8823 – 5511M

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Markscheme

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Information technology in a global society

Higher level

Paper 1

24 pages

Critical Thinking – explanation, analysis and evaluation

These trigger words often signal critical thinking. The bold words are the key terms in the various criteria.
Explanation – *Because, as a result of, due to, therefore, consequently, for example*
Analysis – *Furthermore, additionally, however, but, conversely, likewise, in addition, on the other hand, whereas*
Evaluation – *My opinion, overall, although, despite, on balance, weighing up*

Examiners should be aware that in some cases, candidates may take a different approach, which if appropriate should be rewarded. If in doubt, check with your team leader.

In the case of an "identify" question read all answers and mark positively up to the maximum marks. Disregard incorrect answers. In all other cases where a question asks for a certain number of facts *eg* "describe two kinds", mark the **first two** correct answers. This could include two descriptions, one description and one identification, or two identifications.

It should be recognized that, given time constraints, answers for part (c) questions are likely to include a much narrower range of issues and concepts than identified in the markband. There is no "correct" answer. Examiners must be prepared to award full marks to answers which synthesize and evaluate even if they do not examine all the stimulus material.

Section A

1. Smart lamp posts

(a) (i) Identify **two** sensors the smart lamp posts could use. **[2]**

Answers may include:
- Temperature / Wind Speed / Atmospheric pressure.
- Air quality (ozone/particles/gases such as carbon monoxide).
- Proximity/infra-red.
- Movement.
- Audio / Sound.
- Light Sensors.
- Speed.

*Award **[1]** for identifying each sensor the smart lampposts could use up to **[2]**.*

(ii) Outline **one** reason why encryption is used to transmit the data from the smart lamp posts to the data centre. **[2]**

Answers may include:
- Avoids unauthorized users to access the data.
- Because it converts the text to an ineligible text.

- Ensure sensitive data has appropriate levels of security.
- Protect people's privacy.

*Award **[1]** for identifying a reason why encryption is used to transmit the data from the smart lamppost to the data centre and **[1]** for a development of that reason up to **[2]**.*

(iii) Outline **one** reason the Hong Kong authorities are using cloud computing to store the data collected by the lamp posts. **[2]**

Answers may include:

- Maintenance is carried out by the cloud computing provider.
- So there should be no downtime.

- Security issues are the concern of the provider.
- So the Government does not need to allocate resources, beyond those of sub-contracting the work to the provider.

- Accessibility anywhere, with any device.
- This ensures everyone uses up-to-date information to make any data analysis.

- Cost savings.
- Hong Kong authorities no longer required to have your own server, cables, network switches, backup generators, redundant routers.

- Centralized data security / data loss prevention.
- Security policies and data backups are centralized in the cloud providers' data centers.

- Scalability and flexibility.
- The Hong Kong authorities can quickly scale resources and storage up.

*Award **[1]** for each reason why the Hong Kong authorities are using cloud computing identified and [1] for a development of that reason up to **[2]**.*

(b) Explain **three** technical requirements that will need to be met to enable the smart lamp post system to function effectively. **[6]**

Note to examiners: This part (b) should be marked with ticks.

Answers may include:

- There is sufficient bandwidth.
- So data can be transferred without excessive latency / so it can be used in real time.

- There is sufficient technical support/expertise.
- So the system can be maintained.

- There are sufficient data storage facilities available.
- So all of the data collected can be stored.

- The hardware needs to be durable.
- So it can function in all conditions.

- Infrastructure needs to be resilient.
- So it is able to cope in adverse conditions.

*Award **[1]** for identifying a technical requirement that will need to be met to enable the smart lamppost system to function effectively and **[1]** for a development of that reason up to **[2]**.*

*Mark as **[2]** + **[2]** + **[2]***

(c) To what extent will the introduction of smart lamp posts lead to an improvement in the environmental conditions within a city? **[8]**

Note for Examiners: (Answers should be related to environmental conditions and not general benefits and concerns).

Answers may include:
Benefits include:

- The data collected can be used to manage the traffic levels in the city.
- It can allow the authorities to act if dangerous levels of pollution or temperatures are detected.
- It can be used to turn on/off the street lights as necessary depending on the ambient conditions rather than using a pre-programmed approach.
- To turn on street lights when people are in their vicinity (energy saving).
- To build up patterns of pollution, traffic levels etc over time to develop more sustainable long term solutions.

