bumper stickers offer an updated version of Franklin's dictum: “I'll sleep when I'm dead.”

“There is a cultural bias against sleep that sees it as akin to shutting down, or even to death,” explains Dr. Jeffrey Ellenbogen, a neurologist at Harvard Medical School and director of the Sleep Laboratory at Massachusetts General Hospital

Most people, Dr. Ellenbogen says, think of the sleeping brain as similar to a computer that has “gone to sleep” — it does nothing productive. Wrong. Sleep enhances performance, learning and memory. Most unappreciated of all, sleep improves creative ability to generate aha! moments and to uncover novel connections among seemingly unrelated ideas.

Steven P. Jobs, the chief executive of Apple, once defined creativity as “just connecting things.” Sleep assists the brain in flagging unrelated ideas and memories, forging connections among them that increase the odds that a creative idea or insight will surface.

While traditional stories about sleep and creativity emphasize vivid dreams hastily transcribed upon waking, recent research highlights the importance of letting ideas marinate and percolate. “Sleep makes a unique contribution,” explains Mark Jung-Beeman, a psychologist at Northwestern University who studies the neural bases of insight and creative cognition. Some sort of incubation period, in which a person leaves an idea for a while, is crucial to creativity. During the incubation period, sleep may help the brain process a problem. “When you think you're not thinking about something, you probably are,” says Dr. Jung-Beeman, who has a doctorate in experimental psychology.

## CONTINUAÇÃO DO TEXTO

Another theory is that typical approaches to problem-solving may decay or weaken during sleep, enabling the brain to switch to more innovative alternatives. A classic switching story, recounted in "A Popular History of American Invention" in 1924, involves Elias Howe's invention of the automated sewing machine: after much frustration with his original model, which used a needle with an eye in the middle, Howe dreamed that he was being attacked by painted warriors brandishing spears with holes in the sharp end. He patented a new design based on the dream spears; by the time the patent expired in 1867, he had earned more than \$2 million in royalties.

Spear-wielding savages make for compelling stories, but creative insights directly induced by dreams are rare. In general, people are unaware of sleep's effects on their performance.

Dr. Ellenbogen's research at Harvard indicates that if an incubation period includes sleep, people are 33 percent more likely to infer connections among distantly related ideas, and yet, as he puts it, these performance enhancements exist "completely beneath the radar screen". In other words, people are more creative after sleep, but they don't know it. This lack of awareness makes it hard to identify specific aha! insights that have been prompted by sleep.

"It's more that sleep brings a change of approach," explains Mark Holmes, an art director at Pixar Animation Studios who worked on the film "Wall-E." "You can get tunnel vision when you're hammering away at a problem. You keep going down this same path, again and again, just tweaking, making incremental changes at best." He continues: "Sleep erases that. It resets you. You wake up and realize — wait a minute! — there is another way to do this."

Business attitudes toward sleep may be starting to shift. Claire Stapleton, a spokeswoman for Google, says "grassroots" interest in sleep led to an on-campus talk by Sara C. Mednick a napping expert. Google also installed EnergyPods, leather recliners with egglike hoods that block noise and light, for employees to take naps at work. Other companies that have installed EnergyPods include Cisco Systems and Procter & Gamble.

Vinayak Sudame, an engineer at the Research Triangle Park campus of Cisco, says he uses an EnergyPod to "shut my eyes and shut myself off for 10 or 15 minutes" when he is working on a problem or needs some quiet time. More than a walk or a coffee break, he says, this type of "total mental rest" helps him return to work with what he calls a "reorganized" perspective.

Alertness Solutions, a sleep consulting company in Cupertino, Calif., provided consultations and recommendations to a number of United States Olympic teams before the Beijing games and also works with corporate clients. Bob Agostino, vice president of operations at L. J. Aviation, in Latrobe, Pa., worked with Alertness Solutions at a previous employer and says that employees learned specific strategies to improve performance. These included when and how long to nap, how to determine the amount of sleep one needs, and how to recognize signs of fatigue and symptoms of sleep disorders. "Acting on this knowledge", Mr. Agostino says, "gives you an edge".

## CONTINUAÇÃO DO TEXTO

In general, West Coast companies are more concerned about sleep issues than their East Coast counterparts, says Arshad Chowdhury, co-founder and chief executive of MetroNaps, which developed the EnergyPods. "Particularly in New York, where financial services play such a big role, people are consistently sleep-deprived and consistently in denial," he says.

Mr. Chowdhury — who says the idea for EnergyPods came to him in a nap — recalls a seminar in which one banker responded to a survey question with a note saying she knew she had no fatigue-related problems at work because the only time she fell asleep was when she sat still. Mr. Chowdhury laughs a bit ruefully: "Maybe we could have avoided the crisis we are in now if these people had just gotten proper sleep".

## QUESTÕES DE 1 A 10

De acordo com o texto **"We'll fill this space; but first, a nap"**, responda, **EM PORTUGUÊS**, às seguintes questões.

- 1 What's the text about? Answer in no more than 30 words.
- 2 Explain the suitability of the text title to the ideas within it.
- 3 Pick up, from the text, a sentence that supports the argument: "Centuries later, the attitude toward sleep in America — and in American business, in particular — has scarcely changed."
- 4 What kind of ideas are commonly related to sleeping? Support your answer with ideas from the text.
- 5 Contrast Dr. Ellenbogen's, Dr. Jung-Beeman's and Mark Holmes's ideas when it comes to sleeping. Support your answer.
- 6 How does the story told by Elias Howe apply to the theme of the text? Support your answer.
- 7 Pick up, from the text, a sentence that supports the argument: "This lack of awareness makes it hard to identify specific aha! insights that have been prompted by sleep".
- 8 How has business attitude towards sleeping evolved? Support your answer with ideas from the text.
- 9 What is an EnergyPod and what does it have to do with companies such as Google, Cisco Systems and Procter & Gamble?
- 10 How can Alertness Solutions be useful to their clients? Support your answer with ideas from the text.