

B5.

- a) Describe the following **THREE** characteristics of the ISO9126/ISO 25000 external software quality standards:
- i) Functionality (3 marks)
 - ii) Reliability (3 marks)
 - iii) Portability. (3 marks)
- b) Explain how the following **TWO** types of quality checking are carried out in the early stages of a development project:
- i) Document review (4 marks)
 - ii) Inspection. (4 marks)
- c) Explain the following **TWO** types of dynamic testing methods:
- i) Unit testing (4 marks)
 - ii) Systems testing. (4 marks)

B6.

- a) Describe **THREE** methods that can be used to gather requirements for a development project. (6 marks)
- b) Describe the following two development process models:
- i) Incremental development model. (6 marks)
 - ii) Iterative development model. (6 marks)
- c) Explain how an agile approach can be used in a development project and state **TWO** possible disadvantages in using an agile approach. (7 marks)

End of Examination

BCS THE CHARTERED INSTITUTE FOR IT

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IT PROJECT MANAGEMENT

Friday 7th October 2022 – 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 allowed in this examination.

Section A
Answer Section A questions in Answer Book A

A1.

Risk assessment and management are essential aspects of project management.

- a) Explain in detail what is meant by the term risk and discuss why risk management is important. **(5 marks)**
- b) Explain **THREE** methods that can be used to identify risks. **(3 marks)**
- c) Explain the meaning of the following terms. Discuss how they are used to assess the severity of various risks and their implications for a project.
- i) Impact
 - ii) Probability
 - iii) Proximity.

(6 marks)

- d) You work for a small software house which has won a contract from a large charity responsible for nature reserves and you are required to build an Android app for wildlife surveys in a short timescale.

This is the first app that the charity has specified, and it is vague in places. Your company is familiar with building Java apps in Android studio but has decided that all future apps will be developed in Kotlin, as it is now the preferred Android development language. One of your developers has basic awareness of Kotlin.

Identify **FIVE** project risks that you need to consider and give reasons for these.

(5 marks)

- e) Describe, using a diagram, what is meant by a probability impact grid (also known as a summary risk profile, or probability impact matrix).

Explain how the grid is used in the risk management process.

(6 marks)

Section B
Answer Section B questions in Answer Book B

B4.

- a) Describe the following **TWO** styles of leadership:
- i) Permissive autocrat **(3 marks)**
 - ii) Permissive democrat. **(3 marks)**
- b) Give an example of a situation in a project where the directive autocrat style of management could be appropriate. **(4 marks)**
- c) Describe the **FIVE** stages of Tuckman-Jensen's classification of team development. **(15 marks)**

[Turn Over]

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A3.

- a) Explain the purpose of the project control cycle.
(3 marks)
- b) Using a diagram, describe the stages in the project control cycle.
(6 marks)
- c) What aspects of a project are usually monitored to evaluate project progress?
Explain what data and/or tools are used in the monitoring process.
(9 marks)
- d) Explain what is meant by an exception report and its role in project monitoring
and control. Discuss what action can be taken (and by whom) in response to an
exception report.
(7 marks)

[Turn Over]

A2.

You work for an IT Training company which is expanding and fitting out three new PC training labs. Technical support will also be expanded by recruiting a new technician.

An outline plan showing the main activities in the project and their duration is shown below:

	Activity	Weeks
A	Select PC and other hardware.	1
B	Order and deliver replacement PCs, printers, servers and other hardware.	8
C	Select, order and deliver application software.	2
D	Order and deliver all required furniture and projector equipment.	10
E	Install and test network infrastructure for classroom.	3
F	Install new PCs with operating and applications software.	3
G	Test applications software on the new hardware and network.	2
H	Recruit additional technician.	8
I	Install furniture.	2

Tasks B, C and D are all dependent on Task A.

Task E cannot start until Task B is complete.

Task F is dependent only on Tasks C, E, H and I.

Task G is dependent on Task F.

Task I is dependent on Task D.

- a) An activity network diagram will be useful in this project. Explain the purpose of an activity network and describe the components of an activity-on-node diagram.
(6 marks)
- b) Draw a full activity-on-node diagram for this project, showing clearly the earliest and latest start and end dates (as week numbers), and the float, for each node. Include start and end nodes.
(8 marks)
- c) Explain what is meant by the term critical path, highlight it on your network and state the minimum duration for the project.
(3 marks)

- d) When constructing an activity-on-node network, it is necessary to estimate the elapsed time for each activity.

Explain the expert judgement method of estimation and state **ONE** advantage and **ONE** disadvantage of this method.

(3 marks)

- e) An alternative method of estimation is the parametric method.

Explain the key features of this approach and illustrate your answer by explaining the role of size drivers and productivity in the activity of installing PCs in a classroom.

(5 marks)

[Turn Over]