Markscheme

November 2022

Information technology in a global society

Higher level

Paper 3

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.

If candidates answer more than the prescribed number of questions:

- In the case of an "identify" question read all answers and mark positively up to the maximum marks. Disregard incorrect answers.

- In the case of a "describe" question, which 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.

- In the case of an "explain" question, which asks for a specified number of explanations *eg* "explain two reasons", mark the **first two** correct answers. This could include two full explanations, one explanation, one partial explanation *etc*.

1. (a)   Define the term *influencer*.   [2]

Answers may include:
- A person who inspires or guides the actions of others.
- For example, persuading their followers to buy products or to behave in a certain way.
- A person who is able to generate interest in something by posting about it on social media.
- A person who is posting on social media about a particular niche (topic).
- A person who has a sizeable number of followers on social media due to the posting of their topic.
- A person who posts on social media that has a reputation for their knowledge and expertise on a specific topic.
- Examples of influencers e.g. micro, mega, examples from real life.

Award [1] for each valid point in the definition up to [2].

Note for examiner: To be awarded 2 marks, the answer should demonstrate that the student has knowledge of what an influencer is, (that they have followers) by adding some more information about what they can do to have an impact on others on social media.

(b)   Outline **one** strategy that Laura could use to separate her work and personal online environments (lines 35–36).   [2]

Answers may include:
- Separate devices
- Using a separate device for personal and work online activities.

- Separate login details
- Using separate log in details for personal and work activities e.g. personal email account for personal activities and work email account for all work related online registrations.

- Set times of use/Turn on do not disturb mode
- Clear time divisions between work and home life online e.g. not using social media during working hours and not working during leisure time.

- Location of use
- Keep separate the physical location when online for work and personal reasons e.g. never work online in the bedroom.

- Who you interact with.
- Have different groups of people on your personal and work online platforms for example Don't friend people from work on any personal online platforms

Award [1] for each strategy identified and [1] for an outline of it up to [2].

2.   (a)   Websites often allow users to register using their social media login as an alternative to creating new account details. Explain **one** concern Hugo might have if he used single sign-on for new websites.   [2]

Answers may include:
- Dependency on one social media account
- Should Hugo no longer wish to have an account with the social media account he uses, deleting it will impact all of the websites that he uses to log in with that account.

- Blocking of social media websites
- Should Hugo be using the website at school and the social media site is blocked, this may impact his ability to log onto other websites.

- Security
- Should Hugo's social media account be hacked, all websites Hugo registered with using the same social media details would also be vulnerable.

- Privacy
- Increased access of Hugo's life to social media companies
- Hugo may not want the Social Media company to have access to other aspects of his online behaviour.
- Websites may have access to more personal data e.g. profile image, birthdate depending on the policies of the websites and social media companies.

- Lack of trust
- The social media platform can gain access to Hugo's data from these other websites Hugo may not trust how the social media company will use his personal data e.g. companies advertising on his social media feeds or sending spam to his contacts.

Award [1] for identifying a concern of logging on to a new website using social media login details and for developing the point [1] up to [2].

(b)   Explain **two** ways in which Daniela could determine the accuracy of news on social media sites (lines 41–43).   [4]

Answers may include:
- Fact check – cross check the news with other online reputable news sources.
- Digital literacy skills - to check the news item e.g. Are you looking at the original article? Who created the article? when was it created? What was the motivation for publishing? Where was it published?
- Media bias checking websites - Use media bias checking websites to determine the source of news and detail of the bias by the reporters.
- Check the URL – reputable news sources have their own domains and are more likely to report accurate news.
- Check the comments section if available under the news item – if the comments talk about the news being fake, then it probably is.
- Reverse image search – if the news item has an image, use reverse image search to see the source of the original image and if it has been used in other stories.
- Check past posts from a social media site to see if they have been accurate and use this to determine the likelihood of the newly posted news on the same site.

Award [1] for describing the way [1] for development of the way up to [4].
Mark as [2] + [2].

3.   Discuss whether the use of social media has led to the growth of filter bubbles.   [8]

Reasons why social media has led to the growth of filter bubbles
- Algorithms keep track of your online activity. These algorithms give you content based on what they think you like, and what you are likely to consume.
- A social media site may hide posts from friends with different viewpoints, or a news site may only display articles it thinks you'll agree with.
- You may not realize you are in a filter bubble because algorithms do not ask permission or tell you when they are active.
- Online users spend vast amounts of time on social media with the consequence of spending more time in a filter bubble.
- Users' "friend" individuals from their own "real life" who may share the same beliefs, opinions and values.
- Relationship between content and target advertising/products promoted by influencers?
- Use of # organise content by topic which can reduce diversity.

