GCE Examiners' Report

Digital Technology

GCE

Summer 2025

Introduction

Our Principal Examiners' report provides valuable feedback on the recent assessment series. It has been written by our Principal Examiners and Principal Moderators after the completion of marking and moderation, and details how candidates have performed in each unit.

This report opens with a summary of candidates' performance, including the assessment objectives/skills/topics/themes being tested, and highlights the characteristics of successful performance and where performance could be improved. It then looks in detail at each unit, pinpointing aspects that proved challenging to some candidates and suggesting some reasons as to why that might be.[1]

The information found in this report provides valuable insight for practitioners to support their teaching and learning activity. We would also encourage practitioners to share this document – in its entirety or in part – with their learners to help with exam preparation, to understand how to avoid pitfalls and to add to their revision toolbox.

Further support

Document	Description	Link
Professional Learning / CPD	WJEC offers an extensive programme of online and face-to-face Professional Learning events. Access interactive feedback, review example candidate responses, gain practical ideas for the classroom and put questions to our dedicated team by registering for one of our events here.	https://www.wjec.co.uk/home/professional-learning/
Past papers	Access the bank of past papers for this qualification, including the most recent assessments. Please note that we do not make past papers available on the public website until 12 months after the examination.	Portal by WJEC or on the WJEC subject page
Grade boundary information	Grade boundaries are the minimum number of marks needed to achieve each grade. For unitised specifications grade boundaries are expressed on a Uniform Mark Scale (UMS). UMS grade boundaries remain the same every year as the range of UMS mark percentages allocated to a particular grade does not change. UMS grade boundaries are published at overall subject and unit level. For linear specifications, a single grade is awarded for the subject, rather than for each unit that contributes towards the overall grade. Grade boundaries are published on results day.	For unitised specifications click here: Results, Grade Boundaries and PRS (wjec.co.uk)

[1] ***Please note that where overall performance on a question/question part was considered good, with no particular areas to highlight, these questions have not been included in the report.***

Exam Results Analysis	WJEC provides information to examination centres via the WJEC Portal. This is restricted to centre staff only. Access is granted to centre staff by the Examinations Officer at the centre.	Portal by WJEC
Classroom Resources	Access our extensive range of FREE classroom resources, including blended learning materials, exam walk-throughs and knowledge organisers to support teaching and learning.	https://resources.wjec.co.uk/
Bank of Professional Learning materials	Access our bank of Professional Learning materials from previous events from our secure website and additional pre-recorded materials available in the public domain.	Portal by WJEC or on the WJEC subject page.
Become an examiner with WJEC.	We are always looking to recruit new examiners or moderators. These opportunities can provide you with valuable insight into the assessment process, enhance your skill set, increase your understanding of your subject and inform your teaching.	Become an Examiner | WJEC

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Executive Summary

The Summer 2025 saw a marked improvement in candidate performance across both AS and A2 units. Mean marks increased significantly across all units, with Unit 3 and Unit 4 seeing higher outcomes compared to 2024. Despite these improvements, entry numbers declined; A2 entries dropped by 13% (from 392 to 341) and AS entries by 3% (from 556 to 540). This series, however, presented a varied picture of candidate performance across all four units. Overall, the assessments were well received, with many candidates demonstrating secure understanding of core digital concepts and practical skills. Centres are to be commended for their preparation and support, particularly in the delivery of non-examined assessments, where the quality of submissions and adherence to administrative protocols showed improvements.

In Unit 1, candidates responded well to questions on social media impacts, user-centred design, and maintenance tasks, with structured answers and relevant examples. However, questions on AI enablers and development life cycles proved more challenging, with many candidates struggling to articulate key concepts such as Huang's Law or the Release phase. Stronger responses integrated technical terminology and real-world applications, while weaker answers lacked depth or misinterpreted the question focus.

Unit 2, the NEA, revealed a broad range of outcomes. Candidates who planned thoroughly and documented their development process iteratively were rewarded appropriately. The use of Game Maker Studio enabled some candidates to produce sophisticated games, including genres such as tower defence and RPGs. However, many candidates still produced games similar to GCSE-level maze games, and some lacked the coding knowledge to fully realise their design intentions. Asset and development logs were often completed retrospectively, and evaluations lacked critical reflection. Centres are encouraged to support candidates in exploring diverse genres and integrating stakeholder feedback throughout the development process.

