Examiner Report	
Qualification Name	Higher Education Qualification
Qualification Level	Diploma
Date/ Series	April 2024
Module	Principles of Internet Technologies
General Comments	

Overall, for Part A very few candidates attempted question A1 indicating that candidates were not confident in knowledge of JavaScript, both in writing a function and answering questions in relation to its use. Many candidates' knowledge of Document Object Model was not strong, with some candidates choosing not to answer parts of question A2. Some candidates provided lengthy descriptions of DOM terms they were asked to identify rather than defining them.

Candidates were more confident responding to questions relating to website design and accessibility although some candidates provided general website design related responses to questions relating to accessibility, indicating that they may not have read the question thoroughly.

In general, candidate responses to Part B of the paper indicated that they were prepared for the subject matter. Some responses were general or did not include enough detail. These answers lost the opportunity to score more marks. Candidate responses varied in length with some detailing theory rather than responding directly to the question, indicating the need for some candidates to read the question thoroughly and answer appropriately.

Question no.	comments
A1	Very few candidates attempted this question. For part a) Some responses demonstrated understanding of how they needed to express the code but their answers did not include some elements of the code. For part b) some candidates referred to preventing bugs and errors as well as datatype. i) Responses did not mention validation rules, but did make reference to re-usability. ii) One candidate answered that query validation provides a reusable and component. One candidate answered that it helps with querying inputs in the code and another candidate did not answer this part of the question.

Question no.	comments
A2	Few candidates attempted this question. For part a) descriptions were good in some cases with some candidates using longer explanations. Some candidates were able to describe application programming interface without correctly naming it. Parent was also an area where candidates used lengthy explanations. Few candidates correctly identified HTML, instead describing objects. For part b) references were made to incorrect input of elements and incorrect coding, but most candidates did were not able to identify security, parsing errors and DOM. Some candidates mentioned uploading and login issues. Part c) was not answered well by most candidates who were not able to identify how JavaScript finds a HMTL element. Reference was made to ID by one candidate. Part d) was not attempted by some candidates who attempted the rest of this question. Very few candidates correctly identified it as DOM Living Standard. For part e) only a few candidates mentioned that it is a standard way of accessing and manipulating XML documents. Some candidates made reference to connecting and interacting and a tree like structure. One candidate noted that the purpose was developing new web pages and features.
Question no.	comments
A3	For part a) candidates mentioned loading times, web accessibility standards, colours, and devices. Some candidates lost marks by not providing detail. Some general responses such as user-friendly design, mobile first, keeping the web page up to date which were not specific to accessibility issues. Other candidates did not appear to understand the question and noted search engine optimisation and marketing in their responses. One candidate did not answer this part of the question. For part b) a few candidates were able to correctly name the POUR elements. One candidate correctly identified all four elements but did not outline them. Some candidates did not correctly name the POUR elements or outline them. The range of responses included: performance, principles, presentation, output, organisations, object oriented, user, user experience, user friendly, usability, understandable reliable, rate, readable, regulations, accessibility and inclusivity. Some candidates described the principles while not identifying them correctly, therefore losing marks on the identification element. A small number of candidates did not answer this part of the question. For part c) a few candidates correctly identified advantages, with some candidates incorrectly discussed security as a benefit and the ability of the web authoring tool to identify if the connection is

Question no.	comments
	secure. Some candidates provided general answers such as having a connection to the internet.

For part d) candidate responses included some good explanations with detail and examples including use of VPN and privacy, not sharing personal details on social media, and online. Some candidates noted the use of strong passwords. While most noted that data can be accessed or stolen they did not mention the range of actors who could do this. |
| B4 | For part a) candidates who scored well identified users and restrictions around access. Some candidates lost marks by not attempting the diagram. A number of candidates drew detailed diagrams displaying the relationship of intranet/extranet with servers and clients with only a small number of candidates including all the elements for how an intranet and extranet would work within the context of an organisation. Some candidates provided network diagrams which were not required.

For part b) many candidates chose to identify DDOS as unauthorized access, and phishing as risks with fewer identifying weak passwords and unauthorised storage devices as potential risks. Most explanations of risk mitigations were detailed and candidates who scored well provided more breadth and depth.

For part c) the best responses described downtime correctly as well as identifying the types of downtime, with some answers more detailed than others. Some candidates were not able to correctly identify types of downtime, instead providing the general explanations of services being unavailable. A few responses provided good descriptions of planned and unplanned downtime, with examples, and noting details around and length of downtime and notice to end users. Some candidates lost marks by not including details around notice to end users and advance knowledge of service interruption. |
| Question no. | comments |
| B5 | For part a) the best answers were able to identify all four components of an IoT system. Some candidates lost marks by identifying less than four elements. Some of the responses indicated that candidates were not familiar with the elements of an IoT system.

For Part b) candidates scoring higher marks were able to provide specific examples of IoT devices such as Alexa or smart fridges whilst candidates who lost marks provided a general response such as bulb or speaker.

For part c) candidates who provided the best responses described in detail security and privacy concerns. Most candidates chose to focus on power outages and cost as major disadvantages with some responses being more detailed than others. |

Question no.	comments
	Part d) The best answers included reference to storing and processing of data and interaction with people and some examples of smart objects. In general this question was not answered well, with most candidates not being able to describe smart objects to include positioning and communication technologies and integration to IoT. Many candidates were not able to describe in full what smart objects do.
B6	For part a) on the whole, this question was not answered well. A small number of the candidates were able to both correctly identify the nine parts of the URL as well as label each part. Many candidates identified parts of the URL or some parts of the URL with some of the identifications combining parts of the URL or separating parts of the URL which should have been combined. Many candidates lost marks by not being able to correctly label the parts they had identified.

For part b i) most candidates were able to identify SSL and TLS, with a small number not being able to explain the terms instead providing responses such as secure socket login and timed login server.
For part b ii) the best response is made reference to verification of the sites identity and data encryption during transaction. Some candidates lost marks by describing e-commerce site processes without reference to encryption and verification of the site's identity.

Part c) was on the whole not well answered by candidates.
Some candidates answered only parts of this question ranging from part i) to part iii).

For part c i) some candidates correctly identified application layer, with other others losing marks by responding with examples such as transport layer, and network layer.

Some responses to c ii) made reference to file/cloud upload and download and use of browsers (Chrome, Firefox) for file transfer therefore losing marks by not mentioning GUI client and command line.

For part c iii) most candidates were able to identify SFTP, FTPS and HTTPS. One candidate answered with IMAP while others provided general commentary. |