Chief Examiner's Report

T Level Technical Qualification in Digital Business Services 603/6902/4

Autumn 2023 – core A and B

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Assessment Dates: **core A 5 December 2023**

              core B 12 December 2023

Paper number: **P002242**

        P002243

This report contains information in relation to the externally assessed core sub-component provided by the chief examiner, with an emphasis on the standard of student work within this assessment.

The report is written for providers, with the aim of highlighting how students have performed generally, as well as any areas where further development or guidance which may be required to support preparation for future opportunities.

Key points:

- grade boundaries
- standard of student work
- responses to the external assessment questions
- administering the external assessment

It is important to note that students should not sit the core exam until they have received the relevant teaching of the qualification in relation to this sub-component, and that both papers must be taken in any given series that a student sits the core exam.

Grade boundaries

Raw mark grade boundaries for the series are:

	Overall	Notional Boundaries	
		Paper A P002242	Paper B P002243
Max	212	106	106
A*	167	83	83
A	147	74	73
B	127	64	63
C	107	54	53
D	88	4	43
E	69	35	34

Grade boundaries are the lowest mark with which a grade is achieved.

Students receive a grade for the core exam sub-component as whole, and although there are no official grades for the individual assessments in the core exam, it can be useful for students and teachers to see how the core exam grade was achieved. The grade boundaries given for each assessment are known as 'notional grade boundaries', as they are for illustrative purposes only. For further information on notional grade boundaries, please see our guide T Levels: Notional boundaries for the core exam assessments available on the qualification page of our NCFE website.

For further detail on how raw marks are converted to uniform marks (UMS), and the aggregation of the core component, please see refer to the qualification specification.

Standard of student work

This was the fourth series in which these papers were sat. Overall, the standard of student work remained relatively consistent with the previous series. Students were generally able to access a range of knowledge marks but struggled to demonstrate understanding of more challenging concepts and to demonstrate higher-order skills such as analysis and evaluation.

Students were generally able to attempt most questions on both papers with fewer left blank than in previous series. Students showed some ability to recognise the demands of command verbs, but generally struggled to use data selectively and were not always able to analyse their arguments in sufficient depth.

Extended writing items tend to elicit marginally better responses, but students tend to struggle to access higher mark bands as a result of weak subject knowledge and a lack of accurate use of technical vocabulary and contextual data.

Entries for this series still represent a wide range of attainment, but a large proportion of students are still achieving marks at the lower end of the range.

Responses to the external assessment questions

Core paper A

Section A: Culture and context

Students generally performed well on this section, achieving at least one mark on most questions. Questions 1 and 2 which allowed students to demonstrate 'knowledge in isolation' tended to be well answered, with most students achieving full marks. The remainder of the section proved more challenging with most students struggling to gain full marks on questions owing to a lack of contextualisation of answers, a lack of depth in their analysis and a lack of effective evaluation.

For question 1, most students were able to correctly state a factor that can influence the business environment.

For question 2, a majority of students were able to describe a measurable benefit of using digital businesses, although a minority of students seemed to confuse this with more general benefits of business activity and consequently gained no marks for this item.

Question 3 required students to identify one type of hacker and explain why that type of hacker might target a farm shop. Most students were able to successfully identify a type of hacker, but a large portion of students struggled to explain the reasons why that type of hacker might target a farm shop in context. For questions such as this, generic explanations are inadequate and students should draw inferences from the data provided in order to contextualise their knowledge.

Question 4 required students to name a risk faced by businesses when accepting digital payments, which most were able to do successfully, and then explain how that risk might affect a sandwich shop. In many cases, students struggled to answer the second half of the question. A common error in part B was repeating

their answer to part A. It was not possible to give credit for repetition. Students should be aware that their answers to each part of questions like this should be distinct, albeit related.

Question 5 generally performed relatively poorly, with few students able to accurately demonstrate knowledge of the work undertaken by a change advisory board. Centres should ensure that all of the content of the course is taught accurately and that students are able to apply that knowledge in a range of contexts. In the case of this question, because students tended to get part A wrong, it was almost impossible to get any marks for part B.

Question 6 tended to elicit strong answers with most students able to name a relevant stakeholder for part A, and to make at least one explanatory point relating to the views of their identified stakeholder on VR training products for a business operating in the marine supply industry. Students tended to struggle to gain their second mark for this question owing to a lack of detail in their responses. Students should be given the opportunity to review model answers to questions such as this, for example, those contained in the mark scheme for this assessment, so they are familiar with the depth and quality of work expected from them in response to this type of question.

