

1. REGULATORY GRADING MATRIX & YEAR-WORK SCORE DISTRIBUTION 100 Marks Scale

ASSESSMENT COMPONENT	WEIGHT %	MARKS	MINISTERIAL GUIDELINES & STANDARDIZED RUBRICS
Weekly Formative Quizzes	15 %	15 Marks	3 equivalent parallel models (A, B, C) weekly to evaluate competencies and remediate weaknesses.
Homework Assignments	15 %	15 Marks	Audited homework notebook, interactive platform exercises, and targeted weekly coding tasks.
Classroom Performance & Discipline	5 %	5 Marks	Active participation, interactive coding notebook, adherence to lab safety and computer ethics.
Practical Performance Tasks	10 %	10 Marks	Authentic lab project (Qureo JavaScript game in Term 1 / Python & SQL application in Term 2).
Month 1 Mid-Term Examination	5 %	5 Marks	School-level unified written and practical assessment administered at the end of the first month.
Month 2 Mid-Term Examination	5 %	5 Marks	School-level unified written and practical assessment administered at the end of the second month.
Total Coursework & Year-Work Marks		50 Marks	Certified periodically and submitted to the school examination control board prior to finals.
End-of-Term Examination (Theory + Practical)	50 %	50 Marks	Unified final examination (20 marks lab coding + 30 marks written paper) + TOFAS Global Exam.
Grand Total per Semester	100 %	100 Marks	Official recorded grade contributing directly to student secondary academic transcript.

2. PROTOCOL FOR TRI-MODEL WEEKLY ASSESSMENTS (MODELS A, B, C) Formative Triad System

- Core Pedagogical Intent:** Continuously measure the specific learning outcomes of each lesson, provide rapid feedback, and eliminate knowledge gaps before progression.
- Physical Distribution Protocol:** Alternating distribution across classroom rows: Row 1 receives Model A, Row 2 receives Model B, Row 3 receives Model C to ensure authentic independent responses.
- Time Allocation & Marking:** Strictly timed (5 to 8 minutes at the start or end of the weekly lab session), immediately marked and recorded in the official grade ledger.
- Integrated Code Diagnostics:** Every assessment model balances conceptual recall with an operational code challenge (syntax completion, bug spotting, or output tracing).

Week 2: Digital Ethics & Information Society | Qureo Fundamentals

Lesson 1

MODEL A

Explain the fundamental distinction between raw Data and processed Information with an example.

MODEL B

State three golden rules for designing robust passwords and safeguarding digital credentials.

MODEL C

What is the SPRIX Qureo educational platform, and what primary coding language powers its syntax?

Homework: Answer textbook review questions on page 13; write the formal definition of Knowledge in your notebook.

Week 3: Intellectual Property & Copyright | Coordinates & Velocity in Qureo

Lesson 2

MODEL A

Define Intellectual Property (IP). What legal rights does the Copyright symbol (©) confer on creators?

MODEL B

How do the algebraic signs of (X+) and (X-) influence an object's horizontal trajectory on screen?

MODEL C

List two lawful conditions qualifying under the "Fair Use" doctrine for educational media reuse.

Homework: Draw a mini Cartesian grid (X, Y) in your notebook and plot the coordinates of an object at (X=100, Y=-50).

Week 4: Cybersecurity Foundations & CIA Triad | Fundamental Loops

Lesson 3

MODEL A

List and define the three core pillars of the cybersecurity CIA Triad framework.

MODEL B

What architectural advantage does iteration (loops) provide over repetitive sequential code?

MODEL C

Define the security concept of "Integrity" in the context of database records and network transmission.

Homework: Write the pseudo-code or Qureo block logic to draw an equilateral square using a loop structure.

Week 6: Variables & Arithmetic Operators | Variables & Math in Qureo

Lesson 5

MODEL A

Define a "Variable" in programming. State two strict rules for valid variable identifier naming.

MODEL B

If ``let score = 5;`` and then ``score = score + 3;`` executes, what is the resulting value of ``score``?

MODEL C

Distinguish between numeric data types (Integer/Float) and textual types (String) in JavaScript.

Homework: Write JavaScript code to compute the area of a rectangle given length and width variables in your notebook.

Week 8: Binary Representation & Number Systems | Binary Conversion

Lesson 7

MODEL A

Convert the decimal integer (13) into its exact equivalent in binary notation, showing all steps.

MODEL B

Convert the binary byte (1011) into its exact equivalent in decimal (base-10) notation.

MODEL C

Why do modern digital computers physically rely on binary states (0 and 1) at the hardware level?

Homework: Convert decimal numbers 9, 18, and 25 to binary with complete division-by-2 calculation tables.

Week 11: Logic Gates & Truth Tables | Digital Hardware Circuits

Lesson 10

MODEL A

Construct the complete Truth Table for a two-input logical AND gate with inputs (A, B).

MODEL B

Explain the operational function of an inverter NOT gate. What is the output when input is 0?

MODEL C

Contrast the boolean condition required for a HIGH output (1) in an OR gate versus an AND gate.

Homework: Sketch a composite logic circuit combining an AND gate and an OR gate; derive its complete truth table.

Week 13: Functions, Parameters & Modular Architecture | Functions in JS

Lesson 12

MODEL A

State the two chief software engineering benefits of declaring custom Functions in code.

MODEL B

Explain the difference between input "Parameters" and output "Return Values" in functions.

MODEL C

Differentiate between Function Definition (Declaration) and Function Invocation (Call).

