

**Universidade Estadual de Feira de Santana - UEFS**  
**Programa de Pós-Graduação em Computação Aplicada - PGCA**

**Nome do Aluno:** \_\_\_\_\_

*Prova para comprovação de proficiência em língua inglesa (2015.1)*

Compreensão e interpretação de texto referente à literatura técnica ou científica em língua inglesa

*1st Part: Multiple choice. Use only ball pen for answering the questions.*

TEXT 1

**Exploratory Search: From Finding to Understanding**

Gary Marchionini, Communications of the ACM, 2006

Research tools critical for exploratory search success involve the creation of new interfaces that move the process beyond predictable fact retrieval.

From the earliest days of computers, search has been a fundamental application that has driven research and development. For example, a paper published in the inaugural year of the IBM Journal 36 years ago outlined challenges of text retrieval that continue to the present [4]. Today's data storage and retrieval applications range from database systems that manage the bulk of the world's structured data to Web search engines that provide access to petabytes of text and multimedia data. As computers have become consumer products and the Internet has become a mass medium, searching the Web has become a daily activity for everyone from children to research scientists.

As people demand more of Web services, short queries typed into search boxes are not robust enough to meet all of their demands. In studies of early hypertext systems, we distinguished analytical search strategies that depend on a carefully planned series of queries posed with precise syntax from browsing strategies that depend on on-the-fly selections [7]. The Web has legitimized browsing strategies that depend on selection, navigation, and trial-and-error tactics, which in turn facilitate increasing expectations to use the Web as a source for learning and exploratory discovery. This overall trend toward more active engagement in the search process leads the research and development community to combine work in human-computer interaction (HCI) and information retrieval (IR) [...]

- 1) Based on Text 1, choose the CORRECT answer: (0.8 point)
  - a) Research tools are a problem for the exploratory search.
  - b) The success of exploratory search involves the creation new interfaces;
  - c) The success of research depends on new interfaces;
  - d) Exploratory search is based on the process of predictable fact retrieval.
  
- 2) According to Text 1, choose the WRONG answer: (0.8 point)
  - a) Search is an application;
  - b) A paper published 36 years ago pointed challenges that are not solved yet;
  - c) Database systems store structured data;
  - d) Analytical search strategies have been legitimated by the Web.
  
- 3) According to Text 1, place right (R) or wrong (W) for each alternative. (0.9 point)
  - ( ) a) browsing strategies depend on selections that are not planned in advance;
  - ( ) b) browsing strategies have a precise syntax;
  - ( ) c) browsing strategies will not be used in future human-computer interaction;
  - ( ) d) browsing strategies depend on trial-and-error tactics.

## TEXT 2

### Is 'Good Enough' Computing Good Enough?

Logan Kugler

Communications of the ACM, 2015

Demand for information technology continues to grow, and computers have become an integral part of life. Most U.S. households now own multiple computing devices: 58% of American adults own a smartphone and 42% own a tablet computer, according to Pew Research. Ongoing technological developments and the Internet of Things mean more aspects of our lives are being computerized and connected, requiring ever more processing of data. Despite advances in reducing the power consumption of devices and in enhanced battery technology, today's computers continue to increase their energy use as the amount of computation increases, at a time when energy efficiency is being encouraged and demands on battery life increasingly scrutinized.

At the same time, as the drive to portability continues and hardware components become smaller, the amount of power they require to operate cannot be reduced to the same degree.

Increasingly tightly packed electronics cannot dissipate the proportionally larger amount of heat they generate, which can cause them to overheat and fail. This heat energy has to be dissipated to protect the electronics, which requires yet more energy.

One solution to the problems of such diminishing returns and of smaller devices overheating due to the growing proximity of individual components is to reduce the amount of energy used by a computing device by introducing less accuracy into its processing—a tactic known as approximate computing, where error in computation is acceptable. Reducing the energy gap between a 0 state and a 1 state takes less energy to switch from one to another, but it increases the probability of a spurious switch. [...]

4) Based on Text 2, choose the CORRECT answer: (0.8 point):

- a) Most of U.S. citizens has more than one computer;
- b) The Internet of Things limit aspects of our lives;
- c) The smaller the hardware component, the less portability is available;
- d) The reduction in size achieved by some hardware components, does not translate in the same amount of power reduced.

5) Based on Text 2, choose the WRONG answer: (0.8 point):

- a) The overheating of smaller devices is due the proximity of individual components;
- b) Tightly packed electronics reduce heat;
- c) The heat can cause a failure in electronics;
- d) Introducing imprecision in the process can reduce the amount of energy.

6) According to Text 2, place right (R) or wrong (W) for each alternative. (0.9 point)

- ( ) a) The Internet of Things require more processing of data;
- ( ) b) The current computers use no energy;
- ( ) c) In order to protect the electronics and dissipate heat, more energy is required;
- ( ) d) The life of current devices increases, as the amount of computation decreases.



