

BCS THE CHARTERED INSTITUTE FOR IT

**BCS HIGHER EDUCATION QUALIFICATIONS
BCS Level 5 Diploma in IT**

IT PROJECT MANAGEMENT

Friday 28th September 2012 – Afternoon

Answer **any** FOUR questions out of SIX. All questions carry equal marks

Time: TWO hours

Answer any Section A questions you attempt in Answer Book A

Answer any Section B questions you attempt in Answer Book B

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.

Section A

Answer Section A questions in Answer Book A

- A1. Your company needs a better stock control system. It has decided to acquire the Stock-in package and amend this to meet its requirements. It has set up a project board and you have been appointed project manager. You will need to assemble and manage a joint team of internal company staff and external technical specialists for the various aspects of this project. It is the first such IT project that your company has undertaken.

The stock department manager has nominated three members of the department. They will help with the design and testing of the new system. An outside agency will supply four technical staff to help with programming and analysis work. These technical staff will become available at various times over the next few weeks, once they have completed their current assignments.

In addition a technical consultant from the Stock-in package suppliers will be based in your office for two weeks immediately after the design phase has been completed. This consultant will help install the amended package onto your system.

You have been allocated a small basement office, designed for just four people, near the canteen. It is a long way from the company's warehouse and stock control office.

- a) What are some of the team issues that you would expect to deal with during the early stages of the project?

(8 marks)

- b) Name and describe briefly THREE management styles. Identify THREE groups of people involved in the development of the project described above, and discuss which of these three styles would be most appropriate for you to use to manage each of these groups.

(8 marks)

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- c) Define what is meant by a 'project stakeholder'. List at least SIX different individuals or groups of people who might be stakeholders in this project. Some, but not all, of these may have been mentioned above.

(5 marks)

- d) Select THREE from the list of stakeholder types that you have listed in part (c) and explain briefly their likely attitude to the project.

(4 marks)

A2. A small research organisation has decided to extend and replace its existing database system. The project has received board approval and the required functional changes and additional requirements have been agreed with the users. A project manager has been appointed and has been allocated a project team of three database analysts, three development programmers and one tester, with selected users being made available for acceptance testing.

An outline project schedule for the development and implementation phases has been drawn up. It includes the following tasks and related staff allocations:

	Activity	Weeks	Staffing
A	Define required new database functionality	4	Database analyst DA1
B	Define new data entry and update requirements	3	Database analyst DA2
C	Define new data analysis and report outputs	3	Database analyst DA3
D	Define database transfer rules	2	Database analyst DA3
E	Code and test extended database tables and schema	2	Programmer P4
F	Code and test new data entry and update routines	2	Programmer P5
G	Code and test data analysis and report routines	4	Programmer P6
H	Code and test data base transfer routines	1	Programmer P4
I	Test and trial the data transfer routine	1	Tester T1 & Programmer P4
J	Integration Testing	3	Tester T1 & Programmers P4, P5 and P6
K	Acceptance testing	3	Tester T1 & Users

Tasks A, B, C and D can all start at the same time, although this will depend also upon staff availability.

Task E is dependent solely on task A

Task F is dependent solely on task B

Task G is dependent solely on task C

Task H is dependent solely on task D

Task I is dependent solely on Task H

Task J cannot start until tasks E, F, G and I are completed

Task K is dependent solely on task J

- a) i) Draw a Gantt chart showing all eleven tasks and their dependencies, allowing for the resource allocations as indicated above
- ii) Use this Gantt chart to identify the minimum duration for the project, and to list the float for each task
- iii) Identify any free float and describe how this is different to any other type of float

(12 marks)

- b) Shortly before the start of the project Analyst DA2 and Programmer P5 both resign from the company. No replacements are available. You must re-allocate existing project staff to the tasks concerned in the most efficient way. Describe and justify the changes to the Gantt chart. State the new minimum duration for the project.

(8 marks)

- c) List and explain briefly TWO advantages and TWO disadvantages of using a Gantt chart for a project plan in comparison with using an activity-on-node diagram.

(5 marks)

A3. You work for a small software house which has won a contract with a new client to design, develop and implement a replacement database system. The client is a medical research organisation and has a very small IT section. Your company has little experience in the client's business area. Your company has decided to use a new rapid development method for this project, and you have been appointed project manager.

- a) Explain the difference between project and business risk. Give THREE examples of EACH type of risk from those that might affect your company when undertaking the IT project described above.

(8 marks)

- b) List and explain the TWO factors used in evaluating risk exposure. Discuss how each of these factors might be measured numerically.

Draw up a table illustrating the calculation of risk exposure for the THREE *project* risks identified in part (a) and the way risk exposure is used to prioritise the risks.

(12 marks)

- c) In some projects, the factors used in the calculation of risk exposure cannot be measured *numerically*. Discuss the way in which the factors could be assessed *qualitatively* and how these qualitative assessments could be used to prioritise risks.

(5 marks)

Turn over]

Section B

Answer Section B questions in Answer Book B

B4. You are the newly appointed project manager for a software development project that is running late. You ask the previous project manager what the causes of the delay are and she gives you three answers:

- Staff originally allocated full-time to the project sometimes work on the emergency maintenance of other applications.
- The original estimates of effort were over-optimistic
- Productivity is lower than expected.

Before you take any action you want to check the outputs of the project control processes.

a) Explain how you would check whether each of the causes above was correctly identified and which project control processes would supply the information needed for the check.

(9 marks)

b) Write a memo to the project sponsor explaining FOUR options for dealing with the delay to the project.

(8 marks)

c) One possible response to a delay is an exception report. What are the contents of an exception report?

(8 marks)

B5. You have been asked to assemble a project team for a development project. You will require analysts, programmers and testers. There is an IT Department at the company doing maintenance and support. You have been told that you will be able to get about half the team you require from here and the other half will be hired from outside.

a) Describe FIVE key steps in the recruitment process from a staffing vacancy being identified to putting a new effective team member in place.

(10 marks)

b) List FIVE factors you would take into account when deciding who should do which task in a plan.

(5 marks)

c) The team members from the IT Department have been working on their tasks for a month when the newly hired external analysts and programmers join. There is then a decrease in the productivity of the existing staff. What could explain this?

(10 marks)

- B6. a) Describe FOUR differences between quality assurance and quality control.
(8 marks)
- b) i) Identify THREE key attributes of the ISO9126 standard.
(6 marks)
- ii) What is the major difference between ISO9000 and ISO9126?
(2 marks)
- c) There are two approaches to detecting and correcting faults in software projects: testing and inspection. Testing is carried out on code which has been created and inspections are carried out on design documents. Describe THREE advantages/disadvantages of inspections compared with testing.
(9 marks)

*** END OF EXAM ***