# Final Project Exam

**Total Score:** 30 marks

**Duration:** 2 Weeks

## 1.0. Background

You have been tasked with creating a **startup company of your choice**, describing its **vision, business model, and long-term goals**. As part of the company's fundraising strategy, you are required to design and launch a **tokenized Initial DEX Offering (IDO)** on the **Ethereum Sepolia testnet**. This will demonstrate your ability to combine **business thinking, blockchain fundamentals, smart contract design, and product development** into a complete end-to-end solution.

## 2.0. Project Requirements

### Part 1: Company Profile & Fundraising Plan

Prepare a detailed report covering the following:

1. **Company Overview** – Vision, mission, products or services, target audience, and unique value proposition.

2. **Business Model** – How the company intends to generate revenue and achieve sustainability.

3. **Valuation** – Estimated valuation of the company at the time of fundraising (justify assumptions).

4. **Fundraising Target** – The amount you intend to raise, stated in **Naira (₦)**.

5. **Token Design** –

    - Token name and symbol
    - Total token supply

- Percentage of tokens allocated for the IDO
- Tokenomics (distribution plan: founders, team, treasury, investors, reserves, etc.)

6. **Raise Calculation** – Demonstrate how selling the chosen percentage of tokens will raise the target amount in Naira.

**Part 2: Technical Implementation**

You are required to implement and deploy a **token and IDO smart contract** on the Ethereum Sepolia testnet.

Deliverables include:

1. **Smart Contract Implementation**

    - ERC-20 compliant token contract.
    - IDO contract that manages token sales (allocation, pricing, contribution limits if any).
    - Deployment scripts for Sepolia.

2. **Frontend Application**
    - Simple website that allows users to connect their wallet, view token sale details, and purchase tokens.
    - Real-time feedback (e.g., transaction status, remaining tokens).
    - Deployed live link for testing.

3. **Backend (Optional)**

    - If used, a backend layer should manage off-chain logic such as purchase records, or API endpoints.

**Part 3: Documentation and AI-Aided Development**

Submit detailed documentation of your development process, including:

1. **Product Requirement Document (PRD)** for your solution.

2. **Test Cases** – Unit and integration tests to validate the smart contract and frontend.

3. **Prompts Used with AI Agents** –

    - Frontend agent prompts.
    - Backend and/or smart contract agent prompts.
    - Each prompt should clearly define the agent's identity, the task, and constraints.

4. **Process Report** – A full step-by-step description of how you achieved the project, including:

    - How you structured prompts.
    - How you debugged errors with the AI.
    - How you validated correctness and security.
    - How you integrated layers (frontend, backend, smart contract).

5. **GitHub Repository** – Must contain:
    - Source code for smart contracts, frontend, and backend (if any).
    - Deployment scripts.
    - Test cases.
    - Documentation (PRD, README, etc.).

**Part 4: Deployment & Submission**

- Submit a **live link** to your deployed frontend application connected to Sepolia testnet.
- Provide a link to your **GitHub repository** with all source code and documentation.
- Submit your **company report** (PDF or DOCX).

## 3.0. Assessment Method

- A **15-minute interview** will be conducted (date to be communicated) to verify the integrity of your submission. You will be expected to:

    - Walk through your company vision and fundraising logic.
    - Explain your smart contract and tokenomics.
    - Demonstrate your deployed app live.
    - Show how you collaborated with AI agents to build your solution.