Concerns include: (Do not accept obsolescence of smart lamp posts)

- Improvements to the environmental conditions may be minimal and may not justify the costs of developing the smart lamppost system / there may need to be a more citywide approach to resolving the environmental problems.
- The information may not resolve the problem, but merely relocate the problem to areas where smart lampposts have not been installed.
- There could be high costs of installation and maintenance.
- There may be concerns about surveillance, or that the authorities are gathering more data than they claim.

Note for examiners:
Answers should refer to environmental conditions, not general conditions.

Please see generic markband on page 24.

2. No more snow days

(a) (i) Identify **two** types of software required for distance learning. **[2]**

Answers may include:
- Video conferencing/ Communication software (Teams, Google Meet, Zoom, etc).
- LMS examples (Moodle, Blackboard, etc.).
- Online collaborative office automation tools (MS Office, Google Docs).

*Award **[1]** for identifying each type of software required for distance learning up to **[2]**.*

(ii) Identify **two** reasons why a school would introduce an acceptable use policy. **[2]**

Answers may include:
- To encourage students and staff to use the school's IT facilities appropriately / establish a code of conduct.
- To make students and staff aware of possible sanctions for failing to use the school's IT facilities appropriately / add a disclaimer if student use is inappropriate.
- Students and staff need to sign that they are aware that the school may be monitoring their network use.
- The school needs to protect the network from security breaches so needs to inform staff and students about security issues.

*Award **[1]** for identifying each reason **or** example for an acceptable use policy (AUP) up to **[2]**.*

(iii) Outline **one** advantage for users if a school introduces a virtual private network (VPN). **[2]**

Answers may include:
Accessibility
- Allows users to access their personal files on the school server.
- Which means they can work seamlessly between home and school / Access to school-approved digital resources that would otherwise be blocked due to location.

Security
- Data and communications protection.
- Data is encrypted.

*Award **[1]** for identifying an advantage for the staff if the school introduces a VPN and **[1]** for a development of that reason up to **[2]**.*

(b) Two strategies for distance learning are using synchronous teaching and asynchronous teaching.

Analyse these strategies. **[6]**

*Note to examiners: This part (b) should **NOT** be marked with ticks.*

Answers may include:

Advantages of synchronous learning

- Teachers and students gather at the same time and interact in “real time”.
- Allows for students to receive real time feedback from teachers and vice versa which may be more effective than asynchronous exchanges.
- Creates schedule allowing for students to allocate their time.
- Is the most efficient use of resources (time wise).
- Synchronous learning is more time efficient for the teacher who can answer questions during class – with asynchronous learning teachers would have to respond to individual questions posted from students.

Disadvantages of Synchronous Learning

- It is more difficult to review the material again if the teacher did not share it with the students.
- Distraction of students by having other tabs or web pages open.
- Dependence on a good Internet connection.
- Child protection concerns.
- Dependence on the skills of the teacher and students in the use of technologies.

Advantages of asynchronous learning

- Students accessing class materials during different hours and from different locations / more convenient.
- Allows students to use a more flexible schedule permitting them to work on several or different subjects during different times of the day.
- Students can learn at their own pace.
- May benefit students who prefer less face to face interactions.
- Teachers can benefit from a more flexible schedule e.g., post worksheets at night ready for the next day.

Disadvantages of Asynchronous learning

- Not following the instructions/content and skipping directly to the activity.
- Requirement of responsibility and organization on the part of the student.
- Social disconnection with classmates.

Marks	Level descriptor
[0]	No knowledge or understanding of ITGS issues and concepts. No use of appropriate ITGS terminology.
[1–2]	A limited response that indicates very little understanding of the topic or the reason is not clear. Uses little or no appropriate ITGS terminology. No reference is made to the scenario in the stimulus material. The response is theoretical
[3–4]	A description or limited analysis of the advantages and disadvantages of synchronous and asynchronous learning. There is some use of appropriate ITGS terminology in the response.
[5–6]	A balanced analysis that addresses the advantages and disadvantages of synchronous and asynchronous learning. Explicit and relevant references are made to the scenario in the stimulus material. There is appropriate ITGS terminology throughout the response.

(c) Many schools are considering moving to a one-to-one mobile device programme where each student has access to one device. Two options for implementing a one-to-one mobile device programme are:
- schools owning devices that are issued to students.
- students owning their own devices and using them in the school (also called a bring-your-own-device (BYOD) policy).

