**BCS Higher Education Qualification**

**Diploma**

**April 2025**

**EXAMINERS' REPORT**

**Principles of Internet Technologies**

## Questions Report:

| **A1** | |
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| | Overall, this question was answered fairly well but some responses lacked depth.<br><br>a) Some candidates did not mention the technology used and some candidates did not note characteristics such as machine readable, anonymous platforms, metaverses, and decentralised databases ned. One candidate was not able to describe Web 1.0, 2.0 and 3.0.<br><br>b) Responses to this part of the question were good overall with most candidates providing some description of the initial purpose of the 1960s internet. One candidate was not able to answer this question with relevant and appropriate examples and descriptions.<br><br>c) Most candidates were able to demonstrate the dynamics of search engines by referring to crawlers and how they work. One candidate was not able to provide an appropriate description of how a search engine works. One candidate provided brief responses that lacked depth, although correct. |
| **A2** | |
| | Part a) was answered well, on the whole, with most candidates able to provide examples.<br><br>i) A few candidates provided general descriptions of poor navigation that did not refer to the need to provide clear and consistent navigation. A small number of candidates did not describe how poor navigation can be fixed.<br><br>ii) Most candidates were able to describe the causes of slow loading speed and why it is a usability issue. Fewer candidates were able to describe how slow loading speed can be addressed. The highest scoring candidates were able to provide more detail.<br><br>iii) The highest scoring candidates were able to describe elements of inconsistent design while the lower scoring candidates did not make reference to the lack of consistency in colours, fonts and layout. The highest scoring candidates made note of the principle of visual design and the use of a consistent style guide. Candidates not achieving the maximum marks did not make reference to elements of consistent style guide. |

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| | b) Most candidates were able to identify advantages and disadvantages. The higher scoring candidates were able to provide more detailed descriptions for advantages and disadvantages. Some candidates duplicated information across advantages identified. Some candidates we're not able to identify the disadvantages of development and maintenance costs. One candidate provided brief responses that lacked depth. |
| **A3** | |
| | This question was answered poorly overall by the candidates that attempted it.<br><br>In part a) candidates described the DOM model and the structure, but many did not note independence of the programming language and common interface aspects.<br><br>In part b (i) candidates provided good descriptions of the box model and its elements however, the flex model was not described as well with one candidate not providing an answer for this.<br><br>In part b (ii) descriptions of how the box model and flex model affect the layout of elements on a page were basic and candidates did not score maximum marks because they didn't refer to the box model's interaction with other elements as well as how the elements are arranged in the flexbox model.<br><br>In part c (i) candidates noted rules, schemas and content but did not elaborate to refer to elements, attributes, entities and notations in an XML document as well as how they are organised and nested.<br><br>One candidate did not fully attempt part c(ii) or include an example of a DTD declaration and corresponding XML document. Candidates who did attempt the example provided very basic information. |
| **B4** | |
| | a) Only one candidate scored maximum marks for this question by expanding each of the acronyms correctly. Other candidates expanded only some of the acronyms correctly whilst one was able to expand only a single acronym.<br><br>b (i) one candidate scoring maximum marks was able to provide a good description of dial-up and broadband with advantages. Some candidates provided general descriptions of dial-up and broadband that did not identify the main characteristics.<br><br>B (ii) good examples of advantages were provided by higher scoring candidates. Candidates scoring fewer marks for this question provided less detail and did not provide two advantages.<br><br>c) Responses were, on the whole, general. One candidate was not able to provide a description for Wi-Fi calling or state any benefits.<br><br>d) Most candidates were able to describe mobile and Wi-Fi and the higher scoring candidates provided more detailed examples along with the characteristics of each. One candidate was not able to describe what mobile data is and how it differs from Wi-Fi. |

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| **B5** | |
| | a) Scored the maximum marks for this question by describing all four primary layers and including a relevant protocol for each. Some candidates were not able to accurately explain all the layers or provide a relevant protocol. One candidate correctly explained what each layer provided but did not include a relevant protocol for each explanation.<br><br>b) Responses to this part of the question varied with the higher scoring candidates providing two detailed advantages for both fixed and dynamic IP addresses. A number of candidates provided general responses or brief answers. One candidate provided some advantages and disadvantages, but they did not make reference to fixed and dynamic IP addresses in their answer.<br><br>c) Few candidates were able to score maximum marks for this question. Some candidates provided an example of an IP address but were not able to accurately identify the two parts using the correct terminology. |
| **B6** | |
| | a (i) A small number of candidates were able to accurately describe QR codes by noting that they are two-dimensional and detailing the types of information they encode. One candidate described what can be done with a QR code but did not describe what QR code is. One candidate did not answer this part of the question.<br><br>a (ii) Only one candidate correctly identified QRLjacking and Quishing as security risks whilst most of the other candidates provided general responses or were not able to identify two security risks.<br><br>b) Responses varied with some candidates providing more in-depth answers than others which noted the use of security rules and the monitoring of traffic from the network. Some candidates were able to describe a firewall in more detail than others. The highest scoring candidates made reference to a defined set of security rules and unauthorised and malicious traffic.<br><br>c) A range of responses were received to this question which varied in detail and specific reference to vulnerabilities. Some responses did not note vulnerabilities. One candidate described solutions to vulnerabilities but not did not identify the vulnerabilities that a risk assessment of a network may identify. One candidate's response referred to general connection and low bandwidth issues and not vulnerabilities.<br><br>d) A small number of responses scored well by correctly describing bandwidth and how low bandwidth can affect the performance of a network. One candidate did not describe bandwidth in the context of network but was able to state how low bandwidth can affect the performance of a network. |