Unit 3 assessed a wide range of topics including cybersecurity, expert systems, cloud computing, and network technologies. The paper was generally more accessible than in previous years, with a notable increase in the mean score. Candidates performed strongly on questions about data collection, cybersecurity measures, and cloud computing services. However, expert systems and network management software were less well understood, with many candidates unable to distinguish between components such as shells, heuristics, and fuzzy logic. Legal frameworks such as GDPR and the Computer Misuse Act were also underdeveloped in responses.

Unit 4, the second NEA, requires candidates to produce a fully functioning transactional website. The best submissions demonstrated strong integration of front-end and back-end development, fully including SQL and scripting languages. Wireframes and development logs were generally well presented, though some centres over-awarded marks where iteration and user feedback were limited. Evaluation remains an area for improvement, with few candidates critically assessing their outcomes against success criteria. Video walkthroughs were commonly used, but narration and technical explanation were often lacking.

Across all units, common themes included the need for deeper technical understanding, more critical evaluation, and improved documentation practices. To support future performance, candidates should be encouraged to engage with the full specification, apply technical terminology accurately, and reflect on their development processes. Centres are reminded to ensure all administrative requirements are met, including authentication forms and structured file naming. A range of resources, including CPD events, blended learning materials, and exemplar materials, are available via the WJEC website to support teaching and learning.

DIGITAL TECHNOLOGY

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UNIT 1: INNOVATION IN DIGITAL TECHNOLOGY

Overview of the Unit

This unit was completed on-screen within an allocated time of 2 hours.
The paper assessed connected digital systems and smart devices, the development of Artificial Intelligence, digital technology development life cycles, user-centred design and uses of social media by individuals and organisations.

The paper was accessible to all candidates and offered good opportunities for candidates to demonstrate their knowledge and understanding. Questions were mapped against the appropriate assessment objectives (AO1 and AO2) and designed to encourage application of knowledge in realistic contexts.

Comments on individual questions/sections

Q.1 **(a)** Most candidates correctly identified a protocol as a set of rules, but weaker responses lacked clarity on its purpose. Stronger responses included reference to enabling communication between computers.

(b) Many candidates were able to correctly describe TCP and IP separately. However, weaker answers often merged the two without clearly distinguishing their roles. Better answers used technical terminology.

Q.2 **(a)** This question had the best facility factor of the paper. Candidates generally provided detailed answers. Many were able to name and explain both positive and negative impacts of social media use by individuals, often including contemporary examples such as cyberbullying, identity theft, and community building.

(b) Candidates often structured answers by dividing into categories such as marketing, customer service, and brand building. Stronger responses gave clear examples of how businesses use real-time responses, feedback, and brand personality. Weaker answers lacked organisational context.

Q.3 Candidates varied in how well they differentiated the development phases. While most could explain feasibility and requirements analysis, some neglected key activities such as cost-benefit analysis or stakeholder feedback. Few gave confident explanations of the Release phase.

Q.4 **(a)** This question had the lowest facility factor of the paper. Many candidates struggled to identify all three enablers. References to Moore's Law were common, but few correctly cited Huang's Law.

(b) A significant number of responses referenced AI features like threat detection or automated responses but lacked depth. High-scoring answers integrated examples like phishing prevention and user behaviour analytics and explained the impact thoroughly.

Q.5 Strong responses provided detailed activities such as user interviews, wireframing, and feedback loops. Weaker answers tended to confuse UCD with general development models or omitted phases. Few candidates gave examples of tasks completed during the 'creating design solutions' phase.

Q.6 Candidates generally showed good understanding of media sharing platforms. Many referred to Instagram and TikTok effectively. High-level answers linked business benefits like discoverability via hashtags and engagement through Stories.

Q.7 Most candidates could describe at least two phases in the internet's evolution. Stronger responses covered all four with chronological detail. Common weaknesses included vague descriptions of the IoE phase or missing collaborative experiences.

Q.8 Candidates often gave good examples of data and software maintenance tasks (e.g., backups, updates). Hardware tasks were less well explained, with some missing the connection to performance and lifespan. The best answers justified each task clearly.

Q.9 Candidates generally engaged well with this question. Strong responses addressed environmental impact across manufacture, use, and disposal. High-scoring answers referenced rare earth materials, e-waste, and energy consumption. Weaker answers often omitted one stage or lacked examples.

