

THE BRITISH COMPUTER SOCIETY

THE BCS PROFESSIONAL EXAMINATION Diploma

PROJECT MANAGEMENT

23rd April 2002, 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) Explain what is meant by a 'successful' project. (4 marks)
 - b) Identify not more than SIX of the major types of activity that would be carried out in a software development project. (6 marks)
 - c) For THREE of the activities identified in b) above, describe a major risk that could affect the success of the activity and how the risk might be avoided. (15 marks)

2. Although MNO is a company which specialises in developing software for clients, it has until now used an external agency to provide a payroll service for its employees.

MNO has now reached a size where it would like to carry out payroll processing in house.
 - a) Write a brief memorandum to the management of MNO explaining the advantages and disadvantages of using an 'off the shelf' package as opposed to MNO writing their own software. (10 marks)
 - b) Explain the steps that would need to be taken to select an appropriate payroll application if a decision were made by MNO to obtain an 'off the shelf' package. (8 marks)
 - c) Identify the factors you would need to consider when deciding the approach by which the application was to 'go live'. (7 marks)

3. Many estimating methods involve the following two components:
 - Assessment of the size of task to be done;
 - Assessment of the productivity of the developers and the environment in which the software is to be developed.
 - a) Describe the following estimation methods and the extent to which they consider the two components above.
 - i) Function points (8 marks)
 - ii) COCOMO (8 marks)
 - b) Both function points and COCOMO can be used to produce estimated effort for a development project as a whole. Explain how you would produce estimates of effort for the individual activities within a project. (9 marks)

[Turn over

4. The XYZ organisation has a small software development team which deals mainly with software maintenance and user support. XYZ have decided to rewrite their central business application which has been in existence for several years. The replacement system is to be built using up-to-date technologies and techniques. Existing staff will not be familiar with these new technologies and techniques and for this reason, together with the increased workload, additional staff will be required.
- a) Discuss the various ways in which XYZ might obtain their new staff. **(10 marks)**
 - b) Once recruited, the new staff will need to be placed in development teams. Describe the factors that can affect team performance and the actions that can be taken to develop good team performance. **(15 marks)**
5. a) For each of the following, identify and describe the main document which would record the information, and draw up a sample of the document, explaining its content.
- i) the major activities that a project will have to carry out and the components and sub-component activities of these major activities; **(6 marks)**
 - ii) who will carry out each activity and when; **(6 marks)**
 - iii) the latest time that each activity can finish without the overall duration of the project being extended. **(6 marks)**
- b) Explain how sometimes a change in one of the documents above could lead to changes in the content of the other documents relating to the same project. **(7 marks)**
6. a) Describe the steps that can be taken to monitor and control the quality of products created by a project. **(10 marks)**
- b) A project must be managed so that the underlying business case is preserved. In general terms this means that the expected benefits of the project must exceed the costs of the project. Describe how a project is monitored and controlled so that the business case is preserved. **(10 marks)**
- c) 'When taking action to bring a project back on course, the project manager needs to consider the balance between time, cost and quality'.
- Explain this statement. **(5 marks)**