

# THE BRITISH COMPUTER SOCIETY

## THE BCS PROFESSIONAL EXAMINATION Diploma

### PROFESSIONAL ISSUES IN INFORMATION SYSTEMS PRACTICE

20<sup>th</sup> April 2001 – 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 Code of Conduct of the British Computer Society is divided into four main sections. Explain what these sections are and describe briefly the issues addressed by each section. **(16 marks)**
- b) You have recently taken over responsibility for the maintenance of your company's accounting suite. While familiarising yourself with it, you realise that the modules that handle sales contain a systematic error that will lead to the company paying less tax than it should. When you point this out to your manager, he tells you to leave it as it is because that is the way the company wants it.

Which clauses in the Code of Conduct are relevant to this situation and how might the Code affect what you do? **(9 marks)**

2. a) Describe the changes that have taken place in the structure of the UK engineering profession over the last 40 years and discuss briefly the factors that caused these changes. **(15 marks)**
- b) Explain the role and characteristics of the BCS as a professional body. **(10 marks)**
3. a) Explain the ideas of *job rotation*, *job enlargement* and *job enrichment*, illustrating your explanation by showing how they might be applied to the following scenario.

*Peter, Paul and Mary work in the suppliers' invoices section of the accounting department of a university. Peter's job is to receive incoming invoices from suppliers, enter them into the invoice register, match them to purchase orders, and send them to the relevant department for confirmation that the goods have been received. Paul's job is to receive the invoices back from departments, mark them in the invoice register as approved by the department and code them according to the nature of the expense. The invoices are then passed to Mary who checks that everything is in order, marks them in the invoice register as passed for payment, and passes them to the payments section.* **(15 marks)**

- b) What are the main provisions of the Computer Misuse Act 1990 and why was the Act thought to be necessary? **(10 marks)**

4. a) You and a few friends are thinking of going into business together to offer software development and system integration services to small businesses.

Explain why it would be wise (or, alternatively, why you think it would not be wise) to form yourselves into a limited company. **(15 marks)**

- b) Your company is about to spend £25,000 on a powerful database server that is expected to be in use for the next five years. Explain the different ways in which it will affect the company accounts over that period. **(10 marks)**

5. You have been put in charge of the roll-out of a new PC system across your organisation. The roll-out involves the installation of the software and training of the affected staff at six sites across Europe. The training takes one day per site. The installation depends upon the size of the site, two sites will take three days and the other four will take two days. The training for each site cannot occur until the installation is complete at that site.

Prior to the roll-out, a set of installation procedures and training documentation need to be produced. The installation procedures will take 10 days to write. The training documentation will take just five days. Before any of the work commences the software needs to be purchased, but that will take just one day. At the end of the roll-out, a review report is to be written which is anticipated to take two days.

You are expected to produce a plan of the roll-out project. So you should produce:

- a) a work-breakdown structure; **(4 marks)**  
b) an activity network diagram with the critical path marked; **(7 marks)**  
c) a Gantt chart; **(7 marks)**

Following the production of the plan, you are informed that there are some constraints in the allocation of people to the tasks. Two people, Alan and Beena, have been allocated to the roll-out. Only Beena has the skills to produce the installation procedures and training documentation, and the project review will require both Alan and Beena to work on the task together. Using this information, show the impact on the roll-out plan. **(7 marks)**

6. Bell and Sons is a specialist food wholesaler. They purchase products in bulk from producers around the world and sell to local shops across the country. Their stock control is currently done manually, but they have found as the company has grown, that more problems have occurred with stock-outs and food items going beyond their sell-by date.

To solve this problem the company management is investigating the two software options: a general stock control package (StockIT) and a specialist food stock control package (FoodStore). StockIT could be installed on the organisation's existing file server and does not require specialist customisation, so it is cheaper than FoodStore to install. However, FoodStore provides a better match to the organisation's requirements and therefore is expected to deliver greater benefit. The anticipated costs and benefits are shown in **Table 1** below. The company is borrowing the money to finance the purchase of the software. The cost of capital is 20%. You should assume annual costs and benefits commence the year after the installation.

	StockIT	FoodStore
<b>Installation Costs</b>		
Purchase price	£2,000	£3,000
Consultancy costs	–	£2,000
Additional hardware	–	£2,000
Company time	£2,000	£3,000
<b>Annual costs</b>		
Licence/maintenance fee	£250	£500
Additional manual processing costs	£750	–
<b>Annual Benefits</b>		
Additional profit from sales from avoiding stock-outs	£2000	£2,500
Reduced cost of food wasted due to out of date	–	£2,000

**Table 1. Anticipated costs and benefits of new software**

Perform the following types of cost-benefit analysis to show which package Bell and Sons should buy.

- Payback analysis to show the length of the payback period; **(8 marks)**
- Simple return-on-investment to show the average rate of return; **(8 marks)**
- Net present value from the discounted cash flow over the four years after implementation. **(9 marks)**