Evaluate these options **[8]**

Answers may include:

Advantages of schools owning the laptops that are issued to students
- All laptops will be configured identically and will be network ready.
- May reduce cyberthreats compared to the students using their own laptops.
- This will mean that maintaining the laptops will be more straight forward for the IT Support Team.
- It will prevent students who cannot afford laptops / or laptops having a specification that does not allow them to use the software on the school network.
- If a laptop fails, it can be replaced more easily, the student will not lose valuable learning time.
- May prevent students from using smartphones as a substitute for a laptop, particularly if they cannot afford both.
- Students may include the most up to date software whereas schools may have older versions that they upgrade on three year cycles.
- Students can also have games loaded on their personal laptops so these distractions would be avoided if the school provided laptops which prevented the student loading executable files.

Advantages of students owning their own devices
- May be considerably cheaper for the school as the school does not have to purchase the laptops.
- There may be less involvement of the IT Support Team as the laptops will be configured by the student.
- Students may be more careful / less likely to mistreat the laptop as it is theirs rather than the schools.
- If the school uses cloud-based services the quality of the laptop may not be as critical for performance.
- Students will have familiarity with their laptop and will not need to relearn how to use a different device.
- Students may be more productive as they have more confidence in using their laptop.
- May increase continuity of learning, for example if they have come from a different school prior to commencing the DP.

Please see generic markband on page 24.

3. Digital documentation

(a) (i) State the primary key in the Citizen table in **Figure 3**. **[1]**

- IdentID

(ii) State the relationship between the Licenses and Driving_License tables in **Figure 3**. **[1]**

- One to many

(iii) Outline **one** advantage of using a relational database instead of a flat file database to store the data collected by the government. **[2]**

Answers may include:
- It is easier to update data as they are stored in a single location.
- Whereas multiple records would each have to be updated individually.

- Greater accuracy / consistency and less time spent in updating data.
- Data is stored once so there is no danger of storing different versions of data and is quicker.

- Reduces redundancy (repeated data).
- Whereas multiple repetitions of the same data can lead to errors.

- Saves storage space.
- Whereas multiple repetitions of the same data occupy more space.

*Award **[1]** for identifying an advantage of using a single relational database to store the data collected by the government and **[1]** for a development of that reason up to **[2]**.*

(iv) Describe the difference between identification and authentication. **[2]**

Answers may include:
- Identification is saying who you are / uniquely a user of a system or an application that is running in the system.
- Authentication confirms you are who you claim to be / verifying the identity.

*Award **[1]** for difference between identification and authentication described up to **[2]**.*

(b) The development of digital services will require policies for the collection, storage and sharing of data.

Explain how a government and the developers of its digital systems can ensure that the privacy of citizens is not compromised when data is collected, stored **and** shared. **[6]**

Note to examiners: This part (b) should be marked with ticks.

Answers may include:

Collection

- To ensure that only the information of patients who have consented to the use of their data is collected.
- Or that they have a way to 'opt-out' of their data being used if they have concerns about their privacy being compromised.

- Citizens are aware of what data is being collected.
- So can make an informed decision whether to opt in or opt out.

*Award **[1]** for identifying a way how government and developers of the digital systems can ensure that the privacy of the citizens is not compromised when data is collected and **[1]** for a development of that way up to **[2]**.*

Storage

- Explicitly state to the citizens how long their data will be stored.
- And this will comply with the law / will not be longer than necessary.

- Restricted access to data storage.
- Security levels for data access based on user roles.

*Award **[1]** for identifying a way how government and developers of the digital systems can ensure that the privacy of the citizens is not compromised when data is stored and **[1]** for a development of that way up to **[2]**.*

Sharing

- Data about a citizen is only shared with their consent.
- And the sharing of the data does not break any data sharing guidelines / regulations / laws.
- Ensure data is shared securely.
- Passwords/encryption/authentication required to access them.

*Award **[1]** for identifying a way how government and developers of the digital systems can ensure that the privacy of the citizens is not compromised when data is shared and **[1]** for a development of that way up to **[2]**.*

*Mark as **[2]** + **[2]** + **[2]***

(c) Discuss the advantages **and** disadvantages for the citizens of a country if the government moves its services online. **[8]**

Answers may include:

Advantages
- Reduces the requirement for paper documentation (preventing loss).
- Allows citizens to have their information on multiple devices.
- Reduces the requirement for a citizen to authenticate themselves multiple times.
- Everything is in one place, so the same data can be used for multiple purposes.
- Data may be easier to access.

