

TESTE

Disciplina: **Computação Multimédia**
1º Teste

29 de Abril de 2019

- 1) The quality of an audio format is usually a compromise between the space occupied and the application for which it is intended. What are the two fundamental characteristics that determine the quality of digital audio and how do we find the values of these features, for example, for music on CD (Compact Disc) or available online?
- 2) In image compression the lower spatial frequencies are preserved and some loss in the higher ones is acceptable. What technique can be used to obtain this result? Justify the answer.
- 3) Consider a synthetic image, computer-built, with many uniform zones, few colors, and with several horizontal and vertical lines of thickness 1 pixel. Indicate whether the three types of encoding/compression are applicable and appropriate for this type of images, justifying the response. For each of the types of compression/coding indicate, justifying, it is lossy or allows the complete reconstruction of the original image.
 - a) RLE (Run Length Encoding).
 - b) Color chart.
 - c) Interpolative techniques.
- 4) Describe the process of capturing an audio signal, since it is captured by a microphone until it is stored in the MP3 format on a computer disk, indicating the main steps of the process and where there are losses. It is not necessary to describe in detail the compression process, only the transformations and losses to which the signal is subjected.
- 5) Explain the concepts of intra-frame and inter-frame compression in digital video. Please provide an example of a technique for each case.
- 6) Indicate a simplified architecture, for example through a block diagram, of a multimedia information search and retrieval system using metadata, represented in MPEG-7 or other description standard. Justify your choices and give an example of the type of search supported by this system.