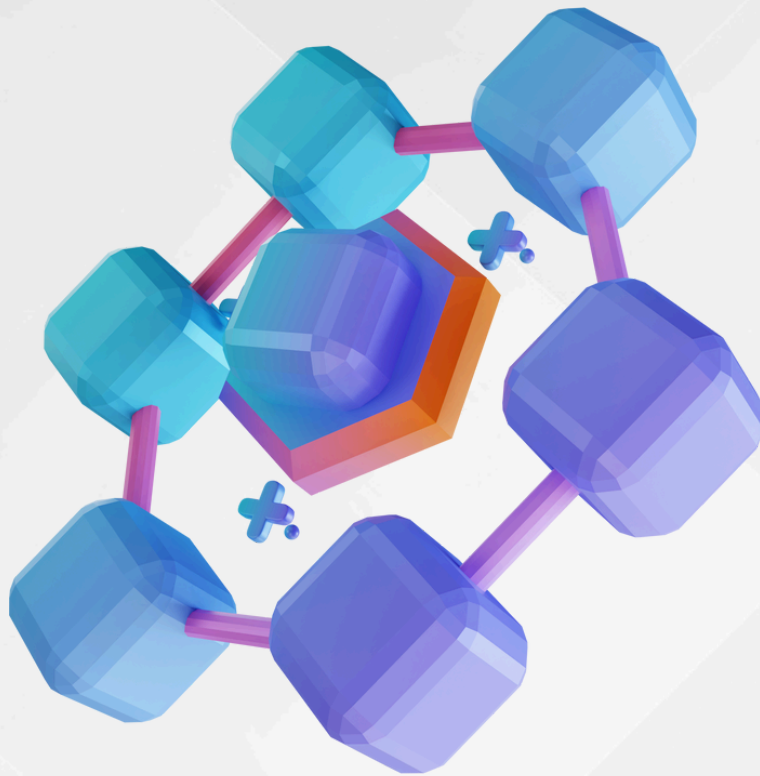




Blockchain

Empower Your Journey

Master Blockchain

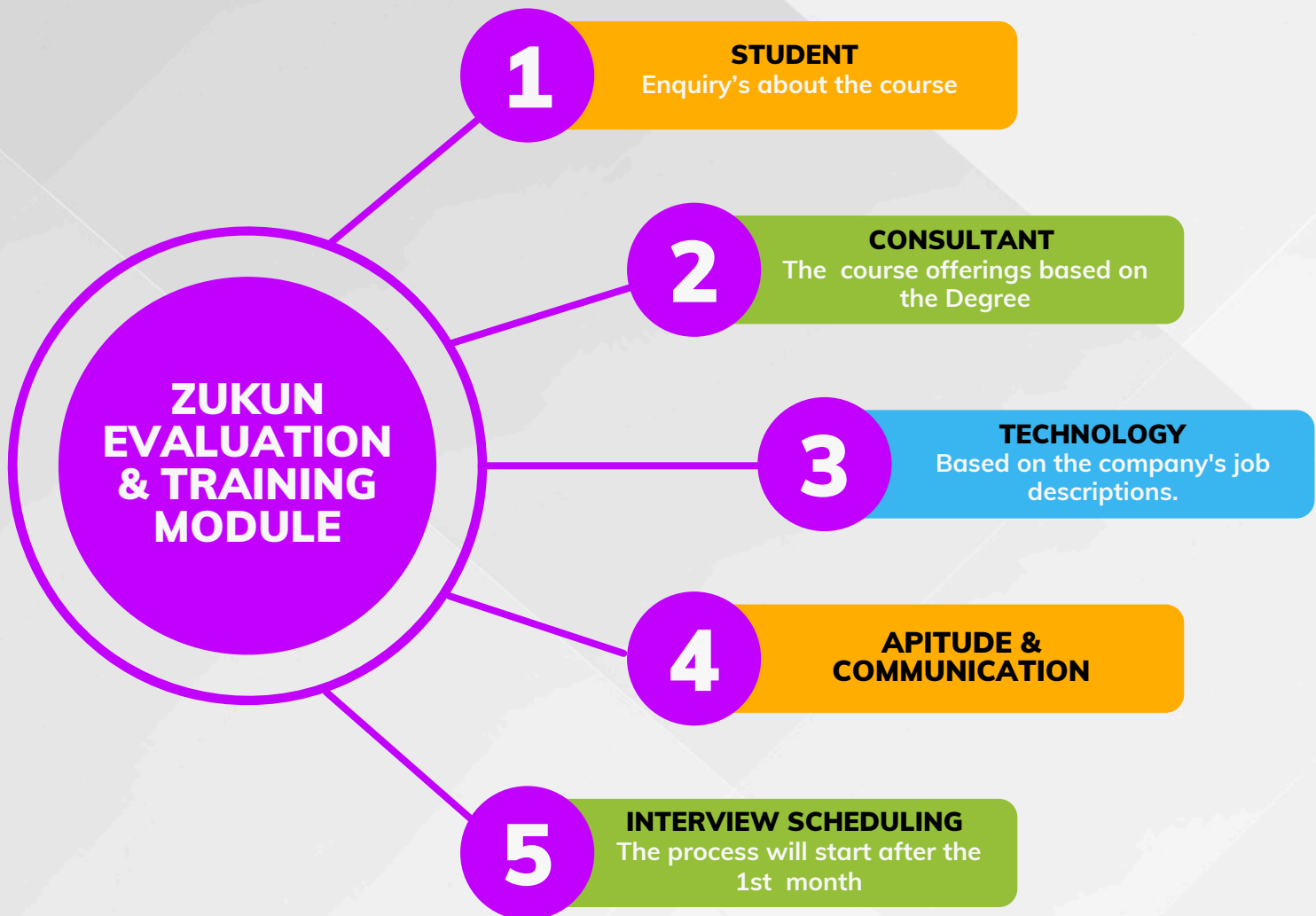




OUR PROMISES



TRAINING MODULE



PLACEMENT MODULE





What You Will Learn:

- Ethereum blockchain key concepts
- Ethereum block environment setup
- Ethereum public/ private network
- Ethereum node configuration
- Geth client configuration and commands
- Solidity- Smart contract development
- Decentralized Application Building (DAPP'S) 3 case studies.

Module-01

Blockchain Introduction:

- History of Blockchain
- Current Banking system
- Issues in Banking system
- Bitcoin and its history
- Why use Bitcoins?
- Why Blockchain is crucial?
- Centralized & Distributed networks
- Cryptocurrency
 - Symmetric Key Cryptography
 - Asymmetric Key Cryptography
 - Digital Signatures
- Hash Codes



- How SHA256 works
- Consensus and Mining
- Anonymity in Cryptocurrencies
- Immutable
- How do public/private keys work?
- Blockchain Transaction process
- Practice Lab – Hands-on Exercise
- Generation of a Public/Private Key Pair and a Digital Signature.

Module-02

Blockchain Foundation:

- Introduction and Features of Blockchain
- How do P2P systems operate?
- Difference between private, consortium, and public networks
- Distinction between databases and blockchain
- Hash Pointer
- Consensus Protocol
- Features of Consensus Protocol
- POW and POS
- Nonce value
- Blockchain structure
- Merkle Tree
- Permissioned Blockchain
- Permission-less Blockchain



- Blockchain Application Components
- Practice Lab – Hands-on Exercise
- Generation of a Hash Code
- Nonce Value
- Generation of a Blockchain Block
- Working of a Distributed System

Module-03

Ethereum:

- What is Ethereum?
- Bitcoin VS Ether
- What is Ether?
- How to use Ethereum?
- GAS in Ethereum
- The Ethereum ecosystem DApps
- Process of DAO
- How Ethereum mining works?
- Ethereum Wallets
- Ethereum Virtual Machine
- Ethereum Languages
- Installing Ethereum software
- Creating Blockchain environment
- Mining of Ether
