

THE BRITISH COMPUTER SOCIETY

THE BCS PROFESSIONAL EXAMINATION Diploma

THE INTERNET & THE WORLD WIDE WEB

13th May 2003, 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) Define and explain the terms *Internet* and *World Wide Web*. (10 marks)
b) For many people, the Internet has become the World Wide Web. Highlight the reasons for this confusion and explain why they are not identical concepts. (15 marks)
2. a) Define and explain the term *URL* using a suitable example. (5 marks)
b) Compare and contrast the benefits and drawbacks of fixed and dynamic IP addressing. (10 marks)
c) Explain the role of the HTTP protocol when a user requests and is served a web page. (10 marks)
3. a) Explain the purpose of each of the following:
i) telnet (5 marks)
ii) ftp (5 marks)
iii) DNS (5 marks)
b) Describe the stages that an email passes through between being written by the originator to being read by the recipient. (10 marks)
4. a) Highlight the main differences between static and dynamic HTML. (10 marks)
b) Briefly define each of the following terms and acronyms:
i) Intranet and Extranet
ii) HTTP and HTTPS
iii) POP3 and IMAP
iv) WAP and PPP (8 marks)
c) Define the term 'metadata' and describe some of the uses of the META element within the header section of an HTML document. (7 marks)

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5. a) Define and differentiate between bitmap and vector graphics. **(6 marks)**
- b) Briefly outline the need for image compression and the difference between lossy and lossless image compression. **(6 marks)**
- c) There is a range of formats to deliver text, graphics, sound, animation and video on the Internet. What are the issues that need to be addressed when multimedia content is delivered on the Internet? Which formats are you most likely to use for such delivery? Justify your choices. **(13 marks)**

6. With the proliferation of access to the Internet, Intellectual Property Rights (IPR) and their protection is becoming more and more of an important issue.

(Intellectual Property Law encompasses copyright, trademarks and patents).

- a) The owner of copyright for a work has exclusive rights to do certain restricted acts in relation to the work. List the restricted acts. **(5 marks)**
- b) List and explain the main requirements for a work to acquire copyright. **(8 marks)**
- c) It is a fairly simple matter to breach a copyright. International law distinguishes two forms of breach – Primary & Secondary – outline what constitutes a primary and secondary breach and give an example of each. **(6 marks)**
- d) Briefly outline the main differences between copyright and patent. **(6 marks)**