Question 7 tended to yield accurate answers to part A, with most students able to identify at least one end user factor that should be considered by a merchandise business when designing an app. Part B required students to explain how each factor would help the business owner meet customer needs. Students were often able to gain one mark for explaining each point but struggled to gain a second mark for either explanation. Answers often repeated elements of the answer to part A and were thus unable to get credit for that part of their response to part B. Answers tended to lack detail and made poor use of contextual data.

Question 8 tended to prove challenging for students, with some able to show basic knowledge of what a code of conduct might be/include, but most struggling to explain why a driving school might use a code of conduct. A lack of basic knowledge about what a code of conduct might include or be used for made it challenging for students to achieve marks on this item, as they tended to lack the technical knowledge to apply to the case study and consequently much of the analysis presented was simple conjecture and truism.

Question 9 tended to gain marks for basic knowledge of mitigation techniques, with most students able to describe at least one, but they tended to struggle to accurately discuss those techniques in the context of a library with an eSport suite. Students tended to focus on positives and benefits but should bear in mind that reasoned judgements might require a balanced argument with benefits contrasted again drawbacks in order to highlight differing perspectives on an issue.

Question 10 was the first extended writing item on this paper. Students needed to demonstrate an understanding of the issues involved in setting up an e-commerce site for a veterinary practice. Students could often gain marks for identifying relevant factors, but often struggled to apply those factors to the data provided and tended to give relatively short answers that did not analyse or evaluate those factors in any depth. A lack of reasoned judgements based on different perspectives limited the number of marks that students could achieve. The mark scheme for this paper exemplified the level of application and the depth of analysis that students are expected to demonstrate in answers to questions such as this. Students should consider these examples when preparing and practicing for future assessment windows.

Section B: Diversity, inclusion and digital environments

Students generally performed well on this section, demonstrating knowledge of a range of concepts, with the ability to demonstrate higher order skills such as analysis and evaluation tending to be weak, limiting the marks that they could achieve.

Question 11 performed relatively well with most students selecting option A – applying digital inclusion principles.

Question 12 polarised students with some able to correctly state the name of the protocol. Many others were not able to give a correct answer, substituting words such as secure and transfer for various almost synonymous words connected to internet connections, such as transport and safety. In the case of questions like this where students need to articulate an acronym, it is important that they understand that they must give the precise answer and that related words of tangential relevance will not be accepted as they are not accurate.

Question 13 performed relatively poorly. As in previous series, students seemed to struggle with the more technical aspects of cloud computing. Few students were able to describe PaaS accurately, with a large number still equating it in vague terms with popular platforms such as Google drive. Given that students could rarely describe PaaS for part A, it tended to be impossible for them to gain points for articulating the benefits of this type of platform given that they seemed to lack a clear understanding of the concept.

Question 14 required students to consider different types of discrimination. Many students were able to use a protected characteristic as the basis for their description in part A, or to explain how either direct or indirect discrimination might occur. In some cases, students were also able to use data from the provided case study to support their answer to part b, highlighting aspects of the business incubation services workspace that could be adapted to reduce discrimination, with many answers focusing on physical changes such as ramps to support the disabled.

Question 15 tended to perform relatively poorly with many students unable to demonstrate basic knowledge of the different features of VPNs and LANs. Students should understand the characteristics of these networks, the benefits and drawbacks of them and suitable applications of them. They should be able to apply this knowledge in a range of different scenarios.

Question 16 performed relatively well, with many students able to get at least one mark for describing a relevant hardware component. Many students recognised that the tasks undertaken by the marketing agency, such as video editing, would require large amounts of memory, so many answers emphasised the importance of this, although few could fully explain why RAM is necessary for video editing. Students should be able to differentiate between components and peripherals.

Question 17 required students to show knowledge of the impact of moving to digital services for a business producing meal plans and similar products via post. Most students were able to get a mark for part A by showing some basic knowledge of the impact of digital services, but few were able to gain more marks by linking this knowledge to the case study. Some students were able to gain a mark in part B by showing some understanding of inclusion principles, but few were able to adequately contextualise their responses.

Question 18 was the second and final extended writing item on this paper. Students needed to consider the suitability of physical and virtual systems for a training provider. In many cases, students could make simple statements about the characteristics of physical systems, and at times virtual systems, but students tended to struggle to apply this knowledge and were generally not able to make well-reasoned judgements about which type of system would be more suitable for the case study business.

Section C: Learning and planning

As in previous series, this section of the paper proved more taxing for many students, with the ability to demonstrate knowledge of concepts such as professional development and project planning proving particularly difficult.

Question 19 was relatively well answered with many students able to name a stage in Gibb's reflective cycle.

Question 20 proved more challenging for students with few able to accurately state a reason for including quality management within a project plan.

