THE BRITISH COMPUTER SOCIETY

THE BCS PROFESSIONAL EXAMINATION
Diploma

PROFESSIONAL ISSUES IN INFORMATION SYSTEMS PRACTICE

19th April 2005, 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.*

Important: Note that Question 1 consists of two questions, one intended for candidates who have studied the old syllabus and one intended for candidates who have studied the new syllabus.

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1. **EITHER (new syllabus)**
1. *a)* You are a systems designer working for a large UK bank. You have been asked to produce a design for a new style of cash dispenser (ATM) that will replace the bank's existing cash dispensers.

    Explain how the UK Disability Discrimination Act 1995 might apply to your work.   **(5 marks)**

    What considerations should be taken into account in designing a cash dispenser that is accessible to disabled users?   **(10 marks)**

    b) Explain the roles *mere conduit*, *caching*, and *hosting* that an internet service provider may play according to the Electronic Commerce (EC Directive) Regulations 2002. Why are these distinct roles identified?   **(10 marks)**

1. **OR (old syllabus)**

1. *a)* Using examples, explain the project management techniques that could be used to:
    i)   record the activities required for a given IT project and how they are broken down;

    iii) record the dependencies between the activities required for a given IT project, and how such relationships affect the overall timescale of a project;

    iii) record the schedule of activities for an IT project and the staff resources required to undertake such activities.   **(15 marks)**

    b) Explain how the use of structured development methods can assist in the application of the techniques you have identified in part *a).*   **(10 marks)**

2. Gameplay is a small computer games company started by a group of ten university computing graduates. Gameplay has devised a company logo that consists of the letters GP in bright red, on a pale blue circular background. Gameplay has just developed its first computer game, a science fiction based game entitled "sonic attack".
    a) Discuss how Gameplay could protect its company logo from misuse by other companies or individuals.   **(9 marks)**

    b) Outline what protection copyright would give the computer game developed by Gameplay.   **(12 marks)**

    c) Explain what a patent is in the context of computer hardware.   **(4 marks)**

Turn over]

3. *a)* With respect to the UK computing profession:
  i) describe the situation regarding the licensing of software engineers;

  ii) identify the principal computer-related professional bodies and describe their relationship to each other and to other international bodies;

  iii) describe how computing-related university courses are accredited;

  iv) explain how continuous professional development is organised. **(16 marks)**

b) Using THREE examples, discuss why the roles and responsibilities of the BCS are important for non-professionals, whether practising computer specialists or not. **(9 marks)**

4. Idyllic Solutions is a service company providing mass printing facilities for businesses. The directors of Idyllic are currently considering two alternative investment projects. Both projects are concerned with the purchase of new high speed computerised printers. The following data is available for each project:

	Project 1 (£)	Project 2 (£)
Cost (immediate outlay)	30,000	15,000
Expected annual net benefit (loss)		
Year 1	15,000	12,000
Year 2	15,000	8,000
Year 3	15,000	(1,000)

The company has estimated that the cost of capital is 10 per cent and employs the straight-line method of depreciation for all assets when calculating net profit. The company has sufficient funds to meet the capital expenditure requirements.

a) For each project, calculate:
  i) the net present value
  ii) the payback period **(8 marks)**

b) *i)* Explain which, if any, of the two projects the company should choose.
  ii) State which of the two methods of investment appraisal is most appropriate, giving two reasons for your choice. **(8 marks)**

c) Explain how the following aspects of the selected project would affect the company accounts:
  i) the initial capital outlay
  ii) the depreciation
  iii) the annual benefit/loss **(9 marks)**

5. *a)* What are the advantages and disadvantages for an organisation of having a geographical structure? **(10 marks)**

b) Describe the role of the project manager and the role of the functional manager in organisations that have a matrix structure. **(10 marks)**

c) Some managers find it difficult to delegate. List FIVE obstacles to successful delegation by managers. **(5 marks)**

6. *a)* Three techniques used in the process of job design are: job enlargement, job enrichment and job rotation. Briefly describe each technique. **(9 marks)**

   b) Give examples of job enlargement and job enrichment from jobs within the IT industry and comment on the benefits that might result. **(10 marks)**

   c) Explain the term *job evaluation.* **(6 marks)**