EXTERNAL INTEGRATED SUMMATIVE ASSESSMENT (EISA)													
QUALIFICATION	**OCCUPATIONAL CERTIFICATE: SOFTWARE DEVELOPER**												
SAQA ID	**118707**												
NQF LEVEL	**5**												
CREDITS	**220**												
DURATION:	**90 MINS**												
TOTAL MARKS:	**90**												
PASS MARK:	**63**												
SURNAME													
NAMES													
ID NUMBER													
EISA REGISTRATION NUMBER													

INSTRUCTIONS TO CANDIDATES

1. Read all instructions carefully before attempting the assessment
2. This is an individual assessment. No communication or collaboration with other candidates is permitted
3. All responses must be typed in a Microsoft Word document
4. Answer all questions as instructed. Ensure that your responses are:
    - Clear and well-structured
    - Relevant to the question
    - Written in a professional manner
5. Where applicable, include:
    - Code snippets
    - Explanations of your approach
    - Comments within your code
6. Save your work regularly. The invigilator will provide instructions regarding:
    - File naming conventions
    - Saving location
    - Submission process
7. Only the final submitted version of your document will be marked.
8. Unauthorised resources or assistance are not permitted, unless explicitly stated
9. If you experience any technical difficulties, notify the invigilator immediately.
10. Manage your time effectively. Ensure that you review your work before submission

GOODLUCK!

ELO 5 Function effectively, efficiently, and ethically in the workplace to achieve company and team goals and targets.

SECTION A Answer the following questions.

QUESTION 1.1.1

1. Which of the following is an example of a violation of ethics in software development?
   A. Testing software thoroughly.
   B. Providing realistic project estimates.
   C. Knowingly releasing software with critical defects.
   D. Documenting code. (1)

2. What does "Intellectual Property Rights" relate to in ethics?
   A. Using open-source code without credit.
   B. Respecting copyrights, patents, and licensing agreements.
   C. Stealing source code from another company.
   D. Modifying proprietary software without permission. (1)

3. Software developers are only responsible for writing code, not its impact on users
   A. TRUE
   B. FALSE (1)

4. It is ethical to copy someone else's code without giving credit.
   A. TRUE
   B. FALSE (1)

5. Define a code of conduct. (2)

6. Components of ethical behaviour include integrity, honesty, fair dealing, and respecting diversity. Identify any two components of ethical behaviour and explain what each entail. (4)

[10]

QUESTION 1.1.2

1. If a customer is not involved in the software development process, what is the most likely result?
   A. The project will finish earlier.
   B. The software is unlikely to meet user expectations.
   C. The software will have no bugs.
   D. The code will be of better quality. (1)

2. Which of the following statements is TRUE about software customers?
   A. Customers are not involved in requirement gathering.
   B. Customers define what the software should do.
   C. Customers only provide feedback after deployment.
   D. Customers have no influence on software design. (1)

3. Stakeholder management involves identifying and engaging all people affected by a software project.
   A. TRUE
   B. FALSE (1)

4. Developers do not need to communicate with stakeholders during the project.
   A. TRUE
   B. FALSE (1)

5. Define customer-centeredness within systems development. (2)

6. A software development team has finished a learner management system. The system functions properly, but no user manuals or technical documentation were prepared beforehand. What problems might arise, and how should the team address these issues before final approval? (4)

[10]

QUESTION 1.1.3

1. Which type of customer interacts directly with the software?
   A. Client
   B. End-user
   C. Developer
   D. Tester (1)

2. Who is responsible for paying for or requesting the software?
   A. Client
   B. End-user
   C. Developer
   D. Tester (1)

3. Identify two traits of a challenging customer in software development. (2)

4. Explain how consistent communication can enhance customer support in a software development project. (2)

5. Identify two main responsibilities of a software developer in delivering customer care. (2)

[8]

