

THE BRITISH COMPUTER SOCIETY

THE BCS PROFESSIONAL EXAMINATION Diploma

THE INTERNET & THE WORLD WIDE WEB

3rd May 2005, 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*. **(6 marks)**
 - b) Define what an IP address is and highlight the main differences between fixed and dynamic IP addressing **(9 marks)**
 - c) Differentiate between static and dynamic HTML and describe the benefits and disadvantages of each. **(10 marks)**

2. You have been invited to give a talk at your local library about the underlying architecture of the Internet. For each of the following sub-topics, list the main points that you will include in your talk:
 - a) The Internet - a loose organisation of networks **(5 marks)**
 - b) Hubs, Bridges and Routers **(5 marks)**
 - c) Who funds the Internet? **(5 marks)**
 - d) The roles of Internet Registrars and Internet Service Providers **(5 marks)**
 - e) RFC, W3C & IETF **(5 marks)**

3.
 - a) What do the following acronyms stand for?
 - i) URL **(2 marks)**
 - ii) HTML **(2 marks)**
 - iii) HTTP **(2 marks)**
 - b) Using an example, explain the elements which make up a URL. **(6 marks)**
 - c) Write a simple web page to illustrate the main features of HTML. **(6 marks)**
 - d) With reference to DNS and HTTP, explain what happens when a user types a URL into a web browser. **(7 marks)**

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4. a) Define and explain the purpose of EACH of the following acronyms:
ii) FTP
iii) DNS
iii) WAP
iv) PPP **(12 marks)**
- b) There are a large number of available formats to choose from when delivering multimedia content on the Internet - including text, graphics, sound, animation and video. 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)**
5. As a freelance web designer, you have been invited by the Managing Director of a small business, manufacturing handmade furniture, to make a presentation to the Board of Directors on the benefits of having a website for their business and to outline how you would go about developing their Internet presence.
- a) Describe how a website might aid their business. **(6 marks)**
- b) Outline the key stages that you would go through in the development of their website. **(5 marks)**
- c) Discuss the technologies that would be used in the development of their website and the purpose of each. **(6 marks)**
- d) Describe the hosting options for their site and state, with justification, which hosting option you would recommend. **(8 marks)**
6. (A)DSL Broadband, over a normal telephone line, is becoming a popular method of connecting to the Internet.
- a) Explain, in no more than 100 words, how this method works. Use a diagram to illustrate your answer. **(7 marks)**
- b) Compare and contrast the advantages and disadvantages of this method against the older “dial-up” connection method. **(6 marks)**
- c) What are the security implications of running a broadband connection? **(6 marks)**
- d) What methods can be used to combat these security implications? **(6 marks)**