

THE BRITISH COMPUTER SOCIETY

THE BCS PROFESSIONAL EXAMINATION

Diploma

PROFESSIONAL ISSUES IN INFORMATION SYSTEMS PRACTICE

19th April 2002, 10.00 a.m.-12.00 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) The following are established ways of protecting intellectual property rights in software. Describe the purpose of each of these approaches and explain how each of them can be used to protect property rights in software.
- i) Copyright; **(6 marks)**
 - ii) Patent; **(6 marks)**
 - iii) Trade mark. **(6 marks)**
- b) In a court case of North Software Plc versus South Systems Ltd, it was established that North produced a market leading global positioning system. The systems director of North left the company and established a new company, South, to develop a competitive product. The new product was produced quickly and bore a strong resemblance to the North product. North is considering taking South to court.
- Discuss the case between North and South, showing what North has to show to prove that its intellectual property rights have been infringed. **(7 marks)**
2. a) Boards of directors are answerable to the shareholders and to the law. Their responsibilities fall into two main categories, namely legal and domestic. Explain the legal responsibilities and the domestic responsibilities of the directors. **(13 marks)**
- b) Syniad Software Plc is a large and successful producer of professional level desktop publishing packages. It operates globally and produces versions of its packages for eight different alphabets. Discuss the different ways in which the organisation might be structured, paying particular reference to the relationship between the research and development function on the one hand, and sales, marketing and customer support on the other. **(12 marks)**
3. a) Briefly describe the three criminal offences created by the Computer Misuse Act 1990, giving an example of each. **(8 marks)**
- b) Explain whom the Data Protection Act 1998 is meant to protect, and what it is meant to protect against. **(7 marks)**
- c) An employee in a retail company alters the repayment records of several customers on the computerised repayments system, so that the customers repay less than they should. Discuss how the Data Protection Act 1998 and the Computer Misuse Act 1990 apply to this scenario. **(10 marks)**

[Turn over

4. a) Explain the meaning of the terms fixed assets and current assets, illustrating your explanation with suitable examples. **(8 marks)**
- b) Describe how the two types of asset are valued for balance sheet purposes, using as an example the following assets owned by a company that writes and sells software packages:
- i) a stock of 1000 CD-ROMs containing version 1 of a package, version 2 of which is to appear shortly. The company paid £1,000 to have the CD-ROMs prepared and has been selling them at £100 per copy;
- ii) an uninterruptible power supply costing £15,000 for the computer room housing the main servers. **(17 marks)**

5. a) Birchall (1975) states that “job enrichment is aimed at increasing the worker’s involvement in the organisation and/or the job”. In the case of a computer programmer having his or her job enriched by including team leader responsibilities, list FIVE issues that management needs to consider. **(5 marks)**
- b) The project team structure lends itself to job rotation, insofar as project team members move between different projects and hence different tasks. What are the advantages of such a structure to project team members and management? **(10 marks)**
- c) MegaBuys is a large retailing company with a small IT department. It is proposing to carry out a job evaluation programme and is concerned about the way that salaries in the IT department should be determined following completion of this programme. Discuss the possible approaches to this issue and indicate the one you consider is most appropriate. **(10 marks)**

6. You are a project manager of a development project to develop a new production control system for a large manufacturing company. You are required to produce a time estimate for developing the new production control system. You have identified the following activities in the development project that need to be undertaken:

Production planning sub-system development	4 weeks
Production planning sub-system testing	5 weeks
Material requirements planning sub-system development	6 weeks
Material requirements planning sub-system testing	7 weeks
Statistical process control sub-system development	5 weeks
Statistical process control sub-system testing	6 weeks
System testing	4 weeks
Volume testing	2 weeks

The system will operate on a Local Area Network connecting 15 personal computers. The PCs and LAN hardware will need to be ordered at least five weeks before they are needed.

The hardware is required to enable system testing to be performed but is not required for sub-system testing. The volume testing can only be started after system testing is complete. The LAN installation can be carried out independently of development activities and each of the three sub-systems can be developed independently.

- a) Draw an activity network for the above scenario. **(11 marks)**
- b) Explain what is meant by the term *critical path* and show the critical path on the above activity network. **(5 marks)**
- c) Explain the purpose of a Gantt chart. Draw a Gantt chart for this project and outline how it could be used in conjunction with the activity network to assist in managing the project. **(9 marks)**