Summary of Key Points

- Candidates performed best on social media impacts (Q2a), maintenance tasks (Q8), and UCD phases (Q5), showing confident understanding and structured answers.
- Questions on AI enablers (Q4a) and digital system development phases (Q3) were more challenging, with many missing key concepts like Huang's Law or detailed phase activities.
- Strong responses often included real-world examples and correctly applied technical terms; weaker answers lacked depth or misinterpreted phases and roles.

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UNIT 2: CREATIVE DIGITAL PRACTICES

Overview of the Unit

This unit requires learners to focus on the end-to-end creation of a game. Candidates will investigate, plan, design, create, test and review a game of their choice. Throughout the production of the solution learners are required to produce a log that evidences the development of the solution.

This unit represents 20% of the qualification and comprises of the below AOs:

- AO2 - 2%
  Apply knowledge and understanding to investigate, analyse and evaluate digital technology products and systems, approaches to their development, and their impact on individuals, organisations and society.
- AO3 - 18%
  Plan, design, create and develop digital products.

Many centres had assessed the work accurately and had clearly explained their assessment decisions which aided the moderation process.

It would aid the moderation process if centres would ensure that candidates' work and documentation are saved with filenames that clearly identify the centre number, candidate number and candidate name. As detailed in the specification for this qualification, "For example Diane Smith (centre number 68999, candidate number 12345) would store their work in a folder named 68999_12345_SM_D. A folder structure as with the exemplar material would also aid in the moderation process. It is an essential requirement that all candidate work is authenticated, and the authentication sheets are uploaded with the candidates' work. There were some instances where this was not the case, which then required moderators to and WJEC officers to contact centres to request missing paperwork.

The Joint Council for Qualifications (JCQ) document "Instructions for conducting non-examination assessments" states that: "All candidates must sign a declaration to confirm that the work they submit for final assessment is their own unaided work. Teachers must sign a declaration of authentication after the work has been completed confirming that:

- the work is solely that of the candidate concerned.
- the work was completed under the required conditions.
- signed candidate declarations are kept on file."

It should also be noted that any additional candidates' work and/or paperwork requested by moderators should be provided in a timely manner.

Comments on individual questions/sections
Candidates are permitted to come up with the genre of game that they wish to create and set about researching and creating assets for their game. Some candidates made use of freely available graphics and audio assets and utilised these within their games.

During design work candidates should identify the objectives for their game solutions. These objectives should inform all sections of the candidates' work from this point onwards. For each objective, candidates should:

- Create and/or source in-game audio
- Create and/or source characters graphics
- Create and/or source background graphics
- Identify the core components of their game
- Identify the gameplay, interactivity, narrative, objectives, structure, target audience and visual style of their game.

Many candidates are still producing games that are of a slight improvement to the maze games that were created at GCSE level, candidates are encouraged to try other genres in future. Some game types that stood out this year were bullet death, tower defence and platformers, some candidates ventured into RPG and storytelling games which demonstrated the candidates' advancements with the GMS2 engine.

Comments on approaches to internal marking Investigating Games:

Many candidates attempted to write about three different games to achieve a higher mark, but they often wrote too little and were superficial with the analyses. Structuring their essays with clear points to answer per game would enable them to gain more marks, it would be better to write in detail about two games rather than partially cover the required outcomes for three games.

Planning Games:

Some candidates appear to have created the asset and development logs after having carried out the work, it is essential that these documents be created prior to the task commencement and then filled is as they work through the NEA.

Making Informed Design Decisions:

Many candidates appear to lack the knowledge at this point to successfully give examples of code that they would make use of in the game, candidates should make use of prior learning from the GCSE or have experience of basic movement, scoring, audio playing etc before attempting this section.

Creating Games:

Many candidates were able to make use of GML to bring their game designs to life, the incorporation of stakeholder feedback, the use of Game Maker platform tools, good coding practices, and the ability to review and document changes were evident in the candidate's' final version of their games.

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Testing and Developing Games:

Many candidates have now adopted the screen recording method of conducting testing, however, if a test proves negative, they should address the error and demonstrate how they solved it with a further test. This iterative process is crucial in the games design and development industry and should be integrated in future submissions.

Refining and Reviewing Games:

Candidates should make use of their design documents and measure the game against the success criteria.

Presenting Outcomes:

Many centres have adopted the approach of submitting two videos, one for the game play and one for the code descriptions. Candidates who submitted over the shoulder videos tended to score lower, it is advised that candidates make use of screen recording software to record and narrate their game play and explanations of game mechanics and coding.

