Basic Hardware Concepts
- memory RAM/ROM, processor, CPU, ALC, CU, BUS, Input devices, output devices, storage devices
- Binary (0, 1), ASCII code

Programming Paradigms
- Procedural
- Object Oriented
- Event Driven

What is VB.Net?
- Windows Applications (Object Oriented, Event Driven)
- Console Applications (Procedural or Object Oriented)

Steps in Writing a Typical VB project.
- Planning: (GUI, properties, pseudocoding)
- Coding: (Convert the GUI to Forms and Controls, Set the properties, Convert the Pseudocode to VB code, Test and Debug.)

The Software Development Life Cycle (SDLC)
- Planning
- Analysis
- Design
- Implementation
- Testing
- Maintenance

Errors (syntax vs. run-time vs. logical errors)

Variables (represents memory/RAM, has a type and size)
- DIM strName as string
- integer, double, decimal, boolean, char, byte, string, etc.
- Global vs. Local
- Why initialize variables?

Constants
- CONST TAX_RATE as Decimal = 0.08

Variable and Constant Scope

What is a compiler?

Compiler Directives
- Option Explicit ON (variables cannot be used without being declared first.)
- Option Strict ON (Makes VB a strongly typed language, No automatic type conversion. Must use the type conversion functions)

Type Conversion functions
- Cint(x)
- Cstr(x)
- Cdec(x)
- Clng(x)
- Cdbl()

GUI Components: (Forms, Label, Textbox, Checkbox, Button, RadioButton, ListBox, ComboBox, PictureBox, GroupBox)
- Events and event handlers

Random number generation: Randomize(), Rnd()

Concatenation and Continuation: & and _

Arithmetic operators (+, -, /, \, *, MOD, ^)

Relational operators (=, <=, >=, <>)

Input and output
- Console Mode: Console.ReadLine(), Console.WriteLine()
- Windows Applications: MessageBox.Show(), InputBox()

Branching:
- Using the IF Statement: (If, If-then-else, nested if statements)

Loops
- (For.. Next, Do While...Loop, do Until...Loop)
- Necessary conditions for a loop (how to get in, and how to get out)

Truth Table (AND, OR, NOT)
- Evaluating Boolean expressions

Writing algorithms, writing pseudocode, drawing flow chart

Identifying Syntax errors

Code walk through (given an algorithm or code segment, how do we disk check the code.)