

THE BRITISH COMPUTER SOCIETY

THE BCS PROFESSIONAL EXAMINATIONS BCS Level 5 Diploma in IT

IT PROJECT MANAGEMENT

4th May 2007, 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. A business organization, XYZ, has its headquarters in a developing country. It manufactures items of clothing according to the specification of retail businesses based in the UK such as department stores. The process of manufacture involves several sub-processes each of which XYZ sub-contracts to other companies in developing countries. In addition to its headquarters, XYZ has an office in London to deal with UK clients. It also has local offices to oversee the relationships with sub-contractors. When new contracts with UK clients are being negotiated XYZ may need to consult with sub-contractors about technical matters.

XYZ has decided to implement an IT-based Supply Chain Management system to manage the flow of information and goods between sub-contractors and XYZ. Ideally, the sub-contractors should have direct access to the system.

- a) Explain the activities that would need to take place at the beginning of this project before the requirements elicitation and gathering activities. **(7 marks)**
- b) Draw up a preliminary plan (which can take the form of a table) of the sequence of activities needed for the elicitation, gathering and analysis of the requirements for the project outlined above. Explain the nature of the most important activities, identifying their deliverables and the staff who will be involved. **(18 marks)**
2. a) Describe the main sections to be found in a business case report. Give examples of the information and issues that each section might contain based on the XYZ project scenario in Question 1. **(10 marks)**
- b) Explain the concept of risk, distinguishing between project risk and business risk. **(6 marks)**
- c) Assuming that XYZ decide to implement the Supply Chain Management application by acquiring an off-the-shelf application, discuss:
- i) THREE business risks and THREE project risks that XYZ would need to consider, **(6 marks)**
- ii) the actions that might be taken to deal with the three *project* risks. **(3 marks)**

3. a) The IT department of a business organization implements some projects by obtaining off-the-shelf applications. Other projects involve the in-house development of code. The manager of the IT department has some concerns about the accuracy of its estimates of effort. She hears about function points and COCOMO as possible methods that might improve effort estimation.

Write a brief memorandum to the manager:

- i) explaining the two approaches in outline, (10 marks)
- ii) describing their respective advantages and disadvantages for the IT department and making a recommendation about which approach to use. (7 marks)

- b) Below is a table relating to five recent projects carried out by an application development team.

project	function points	Effort (weeks)
A	550	65
B	160	15
C	200	21
D	360	36
E	240	23

A new project is about to be started which is estimated as being 220 function points. Illustrate how the historical data above could be used to produce an estimate for this project using:

- i) analogy, (3 marks)
- ii) a parametric or productivity-based model. (5 marks)

4. A large distribution company is expanding rapidly, with much larger numbers of stock items and customers. The stock system will soon become inadequate and therefore needs to be replaced. The development of the replacement system will be outsourced to a well-known software house as a separate project, and is expected to take nine months.

- a) Name and explain TWO financial measures that could be used by the company management to assess the viability of this project when the business case is drawn up. (4 marks)
- b) In addition to the two financial indicators that you have described in part a), name and explain THREE other non-financial justifications for the project that could be included in this business case. (6 marks)
- c) You are the project manager for the software house and the company management have asked you to prepare a monthly report on progress of the project.
 - i) List the THREE types of report that you might produce, and explain briefly the differences between them. (5 marks)
 - ii) Bearing in mind the four key criteria for a successful project, list NINE items of information that you consider should be included in each monthly report to the company management. (7 marks)
 - ii) Choose THREE of these items and identify the most likely source of the information that you would need. (3 marks)

5. The payroll section of a small company has decided to replace its existing system with an off-the-shelf package. Each of the four staff members will have a new PC linked to a new server, and all will share a new printer, a new scanner, a new backup device and an upgraded communications link to the bank.

An outline project plan has been drawn up to include the following main tasks:

A	List the main payroll requirements	(2 weeks)
B	Assess alternative packages and select the most appropriate.	(5 weeks)
C	Specify all the required new hardware and communications.	(1 week)
D	Order all hardware and communications equipment.	(1 week)
E	Accept delivery and install all the new hardware and equipment.	(3 weeks)
F	Modify and test the package software.	(7 weeks)
G	Install the modified software.	(2 weeks)
H	Draw up a training plan.	(1 week)
I	Train the users	(3 weeks)
J	Full test	(1 week)
K	Implement the new system.	(1 week)

- a) Draw a work breakdown structure (WBS) diagram for the project, showing all these tasks. This WBS should contain at least two levels. **(4 marks)**
- b) Explain the main differences between this WBS and a product breakdown structure diagram for the same project. **(3 marks)**
- c) The dependencies between the 11 tasks listed above are:
 B depends on A
 C, F and H all depend on B
 D depends on C
 E depends on D
 G depends on E and F
 I depends on H
 J depends on G and I
 K depends on J

Draw a full Gantt chart for the project, to show all dependencies, float and highlighting the critical path. **(10 marks)**

- d) At the end of week 13, tasks A, B, C, D, H and I have been completed on schedule, task F is on schedule, but task E has been delayed by 4 weeks and will now start in week 14.

Re-draw the Gantt chart to reflect and record this progress, and highlight the critical path. **(8 marks)**

6. a) Explain TWO theories or models of team-building. **(7 marks)**
- b) The IT department of a business organization has the responsibility for supporting IT applications. Some of the applications are off-the-shelf packages and some have been developed in-house. Support activities include user training, dealing with operational problems, fault diagnosis and correction, and dealing with requests for enhancements to systems. Enhancements to systems may need projects to be set up. A number of different business departments need to use the services of the IT department. Most applications are used by only one department.
- i) Identify the job roles needed within the IT department, outlining the responsibilities of each role. **(8 marks)**
- iii) The finance department has identified a new requirement caused by a new financial law. Identify the steps that you would take as the head of the IT department to deal with the abnormal temporary workload this project might need. You will need to consider both staffing and the structure of the department. **(6 marks)**
- ii) Explain how you would ensure any temporary staff would work effectively with the permanent staff in the IT department. **(4 marks)**