Question 21 proved challenging for students with many students unable to define bias. Consequently, they struggled to explain why bias should be checked for in source material when preparing market research for a restaurant.

Question 22 proved challenging with students struggling to describe the meaning of the term budget, and also struggling to explain why a fancy dress retailer might need to produce a budget.

Question 23 required students to describe blockchain and explain how it might be used by a software company. Few students were able to explain what this technology is, and even fewer still could explain what its uses might be, let alone do so in context.

Question 24 required students to identify a project planning technique. This was generally well answered, with most students able to name a relevant technique, although a minority of students did confuse the techniques with tools such as producing a flowchart. The second part of the question required students to explain how a craft business could use the identified technique. This was generally not well answered with many students failing to show how the technique could be used to develop an online shop.

Question 25 required students to discuss the impact of project planning on the effectiveness of an app launched by a cat café. Students generally struggled to show knowledge of project planning and struggled to give an answer that fully integrated relevant details from the context.

Question 26 focussed on the benefits of professional development for medical students. Students tended to struggle to earn marks, with many giving an answer that considered the benefits of training to a business rather than the benefits of professional development to an early career professional.

Core paper B

Section A: Tools and testing

This section tended to be relatively accessible for students who seemed able to demonstrate knowledge of a range of topics from this content area.

Question 1 was generally well answered, with most students selecting option A, Impact assessment. Some students did select option D, risk management, which is not a purpose of testing digital components as listed in the specification.

Question 2 was also well answered, with most students able to name a project management methodology, with many choosing agile as their response.

Question 3 required students to give a purpose of a mark-up tool and explain how these tools could be used to provide feedback. In general, students seemed to find this question challenging, giving responses that talked in general about the benefits of cloud-based document editing, such as multiple users making edits at the same time.

Question 4 required students to give a purpose of a budget sheet and to explain how this might help the owners of a car wash to understand the costs of a process. This question proved challenging with many students unable to demonstrate knowledge of budget sheets and generally unable to understand the budgetary implications of applying a car wrap.

Question 5 required students to name steps in the root cause analysis process, and to explain how this process could be used to resolve an issue with a webform. Most students were able to name stages in the process, but few were able to use the data provided to explain how the process could be used to solve problems for the web design company in the case study.

Question 6 was generally well answered with most students able to demonstrate knowledge of penetration testing, and some able to apply that knowledge of the case study of a business offering cyber security

services. In general, students did not identify and use relevant information in the case study in order to achieve full marks.

Question 7 required students to demonstrate knowledge of either concept, usability or stress testing in the context of a plumbing business that is launching a new web app. Most students were able to demonstrate knowledge of one or more testing method, but many struggled to apply this knowledge to the case study provided. The question required students to assess the importance of using the testing method. Many students simply described how the testing method could be used, thus failing to gain access to the full range of marks available. Some students also wrote about more than one method of testing. Students should be prepared to read questions carefully so that when they are asked for a specific number of examples or foci in their response, they do not add additional material that is not able to gain them any further marks.

Question 8 required students to demonstrate knowledge of shared digital workspaces, which they needed to apply to the context of a leisure business that provides activities such as axe throwing. While students were generally able to demonstrate simplistic knowledge of shared workspaces, such as being able to collaborate digitally over large geographical areas, they generally struggle to apply that knowledge to the case study. Most responses tended to focus on the advantages of shared workspaces and virtual office environments.

Section B: Legislation and security

This section tended to elicit relatively good responses to questions relating to laws, but students often struggled with more technical content relating to security. As with other parts of the paper, students generally struggled to apply theory to context in their answers

Question 9 was generally well answered. Students were generally able to identify a relevant law.

Question 10 proved more challenging with relatively few students able to demonstrate knowledge of cyber essentials.

Question 11 required students to identify professional organisations and then explain how one such organisation could help an equine service firm meet industry standards. In general, students struggled to demonstrate knowledge of both professional bodies and industry standards, struggling to name relevant organisations or show knowledge of the work that these institutions might do with or for firms. Students also seemed to lack an understanding of the concept of industry standards, rending to cite general arguments around ethics and laws.

Question 12 related to the threats posed by password-free access to a public Wi-Fi network in a coffee shop. Students could generally name a potential threat in part A, but in part B, explaining how this threat might impact the business or its customers proved more challenging, with some students making general points about data theft or legal implications, without making any clear link to the specific issues faced by the case study business. In general, students should be prepared for this assessment by reviewing unseen case studies and applying technical knowledge to them.

Question 13 related to a pet grooming business, with students having to identify forms of malware and then use examples to explain how malware could impact customers. Most students were able to identify one or more forms of malware, but in general, students tended to struggle to explain the impact of this software. Many answers made vague references to data theft or computers being corrupted, but few used relevant technical terminology or linked to the case study.