Homework: Complete textbook exercises on page 85 regarding function parameters and return statements.

Week 14: Textual JavaScript Programming | JS Syntax & Control Flow

Lesson 13

MODEL A

Write valid JavaScript code to declare a constant variable `speed` initialized to value `15`.

MODEL B

What is the syntactical role of the semicolon `;` at the end of statements in JavaScript?

MODEL C

Identify and rectify the syntax error in the following statement: `let x = 10; if (x = 10)`.

Homework: Write a JavaScript function `function add(a, b)` returning the arithmetic sum of two parameters.

Week 19: Chapter 8: Networks & Transfer Speed | IPv4, IPv6, Protocols & bps Math

Lesson 18 & 19

MODEL A

An IPv4 address uses 32 bits divided into 4 blocks. What is the value range of each decimal block (e.g. 0 to 255)? Why is IPv6 needed?

MODEL B

Deconstruct the URL
'https://www.mext.go.jp/index.html' into Scheme, Hostname, Organization, Type, Country code, and Filename.

MODEL C

Calculate the transfer time required to transfer 20 MB of data at a communication speed of 40 Mbps with 100% transfer efficiency.

Homework: Solve question (2) on page 109: Calculate transfer time for 1 GB data at 100 Mbps with 80% transfer efficiency.

Week 21: Chapter 9: Databases & Information Systems | DBMS, Relational Algebra & ERP

Lesson 20 & 21

MODEL A

Define DBMS. State its 5 core functions (Consistency, Integrity, Independence, Confidentiality, Availability).

MODEL B

Differentiate with precision among the 3 relational algebra operations: Selection (rows), Projection (columns), and Join (linking tables).

MODEL C

Compare TPS (Transaction Processing System) with EIS (Executive Information System), and define Enterprise Resource Planning (ERP).

Homework: Complete Exercise 1 question (4) on page 118: Identify which operation produced tables [1], [2], and [3].

Week 23: Chapter 10: Data Analysis & Central Tendency | Scales, Histograms & Mean/Median/Mode

Lesson 22

MODEL A

Classify into measurement scales: 1) Temperature in °C, 2) Marathon ranking, 3) Blood type, 4) Product price.

MODEL B

Calculate the Mean, Median, and Mode of the following quiz scores: '[6, 9, 3, 6, 10, 12, 4, 3, 8, 10, 7, 6]'.

MODEL C

In spreadsheet software, write the exact function names used to calculate: 1) Mean, 2) Median, 3) Mode.

Homework: Construct a frequency distribution table with class width 5 cm for student heights on page 130 of the textbook.

Week 25: Chapter 10 & 11: Dispersion, Regression & Simulations | Box-Plots & Monte Carlo

Lesson 23 to 26

MODEL A

Name the 5 key values displayed in a Box-and-Whisker plot. How is Standard Deviation related to Variance?

MODEL B

Using regression line $y = 0.0287x + 297.86$, calculate estimated sleep duration y when daily step count $x = 5,000$.

MODEL C

Explain how the Monte Carlo method estimates π using random points in a square: $\pi \approx 4n / N$.

Homework: Complete queue simulation questions on page 154: Calculate customer wait time and service duration.

Week 27: Chapter 12: Python Programming Basics | Variables, Operators & Control Flow

Lesson 27 & 28

MODEL A

What is the exact output of: `a = 20; print(a // 3); print(a % 3); print(a ** 2)` in Python?

MODEL B

Draw the standard flowchart symbols for: 1) Terminal (Start/End), 2) Process, 3) Conditional Branch.

MODEL C

Explain why the assignment operator `=` in `x = 5` does not mean mathematical equality.

Homework: Write a Python program using `if-elif-else` evaluating exam scores into grades A (≥ 80), B (≥ 50), or C (< 50).

Week 29: Chapter 12: Python Loops, Lists & Functions | `range()`, `a[i][j]`, `def` & `return`

Lesson 29 & 30

MODEL A

What exact numbers are printed by: `for i in range(1, 7, 2): print(i)`? Why does `range(0, 5)` stop at 4?

MODEL B

Given `a = [['A','B','C'], ['D','E','F']]`, write the exact index notation to access "A" and "F".

MODEL C

Write a Python function `def area(base, height):` that computes and returns triangle area ($S = b \times h / 2$).

Homework: Complete Exercise question (2) on page 171: Write a Python script to find the minimum value in a list.

Week 31: Chapter 13: Generative AI & Web Fundamentals | Copilot, Hallucination, HTML & CSS

Lesson 31 & 32

MODEL A

How does Generative AI generate text? Why does it sometimes state falsehoods with confidence (Hallucination)?

MODEL B

Contrast HTML (structure/content) with CSS (visual design). How do you apply a blue color class in CSS?

MODEL C

How do you instruct Copilot to explain unfamiliar code syntax generated in the WebDen editor?

Homework: Use Copilot to generate a simple self-introduction page with styled headings and test it in WebDen.

Week 33: Chapter 13: Interactive Web Apps & Games | JavaScript DOM, Quiz App & Block Breaker

Lesson 33 & 34

MODEL A

What does `document.getElementById('name').textContent = 'New'` accomplish in a web page?

MODEL B

In an interactive Quiz App, how does JavaScript verify whether the user's selected choice is correct?

MODEL C

In the 2D Block Breaker game, how do you manually modify ball size and block colors in code without using AI?

Homework: Prepare your 4-slide capstone project presentation covering game rules, code modifications, and AI reflection.