

THE BRITISH COMPUTER SOCIETY

THE BCS PROFESSIONAL EXAMINATIONS BCS Level 5 Diploma in IT

IT PROJECT MANAGEMENT

13th October 2006, 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.*

Only **non-programmable** calculators are allowed in this examination.

1. BCS Holidays is an organisation that specialises in selling travel packages which consist of the flight or train to a destination and also accommodation at an hotel on arrival. This is a fiercely competitive business and good management information and strict control of costs are essential in order for the organisation to maintain its competitive position.

It has become clear that the existing computer-based booking system is no longer adequate and a decision has been made by the BCS Holidays board of directors to adopt a new more advanced booking system.

- a) Write a memorandum to the management of BCS Holidays outlining the advantages and disadvantages of acquiring an 'off-the-shelf' booking application as opposed to developing a new application in-house using its own staff. **(12 marks)**
- b) i) Explain the terms *risk exposure*, *risk reduction* and *risk mitigation/contingency*. **(5 marks)**
ii) Identify ONE risk related to the acquisition of an off-the-shelf package and ONE risk related to in-house software development. For each of the two risks, identify a risk reduction action and a risk mitigation/contingency action. **(8 marks)**

2. Assume that in the BCS Holidays scenario described in Question 1, a decision was made to acquire an off-the-shelf package.

- a) Describe the activities that would be required to select and acquire the software and to set up a fully operational booking system. **(15 marks)**
- b) Explain the activities related to the project that would take place after the implementation had been completed. **(6 marks)**
- c) Discuss the considerations that should be taken into account when setting the date for the final cutover to the new booking system. **(4 marks)**

3. A project has been approved to develop an accounts application for a company that has previously outsourced this function. Three departments, called A, B and C, will require access to the new system. The detailed requirements will need to be gathered from each of these departments. Although this can be done in parallel it is assumed that this will take two weeks for departments A and B, but three weeks for department C. When all the requirements have been obtained they will be consolidated into a single requirements document, which will take two weeks to complete. The consolidated requirements will be the basis for the overall software design, which will take three weeks to complete. The ordering and subsequent delivery of the hardware platform will take eight weeks and the design of the acceptance test cases will need two weeks. Building the software according to the design will require four developers to work for a duration of eight weeks. Installation of the hardware will require a week. When all these tasks have been completed then acceptance testing is scheduled to take a further three weeks.
- Draw up an activity network for the project described above, calculating the earliest and latest start and finish dates and floats for each activity. Identify the critical path. **(15 marks)**
 - Illustrate how the activity network can be converted into a Gantt chart and explain the advantages of this diagram over the activity network. **(10 marks)**
4. For a particular project, it has been decided that the project manager should produce a report for the project board (or steering committee) at the end of each four week period.
- Describe the items of information which should appear in this report. **(9 marks)**
 - Explain how the project manager would obtain the data used to produce the information contained in the report. **(9 marks)**
 - A problem with the project is that the users keep asking for changes to the requirements. Further investigation reveals that the users find it difficult to visualise how the system will actually work until they are given something they can try out. Discuss what might be done to deal with this problem. **(7 marks)**
5.
 - Explain the difference between *quality control* and *quality assurance*, giving TWO examples of each relating to software development projects. **(10 marks)**
 - Describe how the acceptance testing phase of a project would be planned, executed and managed. **(15 marks)**
6.
 - Using the example of the BCS Holidays scenario given in Question 1 and assuming that a decision is made to develop the new software from the beginning, using in-house staff, explain which activities the users could be involved with during the execution of the new project. **(13 marks)**
 - Developer X is a software developer who is employed permanently by BCS Holidays and is paid £24,000 per year. Developer Y is an independent contractor who is usually paid £800 a week. The project requires the use of a software developer for 14 weeks. Discuss the advantages and disadvantages of using contract staff as opposed to permanent staff in general and also in the specific cases of developer X and developer Y. **(12 marks)**