

**THE BRITISH COMPUTER SOCIETY**  
**THE BCS PROFESSIONAL EXAMINATION**  
**Diploma**

**MULTIMEDIA**

7<sup>th</sup> May 2002, 2.30 p.m.-4.30 p.m.

Answer FOUR questions out of SIX. All questions carry equal marks.

Time: TWO hours.

*The marks given in brackets are **indicative** of the weight given to each part of the question.*

1. a) What do you understand by the terms *e-publishing* and *e-book*? **(5 marks)**
- b) You have been asked by the managing director of a small traditional publishing company to give an introductory talk to the Board of Directors on the importance of multimedia in the modern world. They are particularly keen to know what multimedia is, the areas where it might be applied both now and in the future and the hardware requirements for producing and viewing multimedia materials. Explain the main elements you would include in your talk and produce some example slides. **(20 marks)**
2. a) Briefly define each of the following terms and acronyms:
- Bitmap and vector graphics
  - Image compression and storage
  - SVGA and XGA
  - AGP and TFT
- (8 marks)**
- b) There is a very large range of available formats for still graphics representation and storage. Which are the main formats? Which formats are you most likely to use for a multimedia application which is to be delivered on the Internet? What software and hardware tools can you use to capture, create, and edit your images? Justify your choices. **(17 marks)**
3. As a multimedia programmer you are provided with a digital video camera, some original video footage in VHS tape format, a CD-ROM of music and sound effects and a P.C. with on-board analogue and digital video capture hardware and software. You are then asked to put together a CD-ROM-based half-hour training video to explain to beginners the principles of video capture and editing. The video will include fresh footage of a lecturer explaining the process, together with short sections of VHS video footage showing the end product.
- a) Which is the preferred source and format of video for both quality and ease of inclusion? Explain your reasoning. **(8 marks)**
- b) What are the stages you would go through to produce the video? **(9 marks)**
- c) What are the key points you would expect the lecturer to explain in the video? **(8 marks)**

4. a) Highlight the main differences between the multimedia P.C. of today and the business P.C. of five years ago. **(10 marks)**
- b) “New technology has made the multimedia P.C. redundant.”
- i) Discuss the developments that have given rise to this statement. **(8 marks)**
- ii) Evaluate the correctness of this statement. **(7 marks)**
5. The BCS Symphony Orchestra has commissioned you to produce a web site to promote their concert season. They are obviously confused about audio technology as their initial brief includes the requirement to be able to have fast downloads of high quality extracts from their concerts in midi format. Produce a response which:
- a) outlines the problems with their brief; **(8 marks)**
- b) compares and contrasts the current issues about delivering sound from a web site; **(8 marks)**
- c) makes a clearly argued recommendation about what can be achieved with current technology. **(9 marks)**
6. a) Explain briefly what you understand by the term *streaming multimedia*. **(5 marks)**
- b) Outline the problem that streaming seeks to address. **(6 marks)**
- c) What are the principle limitations of current streaming technology? **(8 marks)**
- d) Describe TWO current applications of streaming. **(6 marks)**