Diploma Programme
Programme du diplôme
Programa del Diploma

Digital society
Higher level
Paper 3

20 May 2025

Zone A morning | **Zone B** morning | **Zone C** morning

1 hour 15 minutes

Instructions to candidates

- Write your session number in the boxes above.
- Do not open this examination paper until instructed to do so.
- A clean copy of the **digital society pre-released statement** is required for this examination paper.
- Read the sources in the accompanying booklet carefully.
- Answer all questions.
- Answers must be written within the answer boxes provided.
- The maximum mark for this examination paper is **[30 marks]**.

8 pages

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Answer **all** questions. Refer to the sources in the accompanying source booklet, the pre-released statement, and your own related research. Answers must be written within the answer boxes provided.

1. (a) An applicant's IB Diploma Programme score is an example of a data point.

Identify **two other** examples of data points that may be used by the artificial intelligence (AI)-based decision-making tool. [2]

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(b) Identify **two** ways in which Border University can ensure the security of the applicants' data. [2]

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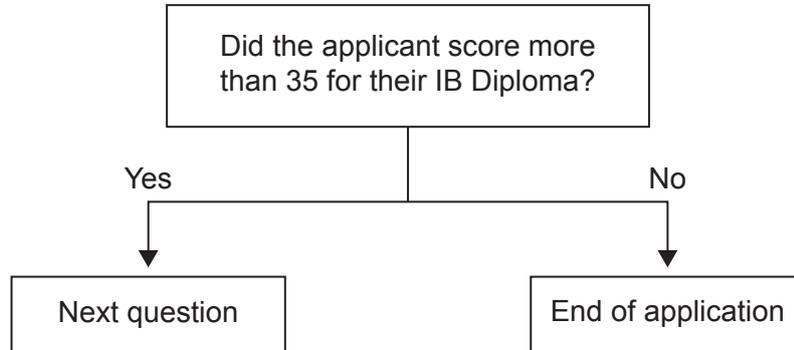
2. (a) **Figure 1** shows an example of a condition that could be used in the decision tree for the rule-based decision-making tool.

Figure 1: Example of a condition in the decision tree used by the rule-based decision-making tool

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        ┌─────────────────────────┐
        │  Did the applicant score │
        │  more than 35 for their  │
        │       IB Diploma?        │
        └─────────────────────────┘
    Yes                         No
     │                           │
     ▼                           ▼
┌──────────────┐        ┌──────────────────┐
│ Next question│        │ End of application│
└──────────────┘        └──────────────────┘
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Explain **two** reasons why the use of this condition in the decision tree may result in some suitable applicants being rejected. [4]

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(b) Explain why a large amount of training data would be needed to train the AI-based decision-making tool. [2]

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3.   An applicant's attributes can be converted into a series of data points.

To what extent is it acceptable for an applicant's attributes to be represented by a series of data points?   [8]

4. Border University has to choose between two interventions to address the challenge of improving the selection process for future students:
   • **Intervention 1:** A rule-based decision-making tool
   • **Intervention 2:** An AI-based decision-making tool

   Recommend which of the interventions Border University should choose. [12]