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UNIT 3: CONNECTIVE SYSTEMS

Overview of the Unit

Unit 3 contributes 30% of the A-level qualification and assesses the following assessment objectives (AOs):

- **AO1 – 50 marks**
  - Demonstrate knowledge and understanding of digital technology systems, including how they are used by, and impact on, individuals, organisations and society.

- **AO2 – 50 marks**
  - Apply knowledge and understanding to investigate, analyse and evaluate digital technology products and systems, approaches to their development, and their impact on individuals, organisations and society.

During this series, the paper assessed a broad range of topics, including:
- Data collection purposes and methods
- Cyber-security measures, legal and professional responsibilities
- Management Information Systems in Healthcare
- Network media (twisted-pair, fibre-optic) and management software
- Artificial Intelligence and the Turing Test
- Expert-system components (shells, heuristics, fuzzy logic)
- Impacts and enabling technologies of mobile communication
- Phishing attacks and legal frameworks
- VLAN and WLAN characteristics, and VPN technologies
- Cloud-computing services and business benefits.

The mean total for Unit 3 this series was approximately 36.8 out of 100 marks, a significant increase compared with 31.0 in 2024, suggesting candidates found this paper more accessible this year.

Comments on individual questions/sections

Q.1 This question focused on the purposes and methods of data collection. This was one of the strongest performing questions, with mean scores of 3.9 out of 6 for part (a) and 4.6 out of 6 for part (b). Candidates demonstrated a good understanding of data collection purposes and were able to suggest appropriate methods. Responses often referenced real-world examples, which enhanced the quality of answers. Indeed, part (b), with a facility of 76.1 %, ranked among the three best-performing questions of the paper.

Q.2 This question explored cybersecurity measures and legal responsibilities. Again, performance was strong, with mean scores of 4.5 out of 6 and 3.2 out of 6 for parts (a) and (b) respectively. Candidates were confident in discussing encryption, firewalls, and access control. However, some responses lacked depth when addressing legal frameworks, suggesting a need for more explicit teaching of legislation such as GDPR and the Computer Misuse Act. Notably, part (a), achieved a 75.6 % facility, making it the second of the top three performing questions.

Q.3 This question examined the role of HMIS and communication infrastructures. This question saw a drop in performance, particularly in part (b)(ii), where the mean score was just 1.7 out of 4. While candidates could describe twisted pair and fibre optic cables, fewer were able to articulate the role of network activity management software effectively. Around half tackled monitoring and logging successfully, but very few addressed capacity planning, automated alerts, security auditing or fault-tolerance.

Q.4 This question addressed artificial intelligence and the Turing Test. Performance was mixed, with part (a) averaging 2.4 out of 4 and part (b) 2.6 out of 6. Candidates often gave generic definitions of AI but struggled to provide detailed or accurate descriptions of the Turing Test's principles, such as the roles of interrogator versus hidden subject and the precise pass/fail criteria.

Q.5 This question, which required an explanation of expert systems, was the lowest scoring question overall, with a mean of 1.5 out of 6 and only 25.4 % of candidates achieving full marks. Many responses lacked clarity or failed to distinguish between shell, heuristics, and fuzzy logic. This section's 25.4 % facility placed it among the three weakest-performing questions of the paper.

Q.6 This question explored the impact of mobile technologies. While parts (a)(i) and (ii) were well attempted (means of 2.3 out of 3 and 2.2 out of 3), part (a)(i), on social impacts, achieved a 76.0 % facility, making it the third of the top three performing questions. Part (b) had a lower mean of 2.8 out of 8, with many candidates listing technologies without explaining how they enable mobile communication, indicating a gap in understanding of core infrastructure and protocols.

Q.7 This question focused on phishing and legal protections. Part (a) was reasonably well answered (mean 3.8 out of 6), but part (b) had a lower mean of 1.9 out of 6. Candidates could describe phishing techniques but struggled to discuss relevant legislation in detail. Part (b)'s 31.5 % facility factor placed it among the three weakest-performing questions.

Q.8 This question was among the weakest areas. Part (a), which asked for characteristics of VLAN and WLAN, had the lowest mean score of the paper (1.0 out of 4), with only 23.8 % achieving full marks, one of the bottom three facility factors. Part (b), on VPN usage, was better answered (mean 3.3 out of 6), though responses often lacked depth in evaluating implications for streaming platforms.

Q.9 This question, a 10-mark question on cloud computing, was one of the strongest overall, with a mean of 5.7 and 56.9 % of candidates achieving full marks. A majority named the three service models (IaaS, PaaS, SaaS) and explained business benefits such as cost savings, scalability and resilience.

