BCS THE CHARTERED INSTITUTE FOR IT

BCS HIGHER EDUCATION QUALIFICATIONS
BCS Level 5 Diploma in IT

IT PROJECT MANAGEMENT

Monday 16th November 2020 – Morning

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

Time TWO hours

Answer any **Section A** question you attempt in **Answer Book A**
Answer any **Section B** question 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 allowed in this examination

Section A
Answer Section A questions you attempt in Answer Book A

A1.

   a) Identify **THREE** important factors that might be considered as part of a feasibility study in assessing the business case for a project. Explain why each is important.

        (9 marks)

   b) Describe the advantages and disadvantages of **THREE** methods that might be used in the requirements gathering phase of a development project.

        (9 marks)

   c) Explain how the iterative process is used in an agile development project.

        (7 marks)

A2.

   a) Tuckman and Jensen have suggested that project teams evolve through stages as they work through a project from its beginning to completion. Describe these stages of team evolution.

        (15 marks)

   b) Explain the autocratic management style, giving **TWO** examples of how it could be modified to deal with the circumstances of a project.

        (10 marks)

A3.

   a) The ISO 25000 series of standards (formerly ISO 9126) deal with the external quality characteristics of a software product. Explain with examples, **FIVE** of the quality characteristics that the standard (or its earlier versions) refers to.

        (15 marks)

   b) The capability maturity model defines five levels of an organisation's increasing maturity in its software development process. Describe **EACH** of these **FIVE** levels.

        (10 marks)

B4.

The sales department in your company, who have their own in-house sales system, are being relocated to new offices where they will have a new server–based sales database system. The IT department have set out an outline plan for the IT aspects of the move, with nine main tasks (with estimated durations):

Task	Description	Duration (Weeks)
A	Order and deliver the new database system and server	4
B	Design and install the network infrastructure	7
C	Order, deliver and install new PCs and printers	9
D	Test the database system, server and network	2
E	Test the PCs with the server and network	3
F	Copy existing sales data to the new database system	3
G	Copy other existing PC software to the new PCs	2
H	Test all software and database on the new PCs and server	1
I	Train users	2

Tasks A, B, C and I can be undertaken at the same time, but A and B must be completed before D can start. Tasks C and D must be completed before E can begin. E must be completed before F and G can start. F and G both must be completed before H can start. I must follow H.

   a)   Draw a network diagram (Activity-on-Node) for this project, showing (on the diagram) the earliest and latest start dates, the earliest and latest finish dates, the duration and the float for each task.

Provide a node key explaining the layout and contents of the nodes used in your diagram.

Draw a Gantt chart for the same project tasks, showing **EACH** of these tasks, all dependencies and float, and **EACH** task's duration.

Highlight the critical path on **EACH** diagram.

What is the total duration of this critical path?

(17 marks)

   b)   Discuss **TWO** advantages of the Gantt chart and **TWO** advantages of the network diagram.

(8 marks)

[Turn Over]

B5.

You work for a small software company 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 this business area so has decided to use a new rapid development method for this project. You have been appointed project manager.

    a) Explain the difference between project and business risk. Give **THREE** examples of **EACH** of these two categories of risk 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. Explain how **EACH** of these factors might be assessed quantitatively.

(6 marks)

    c) Acting as risk manager, what document would you use to record the key details of all the risks that have been identified for this project? Identify and explain **SIX** of these key details.

(11 marks)

B6.

    a) Explain the main reasons for using the following when developing a new in-house computer system:

        i)   Change control;
        ii) Configuration management.

        Highlight at least **TWO** advantages and **ONE** disadvantage of each.

(12 marks)

    b) List and explain briefly the **THREE** major elements of a configuration management system.

(6 marks)

    c) List and briefly explain **FIVE** major stages in the change control process.

(7 marks)

End of Examination