THE BRITISH COMPUTER SOCIETY

THE BCS PROFESSIONAL EXAMINATION
Diploma

MULTIMEDIA

18th April 2000 - 10:00a.m. - 12:00p.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)*   Outline the MPC3 standard for a multimedia PC.   **(10 marks)**

      b)   Discuss why the MPC3 standard is insufficient for the handling of current multimedia.   **(15 marks)**

2.   *a)*   Explain the terms *display resolution, colour depth* and *frame rate.*   **(9 marks)**

      b)   Discuss the relative merits of software and hardware compression; give typical applications of each.
     (16 marks)

3.   You have been invited to give a talk to your local BCS branch on the subject "Delivering Multimedia via the Internet". Your talk is to focus on four areas:

     1.   The current state of the technology
     2.   A brief overview of applications
     3.   Present Limitations
     4.   Possible Solutions

     Draft **FOUR** slides to be used in your talk with associated notes.   **(25 marks)**

4.   *a)*   Describe the technologies needed to include sound in a multimedia application.   **(12 marks)**

      b)   "Sound is perhaps the most sensuous element of multimedia." (Tay Vaughan)
        Discuss why sound adds to the overall multimedia experience, with particular reference to music, speech and sound effects.   **(13 marks)**

5.   Produce a brief design description for the system described below:

     A lecturer wishes to use the Internet to teach elements of a distance learning module on 'Computer Networks'. The content is divided into five sections:

     1.   Introduction to Computer Networks
     2.   Communications in IT - a user view
     3.   Communication Services - a technical underpinning
     4.   The Communications Subnet in LANs
     5.   The Internet and the Information Superhighway

     Each section has a title sequence incorporating a short video followed by a number of pages of text and graphics. At the end of each page there are two or three self-assessment questions. At the end of each section there are several multiple-choice questions and a list of additional resources (including URLs to other sites).

     Your design should clearly indicate the proposed structure and visual appearance of the system. You should also explain how the media elements (text, graphics and video), the assessment questions and resource links will be handled in your design. Discuss any issues and problems associated with media inclusion.   **(25 marks)**

6. You are given a multimedia design and asked to implement it.

    a) What authoring tools could you use? What would influence your choice of tool? **(10 marks)**

    b) Explain the steps involved in developing a system using one of the tools you have identified. What problems would you expect to encounter? **(15 marks)**