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UNIT 4: DIGITAL SOLUTIONS

Overview of the Unit

Unit 4 is a non-examined assessment (NEA) that requires candidates to plan, design, develop, test, and evaluate a fully functioning transactional website. The assessment is structured around seven key criteria, each aligned to specific assessment objectives (AO2 and AO3), and collectively worth 100 marks.
The unit continues to offer candidates a valuable opportunity to demonstrate their technical and creative skills in a practical context. The majority of centres submitted work that was well-structured and appropriately evidenced. There was a broad range of outcomes, with some candidates producing highly sophisticated digital solutions that reflected excellent understanding of both front-end and back-end development.
Moderation revealed that most centres applied the assessment criteria accurately. However, a small number of centres awarded marks that were out of tolerance, particularly in the higher mark bands. These discrepancies were most commonly observed in the areas of data processing, scripting, and evaluation.

Comments on individual questions/sections

(a) Investigating Transactional Websites (AO2 – 15 marks)
Most candidates demonstrated a sound understanding of the characteristics of transactional websites, including front-end and back-end structures. Stronger submissions included critical comparisons of B2B, B2C, and C2C models, and evaluated how research informed their own design decisions. Weaker responses tended to be descriptive, lacking evaluative commentary or clear links to the candidate's own project.

(b) The Design of a Transactional Website (AO3 – 15 marks)
Wireframes were generally well presented, with many candidates showing clear user journeys and consistent styling. High-scoring candidates provided detailed CSS and algorithmic planning, along with measurable success criteria. In some cases, however, marks were over-generously awarded where there was limited evidence of iteration or user feedback influencing design decisions.

(c) The Capture, Storage and Processing of Data (AO3 – 15 marks)
This criterion was a key differentiator between mid- and high-band candidates. Strong submissions included well-normalised databases (3NF), clear ERDs, and validation routines using JavaScript or PHP. Some centres over-rewarded candidates who provided only basic form design or lacked evidence of data cleansing and processing logic.

(d) Use of RDBMS, Scripting Languages and SQL (AO3 – 15 marks)
Candidates who performed well in this area demonstrated integration of SQL with server-side scripting (e.g., PHP), including CRUD operations and dynamic content generation. However, some candidates lacked complexity in their SQL queries or failed to justify their choice of RDBMS. Centres are reminded that evidence of effective database interaction is essential for higher band marks.

(e) Developing and Reviewing a Transactional Website (AO3 – 20 marks)
Development logs varied in quality. The best examples included dated entries, screenshots, and commentary on technical challenges and solutions. Candidates who reflected on feedback and demonstrated iterative development were appropriately rewarded. Some centres awarded high marks where logs were descriptive rather than analytical, or where version control was not evident.

(f) Testing and Refining a Transactional Website (AO3 – 10 marks)
Testing was generally well-structured, with candidates using test tables and screenshots to evidence outcomes. However, end-user testing and accessibility checks were often underdeveloped. Centres are encouraged to support candidates in planning comprehensive testing strategies that go beyond functional checks.

(g) Evaluating a Transactional Website (AO2 – 5 marks)
Evaluation remains an area for improvement. While most candidates reflected on their performance, only a few provided critical self-analysis or measured their outcomes against original success criteria. High-band responses included thoughtful consideration of future improvements and time management.

(h) Presenting Outcomes (AO3 – 5 marks)
Most candidates submitted a video walkthrough of their website. The strongest presentations clearly demonstrated functionality, user interaction, and back-end processes. Some videos lacked narration or technical explanation, which limited the ability to assess understanding.

Recommendations for Centres
1. Ensure that candidates clearly link their research to their own design decisions in the investigation section.
2. Encourage the use of version control and iterative development logs that reflect technical decision-making.
3. Support candidates in developing more complex SQL queries and integrating them meaningfully with their front-end.
4. Reinforce the importance of critical evaluation and the use of measurable success criteria.
5. Remind candidates to include narration or annotations in their outcome videos to explain functionality and code.
6. Encourage candidates to compress their video file using appropriate formats to allow efficient uploading to the moderation process

Supporting you

Useful contacts and links

Our friendly subject team is on hand to support you between 8.30am and 5.00pm, Monday to Friday.
Tel: **029 2026 5355**
Email: **digitech@wjec.co.uk**
Qualification webpage: AS/A Level Digital Technology

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