Question 14 related to the implications of keeping sensitive data confidential in relation to an HR firm. This generally led to answers that showed basic knowledge of legislation such as GDPR or made reference to public relations issues. Students rarely showed any technical knowledge of this topic, for example, no students were able to refer to the legal obligations of a data processor. Responses rarely related to the case study and consequently the number of marks that were achieved were limited.

Question 15 related to an online shop selling eyewear, requiring students to assess the importance of compliance with legislation. Most students were able to make reference to relevant laws such as GDPR, but few were able to apply that knowledge to this case study in any depth. Most responses made simplistic judgements such as 'it will lead to a bad reputation' without any supporting evidence. Students should be able to make reasoned judgments based on sound analysis that links back to the case study provided.

Question 16 related to the processes and protocols needed for online operations of a surf shop. Students were often able to make simplistic statements such as 'Encryption scrambles data so it cannot be read…' or 'The business should have a policy on use of personal devices…', but these were rarely explained in detail using relevant technical terminology and students generally just described processes and protocols, or related issues, without making any analytical or evaluative comments. Few responses used the case study data effectively. In general, responses to extended writing items ought to focus on detailed analysis of a small number of issues. Many students wrote long descriptive answers outlining a range of points of knowledge in a relatively simplistic way without considering how or why specific protocols and processes should be implemented.

Section C: Digital analysis and data

This section proved somewhat challenging for students, particularly questions relating to professional learning and algorithms. Students seem to struggle with these aspects of knowledge.

Question 17 was generally well answered with most students able to name a type of data.

Question 18 was more challenging for students, with students needing to name a form of storage that could help a martial arts business avoid data loss. Some students were unable to give methods of storage. A surprising number of responses suggested that a RAID array was a method of storage – as opposed to a way of configuring storage devices. Many students did successfully identify appropriate devices, such as an SSD or cloud storage, but few could accurately explain how these methods would prevent data loss. Few responses made use of the provided contextual data.

Question 19 related to the characteristics of an algorithm. Students needed to name a characteristic of an algorithm, such as finiteness, and then explain how this related to the design of a promotional algorithm for a smoothie bar. While some students were able to name a characteristics of an algorithm, they tended to struggle to relate their chosen characteristic to the design of a multiple-choice app. This is an area where students have struggled in the past and apparently continue to lack adequate understanding. Centres should focus on ensuring that students understand what algorithms are, how they can be used and how they are designed and implemented, helping students to understand specification content and to apply it to unseen case studies.

Question 20 related to tools for algorithm design. While there has been an improvement in the number of students who can name such tools, for example flow charts or pseudocode, few students seem to understand what these tools are or how they are used. For example, while the question required students to explain how a teacher could help students to learn about algorithms, most answers simply made vague generalisations, such as 'flow charts are visual' or 'pseudocode is easy to understand' without any explanation as to why this might be the case or how it might help understand an algorithm.

Question 21 related to the collection of external data to produce market research reports. Most students were able to name a source of external data. Few students were able to show knowledge of what different sources of data might contain or how that data could be used. Consequently, students were unable to explain how that type of data could be used to produce a report.

Question 22 related to the maintenance of data by a training business. Some students answered this question well, noting the context of a student needing accurate certificates to be sent to the right address and explaining why periodic checks that the correct address is held might be important. Some responses

simply made generic comments about it being important for data being up to date, without any technical or contextual argument as to why. Such answers were not able to gain any marks owing to a lack of understanding of the issue.

Question 23 was challenging for students, with few responses showing any actual understanding of what machine learning is or how it can be used. The question required students to consider how a manufacturer of airline seats could use such algorithms to analyse data. A minority of students noted that machine learning could be applied to large data sets or that it could provide unique insights that human analysis could not. Few students were able to link those points to the case study in any meaningful way or to develop either point into a cogent chain of analysis. Students generally lacked any understanding of the drawbacks of this technology. In general answers needed to be more analytical and less descriptive, more nuanced and less one-sided.

Question 24 was about the importance of a common approach to storing and formatting data. Students tended to lack any understanding of what this might mean, with few students able to give examples of different types of data formatting or the implications of teams within an accounting firm using different formatting and how this might make the interchange of data between teams or the interoperability of systems more challenging. Most answers focussed on storage, talking about using specific mediums such as hard drives, largely missing the point of the question.

Administering the External Assessment

The external assessment is invigilated and must be conducted in line with our Regulations for the Conduct of External Assessment.

Students must be given the resources to complete the assessment, and these are highlighted within the Qualification Specific Instructions Document (QSID).