Reasons why social media has not led to the growth of filter bubbles
- Individuals choose online sources other than social media that conform to their own beliefs e.g. the choice of news channel, newspaper.
- Human nature – it is human nature to want to select opinions and news reports that support one's viewpoint and ignore ones that don't support.
- Misinformation campaigns can be found on a variety of online sources not just social media platforms.
- Media and cultural studies suggest that we each have multiple identities, which we perform according to the social contexts we find ourselves in, not just that found on social media.
- The focus of media coverage, media scholarship and political debate over emphasizes the role of platforms and their algorithms on filter bubbles and their impact on society.
- Users have some control of their social media filter bubbles by unfollowing users, using hash tags for wider topics of interest and the right to be forgotten. Each of these could be used to stop filter bubbles getting larger.

Note for examiner: Definition: A filter bubble is a situation in which an internet user encounters only information and opinions that conform to and reinforce their own beliefs, caused by algorithms that personalize an individual's online experience.

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.*

4. "Every time you post on social media, you give up your rights to privacy, lose control of your data, and create a permanent digital footprint." To what extent do you agree with this statement? [12]

Answers may include:

Rights to privacy
Ways to prevent invasion of privacy
- Social media has privacy settings which a user can adjusted e.g. Facebook – Choose who can see your profile, posts, pages followed, friend requests, select whether facial recognition technology is activated for your photos; Twitter – do not track options.
- Timeline review process which allows a user to check through any photos or posts you are tagged before it appears in the profile.
- Social media companies allow you to turn off access by advertisers to your personal data.
- A choice of profile settings makes it easier for non-IT specialists to manage their privacy settings.
- Transparency: Users have the ability to download the information that the social media company holds.
- Data protection laws are being updated and social media companies are having to comply with new regulations.

How privacy rights are sacrificed
- When information is posted online it is no longer private.
- Social media platforms are vulnerable to security attacks e.g. malicious scripts, botnets, phishing attempts.
- Social media platforms are good delivery system for malware distributors.
- Due to the popularity of social media sites, they are a popular target for security attacks.
- Users may not keep up to date with changes and updates to privacy settings.
- Sometimes companies share user's data with third party entities without the user's knowledge or consent.
- Online social tracking – like buttons work with ad cookies to track users across different site to track your online behavior.

Lose control of data
- Repost and sharing: Social media allows users to repost and reshare comments, photos and videos. Once this has happened you lose control of your data.
- Third-party access: Third-party access to personal data, means that users have no control of how their data is used by these third-party organizations.
- Data breaches: Data breaches on social media servers, will lead to a loss of control of the data that has been leaked.
- User's technical and digital citizenship knowledge: Non-digital natives are not always aware of how their data is being used by others or how to adjust their privacy settings

Creation of permanent digital footprint
- Data on social media platforms is saved on servers, if an account is deleted, it is kept but not shared.
- The digital footprint exists in different forms e.g. screenshots of posts may be kept even if original post is deleted.

Ways to control digital footprint
- Data protection laws e.g. GDPR are tightening up on the duration of data being stored and the right to be forgotten.
- Data protection laws are not globally consistent.

Way to prevent loss of control
- Privacy settings: Social media users have the ability to adjust privacy and security settings on social media which gives them some control of their data.

Research:
Candidates should refer to cases they have discovered in their research, personal or on news sites and other sources, where digital imprinting has had negative and/or positive impacts, for example, from celebrity cases to personal cases, including their own experiences.

HL paper 3 question 4 markbands

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 **1–3 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, conclusions or future strategies.* • *No reference is made to the information in the case study or independent research in the response.* • *The response may be no more than a list.*
Adequate **4–6 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, judgments or future strategies that are no more than unsubstantiated statements. The analysis underpinning them may also be partial or unbalanced.* • *Implicit references are made to the information in the case study or independent research in the response.*
Competent **7–9 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 information in the case study or independent research are made at places in the response.*
Proficient **10–12 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, judgments or future strategies that are well supported and underpinned by a balanced analysis.* • *Explicit references are made appropriately to the information in the case study and independent research throughout the response.*