Disadvantages
- May exclude certain individuals or groups (digital divide).
- May lead to a citizen's personal data being more easily shared / mined.
- Will rely on an internet connection.
- May not be cost effective, do the benefits outweigh the costs?
- May result in privacy concerns for individuals and/or citizens groups.
- May increase security concerns as data is centralised.

Please see generic markband on page 24.

Section B

4. Gait recognition biometrics

(a) (i) Identify **two** input devices used to capture data about an athlete's gait. **[2]**

Answers may include:
- Video camera.
- Motion sensor.
- Accelerometer.
- Gyrosensor.
- Force sensor.
- Inclinometers.
- Smart bracelets.

*Award **[1]** for each input device used to capture gait data identified up to **[2]**.*

(ii) Identify **two** forms of biometric identification **other than** gait. **[2]**

Answers may include:
- Face.
- Fingerprint.
- Iris.
- Voice.
- Recognition of veins in the hand or finger with infra-red light.

*Award **[1]** for each form of biometric identification in addition to gait identified up to **[2]**.*

(iii) Identify **two** characteristics of a neural network. **[2]**

Answers may include:
- Mathematical model.
- Has a large number of neuron-like processing elements.
- Inputs are weighted depending on their importance.
- Has the ability to learn, recall and generalize from the given data.
- Mimics the way the human brain operates.
- Recognises underlying relationships in data.

*Award **[1]** for each characteristic of a neural network identified up to **[2]**.*

(b) (i) Explain **two** reasons why a feasibility study would be carried out before gait analysis was considered. **[4]**

Answers may include:
- Economic.
- Will the costs of the developing the system be cost affordable?

- Technical.
- Will the technical needs be available and easily implemented?

- Ethical.
- Will the data collected be encrypted, protected from unauthorized access?

- Timing/scheduling.
- How long will the project take to complete?

- Accuracy of data analysis.
- Will it be possible to perform reliable (unbiased) data analysis?

*Award **[1]** for each reason why a feasibility study would be carried out and **[1]** for a development of that reason up to **[2]**.*

*Mark as **[2]** + **[2]**.*

(ii) Explain **one** reason why the national athletics organization would employ a systems analyst. **[2]**

Answers may include:
- Consult.
- Resolves user issues.
- Ensures each component is developed successfully.

- Support.
- Survey and diagnose database/programming issues.
- Trains others to use the system.

- Change agent.
- Identify product improvement needs.
- Designs system to support these needs.

*Award **[1]** for identifying a reason why the national athletics organization would employ a system analyst and **[1]** for a development of that reason up to **[2]**.*

(c) Gait recognition systems that use neural networks and pattern recognition can be used to analyse an athlete's performance.

Discuss the decision by national athletics organizations to use gait analysis as a tool to improve the performance of their athletes. **[8]**

Answers may include:

Advantages

- Can provide more information about the athlete's performance.
- Image analysis provides more detailed information about how the athlete can improve their performance.
- May give the athletes an advantage over athletes who do not use it.
- May prevent the athlete developing injuries due to poor gait.
- Output from the neural network can be used as part of a goal-setting exercise / can be used by physios to develop specific training plans.

Disadvantages/Concerns

- reliability of the hardware and the software - will the neural network provide better information than the coach's intuition?
- cost of implementing the system - may require technical expertise to set up or configure.
- need to train coaches to be able to use and interpret the data.
- system might fail to take into account unexpected variables.
- can provide sensitive information about the athlete's performance - may lead to them losing their advantage over their rivals.
- can make athletes data dependent – therefore not using their intuition or judgement.
- if the neural network provides unreliable data - may lead to injuries or inappropriate training regimes.

Please see generic markscheme on page 24.

5. Patient diagnosis using expert systems

(a) (i) Identify **two** components of an expert system. **[2]**

Answers may include:
- User interface.
- Knowledge base.
- Inference engine.

*Award **[1]** for each component of an expert system identified up to **[2]**.*

(ii) Identify **two** elements of the design phase in the system development life cycle (SDLC). **[2]**

Answers may include:
- List of requirements/features.
- Design sketches/layouts.
- Process diagrams.

