9628-01 Level 4 Diploma in Software Development Methodologies (for the Level 4 Software Developer Apprenticeship)
9628-401 Software Development Methodologies

Sample question paper

Duration: 60 minutes

1   The **most** important input into the 'analysis stage' is

    a.   customer requirements
    b.   development tools
    c.   required project roles
    d.   cost-benefit results.

2   What is the **main** purpose of using 'High Level' design in application development?

    a.   To determine the communication processes between entities.
    b.   To ensure the requirements are achievable.
    c.   To determine the enhanced user experience.
    d.   To identify all issues associated with the system.

3   Which one of the following is viewed as a 'benefit' when using prototyping as a development method?

    a.   The level of documentation is thorough.
    b.   The pace of development is fast.
    c.   A formal test strategy is implemented.
    d.   All non-functional requirements are implemented.

4   An important consideration when choosing a suitable programming language can be the

    a.   end users' preference
    b.   developers' preference
    c.   clients' non-functional requirements
    d.   testing of functional requirements.

5   What is the purpose of 'functional testing'?

    a.   Establish the ability of the system to perform under load.
    b.   Confirm the speed of system response.
    c.   Establish that the application runs on a specific operating system.
    d.   Confirm the ability to perform intended tasks.

6   What is the **main** purpose of carrying out end to end testing?

    a.   To make sure that the database integrity is not compromised.
    b.   To make sure all other tests have been completed.
    c.   To validate the performance of the system under load.
    d.   To confirm the functionality of the system as a whole.

7   Which one of the following activities takes place during the 'software deployment stage' of application development?

    a.   System tested with no failures.
    b.   Functionality validated by end users.
    c.   Implementation in a live environment.
    d.   Creation of high level design documentation.

8   What is the **main** purpose of raising faults with the development team during the 'maintenance stage' of application development?

    a.   To allow the usability of the system to be measured.
    b.   To enable integration with bespoke software.
    c.   To ensure that platform specific skills are retained.
    d.   To identify critical issues affecting system availability.

9   Which one of the following statements **always** applies to the 'maintenance stage' in an application development lifecycle?

    a.   At the end of the stage, all faults will have been fixed.
    b.   This stage can last as long as possible.
    c.   During this stage, testing is no longer beneficial.
    d.   At the end of the stage, the product is no longer supported.

10 Which one of the following is an organisational policy providing a framework dictating the guidelines to be followed by software development teams?

    a.   Formulation.
    b.   Regression.
    c.   Standardisation.
    d.   Examination.

11 Which one of the following is a benefit of a procedural approach in a software development lifecycle?

    a. Initial analysis at project inception.
    b. Allows adoption of a prototype model.
    c. Development driven design.
    d. Standardisation of stages.

12 Which one of the following **best** describes the Agile software development methodologies?

    a. A lightweight process for quick application development.
    b. A senior management driven concentric process.
    c. Results only reviewed on completion of each stage.
    d. Applications created by a single large team of programmers.

13 At which point in the Waterfall software development methodology does the 'testing stage' occur?

    a. During every stage.
    b. On completion of deployment.
    c. As part of the design stage.
    d. Following development.

14 Which one of the following is the **main** benefit of the Agile software development methodology?

    a. Responsiveness to requirements.
    b. Emphasis on high quality control.
    c. Micro managed team.
    d. Exhaustive testing is undertaken.

15 Which one of the following is a disadvantage of using the 'Waterfall' lifecycle for software development?

    a. It requires minimal documentation.
    b. The process follows a rigid framework.
    c. There is a flexible approach to implementing each stage.
    d. Rigorous testing is conducted to ensure requirements are met.

16 Why can a project to deliver a highly secure military system benefit from using the 'Waterfall' software development methodology?

    a. The system will be delivered quickly.
    b. The level of control is exceptionally high.
    c. The stages follow encryption protocols.
    d. The procurement of resources is detailed.

17 Which one of the following is the **most** likely consequence if a poor choice of development method is made?

    a. Project team dissatisfaction.
    b. Incurring financial penalties.
    c. Failure to meet client requirements.
    d. Increased system documentation.

18 How can a software development team ensure that it complies with an imposed budget constraint?

    a. Adopt a different development methodology.
    b. Limit the system functionality to essential project requirements.
    c. Implement a new management reporting structure.
    d. Review the financial implications of the project.

19 Which one of the following is an example of a 'high level' organisational change control constraint?

    a. All decisions must be approved by the CEO.
    b. Any alterations must be recorded in project documents.
    c. A commissioning board will be appointed.
    d. All risks will be prioritised by the team leader.

20 Which business constraint will necessitate the use of 'rapid prototyping' as the development methodology?

    a. The system must include a particular function.
    b. The system must be compatible with other systems.
    c. The system must be accessible for disabled users.
    d. The system must be delivered by a fixed date.

21 Which one of the following is the **best** way of tracking identified risks?

    a. Discussions at a centralised project team meeting.
    b. Formal discussions at the change board.
    c. A centralised register used to record information.
    d. A formal report compiled on a monthly basis.

22 How can a project manager identify a requirement for additional technical resources for a project?

a. Through quality assurance discussions.
b. By analysing the latest approved change requests.
c. Through analysis of the planned budget.
d. By reviewing the latest organisational structure.

23 Which one of the following is a software developer's **main** contribution to the initial project cost estimation?

a. Providing an assessment of required time.
b. Forecasting of testing requirements.
c. Identifying the deployment platform.
d. Impact assessment of project changes.

24 Which one of the following is commonly used to forecast the time required to complete a project?

a. Analysing similar projects.
b. Estimating lines of code.
c. Available budget.
d. Client expectation.

25 Which role of the development team is responsible for capturing non-functional requirements?

a. System engineer.
b. Software designer.
c. Business analyst.
d. Project manager.

26 Which role of the development team is responsible for checking that all requirements have been correctly implemented in the final product?

a. Project manager.
b. Software tester.
c. Business analyst.
d. System engineer.

27 Which one of the following is a responsibility of a designer?

a. Implementation of choices.
b. Quality assurance.
c. Requirements tracking.
d. Use of diagrammatic tools.

28 Which one of the following is a responsibility of a software developer?

a. Implementation of design choices.
b. Writing specifications.
c. Conducting black box testing.
d. Using static analysis tools.

29 Which one of the following is a responsibility of a software tester?

a. Ensuring the quality of the final product.
b. Carrying out the separation of requirements.
c. Managing the resources of the project.
d. Implementing debugging methodologies.

30 Which one of the following is **essential** information for an individual undertaking white box testing?

a. Non-functional requirements.
b. Changes made during the project.
c. Knowledge of the implementation code.
d. Understanding of system architecture being deployed.

31 What is the **main** purpose of configuration management?

a. Ensuring all proposed changes are tracked until closure.
b. Maintaining consistency of a product's performance throughout its life.
c. Verifying that each requirement for the system is valid.
d. Enabling the system design to be implemented exactly as specified.

32 Which role in a software development team maintains responsibility to elicit requirements from the stakeholder?

a. Test Director.
b. Project Manager.
c. Business Analyst.
d. Technical Architect.

33 Which one of the following factors is **most** beneficial in helping a multi-site team work together effectively?

    a.   Good communications.
    b.   Flexible resources.
    c.   Individual responsibility.
    d.   Technical know-how.

34 To which one of the following areas is the project manager able to **most** quickly bring about change?

    a.   Team maturity.
    b.   Organisational environment.
    c.   Leadership style.
    d.   Interpersonal relationships.

NOW GO BACK AND CHECK YOUR WORK

•   IMPORTANT -
    Are the details at the top of the answer sheet correct?