

# BCS Level 4 Diploma in Software Development Methodologies – QAN 603/0543/5

## Specimen Paper A

Record your surname / last / family name and initials on the answer sheet.

**Specimen paper only 20 multiple-choice questions** – 1 mark awarded to each question. Mark only one answer to each question. There are no trick questions.

A number of possible answers are given for each question, indicated by either **A. B. C. or D.** Your answers should be clearly indicated on the answer sheet.

Pass mark is 13/20.

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**This qualification is regulated by Ofqual (in England).**

1 Which stage of the software development lifecycle (SDLC) would include the following activities:

- Consideration of the potential risks involved in developing software.
- Determining whether the project outcome will be worth the costs involved.

A Implementation / Deployment.

B Requirements Analysis.

C Testing.

D Feasibility Study.

2 Which of the following is a purpose of the software development lifecycle (SDLC)?

A To provide a suitable framework for planning a software development project.

B To provide a set of steps to create a software end-product.

C To create a methodology for developing software code.

D To provide a consistent set of coding standards.

3 Which sequence puts the following stages in the SDLC in the CORRECT chronological order?

a) Testing.

b) Requirements Analysis.

c) Maintenance.

d) Design

A b, d, a, c.

B b, d, c, a.

C d, b, a, c.

D d, b, c, a.

4 Which of the following is **NOT** an iterative methodology?

A Waterfall.

B UP / RUP.

C Scrum.

D Spiral.

- 5 Which software development method allows software to be deployed for client use after each iteration?
- A Agile.
  - B Unified Process (UP).
  - C V-Model.
  - D Waterfall.
- 6 Which of the following is a role of a domain expert?
- A To provide insight into business products and processes.
  - B To specify functional requirements on behalf of the customer.
  - C To identify non-functional requirements.
  - D To assess project risks and constraints.
- 7 A software application used by the general public has been found to have a security weakness. The problem has been diagnosed and a development project initiated to correct the security weakness. The project team will include security domain experts.
- At which stages in the development will it be the **MOST** important to involve the domain experts?
- A Feasibility study, code development.
  - B Design, testing.
  - C Requirements analysis, maintenance.
  - D Initiation, implementation / deployment.
- 8 During the design stage of the SDLC, which of the following would be developed?
- A Software specification.
  - B Software code.
  - C Use cases.
  - D Test plans.

- 9** Which of the following is a purpose of applying traceability and cross-referencing between software development deliverables?
- A** To identify requirements which have not been met.
  - B** To determine which deliverables might be affected by a change request.
  - C** To assist in tracking project management issues.
  - D** To ensure that deliverables are delivered in priority sequence.
- 10** Interaction diagrams are a deliverable of which stage of the SDLC?
- A** Design.
  - B** Analysis.
  - C** Code Development.
  - D** Implementation (Deployment).
- 11** Which of the following factors would be a potential candidate reason for choosing an Agile method for a software development project?
- A** The development project consists of a large distributed team.
  - B** The customer has very few formally documented requirements.
  - C** There are strict safety critical requirements.
  - D** The customer has a range of complicated contractual commitments that are linked to the planned development.
- 12** Which of the following would be responsibilities of the product owner in a software development project using an agile method of scrum?
- a) Prioritising items on the backlog.
  - b) Accepting stories as done.
  - c) Managing the execution stage of the project.
  - d) Representing the customer to the Agile team.
- A** b, c and d only.
  - B** a, b and d only.
  - C** a, b and c only.
  - D** a, c and d only.

- 13** A company is developing application software for use by the general public using the Scrum Methodology. Which of the following will **NOT** be a responsibility of the Scrum Master?
- A** Help the development team to achieve their goals.
  - B** Remove impediments from the team.
  - C** Shield the team from interruptions during the sprint.
  - D** Lead the development team.
- 14** Which of the following are objectives of the maintenance stage of the SDLC?
- a) Identify and fix bugs before software is implemented (deployed) so that they do not cause operational failures.
  - b) Adapt and modify the software as users' needs change through time after implementation (deployment).
  - c) Complete any testing that could not be finished before implementation (deployment).
  - d) Fix bugs identified during live operation of the software.
- A** a and b only.
  - B** a and d only.
  - C** b and c only.
  - D** b and d only.
- 15** Which of the following is a TRUE statement about the software development lifecycle (SDLC)?
- A** The SDLC should be used only with sequential development methodologies.
  - B** The SDLC contains detailed instructions that should be followed to develop any IT system.
  - C** The SDLC can be used to solve any business problem.
  - D** The SDLC is independent of the software development methodology used.

- 16** Which statement describes the use of the V-Model software development method in the software development lifecycle (SDLC)?
- A** All seven stages of SDLC are performed for each iteration, with verification and validation performed in the final stage.
  - B** Each of the seven stages are performed iteratively before moving onto the next stage with verification and validation performed in the testing stage.
  - C** The first three stages are performed once then verified and validated. The following four stages are iterative.
  - D** Each stage of the SDLC has a corresponding verification and validation stage.
- 17** A software development project is being initiated, and the project manager has set the following broad objectives for the software development team:
- Focus on the customers.
  - Energise the team.
  - Eliminate waste.
  - Learn quickly.
  - Keep improving.

Which of the following methodologies has a focus on eliminating waste?

- A** Unified Process (UP).
- B** Lean.
- C** Scrum.
- D** XP.

- 18** A user guidance document has been developed alongside the development of software, to assist the users in operating and using the software. The introduction includes a 'Change history' table, and it contains the following details:

<b>Date</b>	<b>Version number</b>	<b>Details of change</b>
4 October	V0.1	First draft
8 October	V0.2	Reviewed and typos corrected
21 October	V1.0	Version released to users during deployment
26 October	V1.1	Correcting errors identified in V1.0
28 October	V1.2	Changes made to include user feedback
6 December	V2.0	Including a new feature to align with the new version that is planned for release later this month

Which of the following are provided by this change history table?

- a) An audit trail of the reasons for change.
- b) Traceability of the source of changes.
- c) Keeping track of the details of the change.
- d) Providing information for stakeholders.

- A** a and c only.
- B** a and d only.
- C** b and d only.
- D** b and c only.

- 19** Which of the following statements is CORRECT?

- A** Software development teams must adopt a project structure in order to ensure that software is delivered to time, quality and cost.
- B** Software development teams using waterfall methods of development should adopt a functional structure reporting to a software development manager.
- C** Software development teams using agile methods should adopt a matrix structure that allows for complete flexibility of roles across the team.
- D** Software development teams should adopt a structure that is appropriate for their organisation, irrespective of whether project working is used.

- 20** A software development project has encountered a problem. The code development is taking longer than planned and has failed to reach a key milestone. The code developers are blaming the designers, saying that the design is too difficult and it is not possible to get the code working in the time allowed for code development. The designers are blaming the project planners, saying that the plan did not take proper account of the likely complexity of the design. The planners have said that the code developers are at fault as they do not have the skills needed to get the code developed in the timescale required.

Where does the responsibility lie for resolving the problem?

- A** The project planners.
- B** The software designers.
- C** The project manager.
- D** The software code development manager.

**-End of Paper-**