*Award **[1]** for each element of the design phase identified up to **[2]**.*

(iii) Identify **two** reasons why alpha testing is used in the development of a new expert system. **[2]**

Answers may include:
- Ensures the product works properly prior to undergoing beta testing.
- Developers can immediately address issues discovered during alpha testing.
- Developers can update the test environment with fixes as soon as possible.
- Can uncover problems that could derail a beta test.
- Reduce development time and cost.

*Award **[1]** for each reason why alpha testing is used in the development of a new expert system identified up to **[2]**.*

(b) (i) Distinguish between the use of backward chaining and forward chaining to determine the type of infection a patient has. **[2]**

Answers may include:
- Backward chaining involves moving backward from a solution to determine the initial conditions.
- Forward chaining starts with data and uses inference rules to arrive at a goal.
- Forward chaining works best if the conclusion is not known in advance.

*Award **[1]** for each statement that distinguishes between backward chaining and forward chaining up to **[2]**.*

(ii) Explain **two** reasons why prototypes are used in the development of a new expert system. **[4]**

Answers may include:
- Introduces end users into the process.
- Which means that the product may be developed more closely to their needs in the early stages of development and save costs.

- May identify potentially serious problems at an early stage.
- This means that they can be resolved at this stage before the expert system is well advanced when it may not be possible / very costly to resolve the problem.

- May involve testing using real data.
- Which may give an indication about whether the expert system will act as intended.

- Cost savings.
- Problems can be identified early on, before product is released.

*Award **[1]** for each reason why prototypes are used in the development of a new Expert System and **[1]** for a development of that reason up to **[2]**.*

*Mark as **[2]** + **[2]**.*

(c) To what extent should doctors use expert systems for diagnosing patients? **[8]**

Answers may include:

Should use Expert System:
- Expert systems can retain and accurately process more facts than a human.
- Can speed up a diagnosis by carrying out the initial stages of the investigation.
- Expert systems can support doctors, rather than substitute for them.
- Providing more consistent outcomes and may not be prone to personal opinion / the knowledge base may come from a number of doctors and be more reliable.
- May be relatively low cost (after the initial outlay).

Should not trust Expert System (Disadvantages)
- The knowledge base may be limited by the costs and/or time required to gather the data.
- The knowledge base may not be able to adapt to advances in techniques / new diagnoses.
- Diagnosis may not be as simple as a yes/no question therefore it may be difficult to create the inference rules.
- May not be cost effective as the diagnoses it provides may only be for the most common ailments / could be diagnosed by a doctor very quickly, so the doctor may need still need to carry out the consultation to make the diagnosis.

Please see generic markscheme on page 24.

6. Assistive robots

(a) (i) Identify **two** characteristics of an android. **[2]**

Answers may include:
- a robot or artificial being that resembles a human in appearance and behavior.
- artificial being that has a human-like face and a body, often made of metal, plastic, or synthetic materials, that mimics the human anatomy and allows them to move and perform tasks.
- a robot that has a human-like face, often with artificial skin, hair, and eyes, that expresses emotions and communicates with others.
- a robot that looks like a human and which can communicate with humans using natural language and gestures.

*Award **[1]** for each characteristic of an android identified up to **[2]**.*

(ii) Identify **two** responsibilities of a project manager. **[2]**

Answers may include:
- Plan and develop the project.
- Lead project team.
- Set project deadlines.
- Monitor project progress.
- Solve issues that may arise.
- Manage project budget.
- Liaise with client/stakeholders.
- Evaluate the project's performance.
- make sure the project meets the specifications.

*Award **[1]** for each responsibility of a project manager identified up to **[2]**.*

(iii) Identify **two** characteristics of the uncanny valley. **[2]**

Answers may include:
- A humanoid robot closely resembling a human, thereby creating a sense of unease to the person viewing it.
- An unsettling feeling some people experience in response to not-quite-human figures such as humanoid robots or human-like computer-generated characters.
- Refers to the strange feeling the robot may evoke.
- Refers to the drop in attraction to the robot where it becomes 'too humanlike'.

