Assessment Schedule – 2025

Digital Technologies and Hangarau Matihiko: Analyse an area of computer science (91908)

Assessment Criteria

Achievement	Achievement with Merit	Achievement with Excellence
Analysing an area of computer science involves explaining: • the key aspects of the computer science area • relevant algorithms or other mechanisms behind the area • how the area is used, is implemented, or occurs, giving examples • key problems or issues related to the area and how these have been, or may be, addressed.	*In-depth analysis* of an area of computer science involves: • providing a detailed explanation of how the technical capabilities and limitations of the area relate to humans, giving examples • comparing and contrasting different perspectives on the area.	*Critically analysing* an area of computer science involves: • drawing insightful conclusions about the computer science area.

Cut Scores

Not Achieved	Achievement	Achievement with Merit	Achievement with Excellence
0 – 2	3 – 4	5 – 6	7 – 8

Evidence

N1	N2	A3	A4	M5	M6	E7	E8
Makes relevant comments in some parts of the response, but not enough to holistically show understanding.	Makes relevant comments in some parts of the response, but not enough to holistically show understanding.	**Explains:** • key aspects of the chosen computer science area • relevant algorithms or mechanisms that support the area • how the area is used or implemented, or occurs, giving examples • key problems or issues related to the area, and how these have been, or may be, addressed.	Explains: • key aspects of the chosen computer science area • relevant algorithms or mechanisms that support the area • how the area is used or implemented, or occurs, giving examples • key problems or issues related to the area, and how these have been, or may be, addressed.	**Explains**, **in detail**, how the technical capabilities and limitations of the computer science area relate to humans, giving examples. Compares and contrasts different perspectives on the area.	Explains, in detail, how the technical capabilities and limitations of the computer science area relate to humans, giving examples. Compares and contrasts different perspectives on the area.	**Draws insightful conclusions** about the computer science area, which may include: • connections • implications • justified predictions • suggested improvements • justified generalisations • high-level thinking.	Draws insightful conclusions about the computer science area, which may include: • connections • implications • justified predictions • suggested improvements • justified generalisations • high-level thinking.
Responses are mostly incorrect.	Some responses may be incorrect.	Some aspects of the response may be partial or weak.		Some aspects of the response may be partial or weak.		Some aspects of the response may be partial or weak.	

N0 = No response; no relevant evidence.

PART ONE

Computer graphics

Part	Achievement	Achievement with Merit	Achievement with Excellence
(a)	Enters correct vectors. Names the type of transformation, and can provide accurate examples.		
(b)	Completes table accurately (possibly with some errors).		
(c)	Explains why Bresenham's algorithm is better.	Identifies and explains interpretation and representation links to supermarkets, authenticity.	

Computer vision

Part	Achievement	Achievement with Merit	Achievement with Excellence
(a)	Enters correct edge. Describes how the change in pixel values facilitates edge detection.		
(b)	Identifies THREE key components and provides explanation.	Identifies THREE key components and provides detailed explanation.	
(c)	Identifies Canny, with explanation.	Identifies Canny, with detailed explanation and examples.	

Complexity and tractability

Part	Achievement	Achievement with Merit	Achievement with Excellence
(a)	Explains the importance of time complexity.	Explains the need to understand and consider time complexity.	
(b)(i) (ii)	Can detail an $O(\log(N))$ complexity. Can detail an $O(2^N)$ complexity.		
(c)(i) (ii)	Identifies the most efficient algorithm. Identifies inefficiency of an algorithm.	Explains clearly why efficiency occurs. Explains clearly why inefficiency occurs.	

PART TWO

Part	Achievement	Achievement with Merit	Achievement with Excellence
(a)	Correctly identifies where the chosen area is used.	Explains, in detail, how the chosen area is used, and refers to resources provided.	
(b) (i), (ii)	Identifies and discusses one algorithm or mechanism, possibly with little detail.	Clearly explains how one algorithm / mechanism functions, and discusses why it is important to the field.	Critically discusses how BOTH algorithms / mechanisms function, and why they are important to the field.
(c)	Explains how the chosen area of computer science is applied and implemented in a real-world scenario.	Explains, in detail, how the chosen area of computer science is applied and implemented in a real-world scenario.	Critically discusses how the chosen area of computer science is applied and implemented in a real-world scenario.
(d)	Discusses how technologies in the chosen area of computer science can affect people differently.	Discusses in depth, with some examples.	Discusses, with examples that are relevant and accurate, and draws insightful conclusions.