- Transfer of Ether Using MetaMask
- Tracking transaction using hash
- View blocks in Ethereum network
- Smart Contracts



- How to write smart contracts?
- Characteristics of Smart Contract
- Types of Ethereum Tools Web3.js
Geth
- Practice Lab – Hands-on Exercise
- Installation of Geth
- Transfer Ethers Using MetaMask

Module-04

Advanced Solidity:

- How to write smart contracts?
- Installing Ethereum software
- Creating Blockchain environment
- Developing smart contract on private Blockchain
- Understanding Truffle, Remix
- Ganache installation and execution
- Solidity Data types
- Address
- Mapping
- Structs
- Enums
- Solidity compiler Solc
- ABI
- Bytecode
- Contract classes
- Functions



- Future of Ethereum
- Practice Lab – Hands-on Exercise
- How to write Calculator smart contract?
- Two smart contract examples how to Develop and test.

Module-05

Blockchain Prospects:

- How Blockchain is helping our world
- Blockchain transforming business and professions
- How Blockchain can be used to remove corruption
- Real case scenarios of Blockchain
- Blockchain in Banking System
- Blockchain in Land Registry
- Use cases for government
- Summary of the course

Module-06

Blockchain Projects based on Smart contract:



Project - 1: New Crypto Banking
Currency: Develop a new digital currency which is tradable token with a fixed supply that can be utilized as a currency, share, or an asset. Develop a smart contract to design and issue your own digital token.

Project - 2:: Decentralized Real Estate
Blockchain Network: This project to remove the third-party dependency for transferring the ownership of a property from one owner to Buyer. Create a smart contract for a decentralized property transfer system using Solidity.

Project - 2: Zomato- Restaurant Rating
Application: Zomato has hired you as a Blockchain developer to create a decentralized rating application for restaurants. You need to build a smart contract for restaurants ratings and test it on a local Blockchain network.



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