4.2 HL: Paper 3 practice

Name: _____ Class: _____ Date: _____ **Total: 30 marks**

KEY WORDS pre-released statement • recommendation • false alert • civil liberties

Objective

Practise **Paper 3**: respond to a **challenge** set in a pre-released statement and a case, analyse it, evaluate interventions and **recommend** a course of action, using the HL extension and your own examples.

You must be able to:

- identify the challenge and the stakeholders in a case
- analyse causes and impacts of the challenge
- evaluate interventions with criteria
- write a justified recommendation
- manage time across the paper

1 Key knowledge and worked examples

The case (written for practice)

A city council plans to put AI cameras on buses to detect fare dodgers and "anti-social behaviour". The supplier says the system is 95 % accurate. A civil-liberties group says passengers were not asked, that the data could be shared with police, and that error rates are higher for some groups. Bus drivers' unions support the plan because of attacks on drivers.

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How to read it

ask	in the case
challenge	safety and fare loss on buses vs privacy and fairness
stakeholders	council, supplier, passengers, drivers, police, civil-liberties group
claims to check	"95 % accurate": for whom? how many false alerts?
possible interventions	the cameras; more staff; cameras without AI; strict data rules

Accuracy and false alerts

If 20,000 passengers ride each day and the system wrongly flags 1 % of innocent passengers, that is about 200 false alerts per day. A high accuracy figure can still mean many people wrongly treated as suspects.

2 Practice

2.1 Identify **two** stakeholders in the case and the interest of each. [2]

2.2 20,000 passengers ride each day. The system wrongly flags 1 % of innocent passengers. Assuming nearly all passengers are innocent, calculate the false alerts per day, and explain why the "95 % accurate" claim is not enough to judge the system. [3]

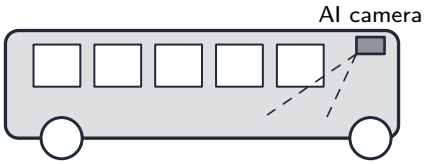


2.3 Explain **two** ways the council could reduce the risks to privacy if it uses the cameras. [4]

2.4 Compare **two** interventions for driver safety: AI cameras, and more staff on buses at night. [6]

3 Exam-style questions

3.1 *(Paper 3 style.)* Recommend whether the city council should introduce the AI cameras. Justify your recommendation with reference to the case, the HL extension and **one** real-world example. [15]



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Solutions

Marking: **M1** a correct method, **A1** the correct answer, **B1** an independent mark.

Each answer shows the steps, then the **result**.

2.1

any two with an interest: drivers: safety at work; passengers: privacy and fair treatment; council: safety, fare income, public support; supplier: selling the system; civil-liberties group: protecting rights

2.2

$20\,000 \times 0.01 =$ **200** false alerts per day; "accuracy" does not say how many false alerts or for which groups errors are higher; it comes from the supplier, which has an interest in selling the system

2.3

any two, explained: delete footage after a short time unless an incident is reported; no sharing with police without a warrant; an independent audit of error rates for different groups; clear signs and public consultation before use

2.4

AI cameras: cover all buses, all day; lower running cost; risks: privacy, false alerts, bias; more staff: a human presence can prevent attacks and help passengers; cost: high and continuing; limited to some routes; comparison on effectiveness and fairness; a judgement, e.g. staff on the riskiest routes plus simple cameras without AI

3.1

Mark with the markbands: [13-15] clearly focused on the question, accurate and relevant knowledge and real-world examples used as evidence, concepts applied, well-developed critical analysis, different perspectives evaluated, a reasoned conclusion; [10-12] focused, mostly accurate knowledge, analysis with some evaluation; [7-9] some focus, relevant knowledge, mostly narrative or description with limited analysis; [4-6] little focus, limited knowledge, mostly narrative; [1-3] little understanding of the question. Points that may be included: the challenge stated clearly: safety and fare loss against privacy and fairness; stakeholders and their interests; analysis of the accuracy claim and false alerts (200 a day in the worked case); risks: bias, data sharing, lack of consultation; benefits: driver safety, evidence for incidents; alternatives evaluated: staff, simple cameras, data rules; a real-world example, e.g. a city that banned or limited facial recognition (San Francisco, 2019), or the EU AI Act's limits on real-time biometric identification in public spaces; criteria used: effectiveness, fairness, feasibility; a clear, justified recommendation; conditions or safeguards attached to the recommendation

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