QUESTION 1.1.4

1. Debugging involves identifying, isolating, and fixing bugs in software programs.
   A. TRUE
   B. FALSE (1)

2. Thorough testing can eliminate all defects from a program before delivering it to the customer.

A. TRUE
B. FALSE (1)

3. A bug is any error, flaw, or fault in a software program that results in incorrect or unexpected outputs.
   A. TRUE
   B. FALSE (1)

4. Only developers are responsible for identifying and fixing bugs.
   A. TRUE
   B. FALSE (1)

5. Define a syntax error in software development and provide an example. (2)

6. A developer writes code that compiles successfully but produces incorrect results when executed. Identify the type of error and explain how the developer can find and fix it. (4)

7. Define exception handling in software development. (2)

[12]

QUESTION 1.1.5

1. What is the main goal of customer service in software development?
   A. To reduce development time.
   B. To satisfy customer needs and expectations.
   C. To increase coding complexity.
   D. To avoid communication. (1)

2. Why is clear communication important in customer service?
   A. It increases the workload.
   B. It reduces misunderstandings.
   C. It delays projects.

D. It replaces documentation. (1)

3. What does reliability mean in customer service?
   A. Delivering services inconsistently.
   B. Meeting commitments and deadlines.
   C. Ignoring deadlines.
   D. Avoiding responsibility. (1)

4. Define customer-centeredness in software development. (2)

[5]

QUESTION 1.1.6

1. What is the main goal of customer service in software development?
   A. To provide free software to users.
   B. To protect the intellectual property of its creator(s).
   C. To limit the speed of the software.
   D. To replace the need for an operating system. (1)

2. What is a key characteristic of Proprietary Software?
   A. The source code is always available to the public.
   B. It is typically free to modify and redistribute.
   C. The software is licensed with restricted rights to the user, and source code is closed.
   D. It is in the public domain. (1)

3. What is the consequence of not understanding software licensing for developers?
   A. Improved software functionality.
   B. Faster software development.
   C. Potential legal issues, financial penalties, and damaged credibility.
   D. Lower user license fees. (1)

4. Briefly describe what single-user/standalone license is and give an example (2)

[5]

TOTAL SECTION A: 50

SECTION B Answer the following questions.

ELO 1: Interrogate the specification and problem and interpret it into code and articulate in writing

Answer all questions that follow

QUESTION 1.1.1

1. Describe the main goal and key focus of the Requirements Collection and Analysis phase. (2)

2. Briefly describe the role of a Business Analyst (BA) in Phase 1: requirement gathering and analysis during system development. (3)

[5]

QUESTION 1.1.2

1. As the lead developer for a new internal HR payroll system, explain why interviews with HR managers are necessary for requirements elicitation of the business process. (2)

2. Describe the business process activities performed during the requirements collection and analysis phase. (4)

3. Part of the deliverables involves producing a System Requirements Specification (SRS). Describe what an SRS is and explain functional requirements as one of its essential components. (4)

[10]

QUESTION 1.1.3

1. Explain why the requirements collection phase is important in system development. (2)

2. Discuss how Phase 1 (requirements collection and analysis) influences the success of later stages in the system development lifecycle. (3)

3. If a development team skips detailed requirements analysis to save time and begins coding immediately, describe how this decision affects the project and why Phase 1 is important. (2)

4. Explain how the System Requirements Specification (SRS) document created in Phase 1 serves as a vital input for the Design Phase. (3)

[10]

QUESTION 2.1.1

1. Define requirements modelling in systems development. (3)

2. Critically assess the importance of requirements modelling in the success of a system development project. (4)

3. Describe the significance of UML diagrams as visualization and communication models in systems development. (3)

[10]

QUESTION 2.1.2

1. Define functional requirements within a software development project. Provide one example of each for a new training provider library system. (2)

2. Explain the importance of functional requirements during the design and development stages of a system. (3)

[5]

TOTAL FOR SECTION B: 40

GRAND TOTAL 90