*Award **[1]** for each characteristic of uncanny valley identified up to **[2]**.*

(b) (i) Explain **one** reason why interviews would be used to gather information about the use of language from care home residents when developing assistive robots such as Stevie and Ameca. **[2]**

Answers may include:
- The interviewer would be able to look for patterns of language usage.
- The interviewer would be able to look for dialects that may not be evident in the wider population.
- And adapt the natural language process capabilities of Stevie.

*Award **[1]** for identifying a reason why interviews would be used to gather information about the use of language of residents in the care home and **[1]** for a development of that reason up to **[2]**.*

(ii) Explain **one** advantage of using supervised learning to develop the natural language processing capabilities used by Stevie to interact with care home residents. **[2]**

Answers may include:
- The vocabulary used by care home residents is likely to be relatively stable / not likely to significantly evolve.
- Supervised learning will label the vocabulary / the likely inputs.
- Allowing for more accurate natural language processing capabilities than if unsupervised learning was used.

*Award **[1]** for identifying an advantage of using supervised learning to develop the natural language processing capabilities used by Stevie to interact with residents in the care home and **[1]** for a development of that advantage up to **[2]**.*

(iii) Explain **one** disadvantage of using supervised learning to develop the natural language processing capabilities used by Stevie to interact with care home residents. **[2]**

Answers may include:
- Residents of the care home may have a large vocabulary / use a large number of words.
- For supervised learning this will require these words to be labelled.
- Lead to significant costs/time required for this process to be completed.
- Languages are constantly evolving.
- Supervised learning would require these new words to be labelled.
- Require for the labelling process to be constantly updated / whereas unsupervised learning would be able to do this without human intervention.

*Award **[1]** for identifying a disadvantage of using supervised learning to develop the natural language processing capabilities used by Stevie to interact with residents in the care home and **[1]** for a development of that advantage up to **[2]**.*

(c) Discuss the advantages **and** disadvantages of using an android robot like Ameca to support care home residents. **[8]**

Answers may include:

Advantages

- Will be able to provide a form of companionship.
- Will be able to provide 24/7 care, whereas staff are only able to support residents during working hours.
- May be a more cost-effective way of providing care.
- May be able to resolve minor problems that otherwise would require the input of a care home employee.

Disadvantages

- May reduce the care home resident's interactions with humans.
- May be configured with generic settings and may not be able to meet the requirements of the resident.
- Could lead to the resident being overly reliant on Ameca and lead to a deterioration in their ability to think for themselves / make decisions.
- The resident may not be able to come to terms with / trust an android reducing the potential benefits that could be gained.
- May be difficult to determine who is accountable if a problem arises from the interaction between the resident and the android.
- Cost factors – initial outlay, (but may ultimately save money by reducing staffing levels)/cost of technical support/cost to train staff.
- Loss of jobs as staff levels may be reduced.
- Care workers may not like working alongside robots.

Please see generic markscheme on page 24.

SL and HL paper 1 part (c) and HL paper 3 question 3 markband

Marks	*Level descriptor*
No marks	• A response with no knowledge or understanding of the relevant ITGS issues and concepts. • A response that includes no appropriate ITGS terminology.
Basic ***1–2 marks***	• A response with minimal knowledge and understanding of the relevant ITGS issues and concepts. • A response that includes minimal use of appropriate ITGS terminology. • A response that has no evidence of judgments and/or conclusions. • No reference is made to the scenario in the stimulus material in the response. • The response may be no more than a list.
Adequate ***3–4 marks***	• A descriptive response with limited knowledge and/or understanding of the relevant ITGS issues and/or concepts. • A response that includes limited use of appropriate ITGS terminology. • A response that has evidence of conclusions and/or judgments that are no more than unsubstantiated statements. The analysis underpinning them may also be partial or unbalanced. • Implicit references are made to the scenario in the stimulus material in the response.
Competent ***5–6 marks***	• A response with knowledge and understanding of the relevant ITGS issues and/or concepts. • A response that uses ITGS terminology appropriately in places. • A response that includes conclusions and/or judgments that have limited support and are underpinned by a balanced analysis. • Explicit references to the scenario in the stimulus material are made at places in the response.
Proficient ***7–8 marks***	• A response with a detailed knowledge and understanding of the relevant ITGS issues and/or concepts. • A response that uses ITGS terminology appropriately throughout. • A response that includes conclusions and/or judgments that are well supported and underpinned by a balanced analysis. • Explicit references are made appropriately to the scenario in the stimulus material throughout the response.