BCS THE CHARTERED INSTITUTE FOR IT

BCS HIGHER EDUCATION QUALIFICATIONS
BCS Level 5 Diploma in IT

IT PROJECT MANAGEMENT

Friday 26th September 2014 – 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

a) Define the word "stakeholder" in relation to an IT development project.

(3 Marks)

b) You work for a small research organisation with a number of branches throughout the country. At the moment each of these branches uses a different main database system. It has been decided by Head Office that the database system used by your branch should be expanded and then used by all of the other branches to replace their existing database systems. They would need to transfer all their data to this expanded database on a main server, which would be located in your organisation's offices. A network would be set up linking all the branches to this main server.

List and explain at least FOUR different types of stakeholder in this new project. Identify their main concerns and their stake in the project.

(12 Marks)

c) A project sponsor has also been appointed. Name at least THREE people, or groups of people, who would then be directly responsible to the sponsor.

(6 Marks)

d) You have been appointed as the project manager and need to set up a project team. Using the Tuckman model, list and explain very briefly the four main phases that the team might go through before becoming fully effective.

(4 Marks)

A2

A small trading company has decided to commission a small local software house to develop a new order processing system. This will replace the existing system which is run by an external service provider. The system will be used by three main sections of the company:

Order processing (OP)

Invoicing (IP)

Receipts processing (RP)

each of whom have their own specific requirements and will require online access to the new system.

The outline plan includes the following main activities:

A,B,C. Gather requirements for each of the three company sections - this can be done in parallel for each section, and will take 3 weeks for the OP section, 4 weeks for the IP section and 5 weeks for RP section.

D. Consolidate requirements – this is dependent on the completion of the activities A, B and C above and will take 2 weeks

E. Design software – dependant on requirements consolidation (activity D), to take 4 weeks

F. Build and test software – dependent on software design (E), to take 8 weeks

G. Order and delivery of communications equipment and hardware - which is also dependent on requirements consolidation (D) but can run in parallel with the software design (E), to take 9 weeks

H. Install communications equipment and hardware – dependent on order and delivery (G), to take 2 weeks

I. Design acceptance testing cases – also dependent on requirements consolidation (D), to take 6 weeks

J. Integration testing – dependent on both build and test software (F), and the installation of communications equipment and hardware (H), to take 3 weeks

K Acceptance testing – dependent on acceptance test design (I) and integration testing (J), to take 3 weeks.

a) Calculate the earliest and latest start and finish times and the floats for each of the above activities and present them in a table. Identify the critical path and state the minimum duration for the project.

(10 marks)

b) Just before the project starts it is realised that, due to the absence of key staff, the requirement gathering for the IP section (activity B) will now take 5 weeks. Also, that the communication and hardware installation (H) will now take 5 weeks.

Re-calculate and re-present the table that you produced for part a, and identify any other changes that might result from these changes.

(8 marks)

c) You could use either an Activity on Node network diagram or a Gantt chart to display this information. Discuss three advantages of each approach.

(7 marks)

A3

You have reached the stage in a project where you have created a plan that shows all the work that needs to be done. You must assign resources to the tasks.

a) Describe FIVE factors that you would consider when allocating staff to a task.

(10 marks)

b) You know that you have all the required skills in the project team but not enough people with these skills to meet the project deadline. What are some of the possible actions you could take?

(8 marks)

c) It has been decided that you need to hire a new member of staff for the project. List the steps that you need to go through from identifying the need for a new resource right through to the end of the recruitment process.

(7 marks)

Section B

Answer Section B questions in Answer Book B

B4

a) List some of the ways in which you can find out the users' requirements for a system.

(5 marks)

b) Identify FOUR situations when you should NOT involve the users in requirements gathering. Explain why you would not want to involve them.

(8 marks)

c) Explain which project documents/products are used by each of the testing phases of a project shown below, the purpose of the testing phase and the role of the users in the phase.

I) Unit testing

ii) Acceptance Testing

iii) System Testing

(9 Marks)

d) Name one of the ways that users are represented in the project.

(3 Marks)

B5

a) What are the FIVE appropriate types of action that can be taken in response to any project risk?

(10 marks)

b) Which of these five appropriate actions is likely to be the most expensive? Explain and justify your choice.

(5 marks)

c) The five appropriate actions are taken before the risk occurs or deal with the consequences after it has happened. Explain when each type of action taken in response to a project risk takes place.

(10 marks)

B6

a) ISO9126 is an international standard specifically for software development and maintenance. It identifies six software quality characteristics. Name THREE of these software quality characteristics.

(6 marks)

b) There are a number of the principles of a quality management system which are described in ISO 9000. Describe FOUR of these principles.

(12 marks)

d) You are working on a software development project which is creating software to control access to a building. The design is simple and unlikely to change. There is a fixed deadline and the budget for the whole project will be fixed once the analysis phase is complete. Explain each of types of quality control in the list below and say whether it is appropriate in this situation.

Walkthrough

Inspection

Quality Circle

Black box testing

Regression testing

(7 marks)