General comments
The paper has an overall pass mark that is consistent with recent sittings of this module. There were a number of very good answers, showing an understanding of a range of issues relevant to the topic. The examiners did note that there was often scope for more detail. There were times when the answers were brief, and the issues discussed were only generally related to the question. In some cases, this suggested limited preparation for the exam. Further, future candidates are encouraged to prepare to use their knowledge and apply it to scenarios that are set in the exams for this module. Remote sensing is an area that candidates seem less prepared for. It is an area that will continue to be on future exams. Awareness of relevant international standards and how they are relevant is another area for improvement.

Question number: A1
Syllabus area: Environmental Impact Analysis, 3.1 and Legislative and Regulatory Provisions, 1.1
Total marks allocated: 25
Examiners' Guidance Notes
This question asked about the environmental impact of information systems. There was a scenario about a company wanting to source components for its products that have the lowest environmental impact. The question asked for consideration of measures that the company could use to select components for its products. The question also asked about the use of an international standard to manage the policy. The first part of the answer had a number of reasonable responses. Answers would have been improved with specific examples of measures that could be used, e.g. measuring power consumption, level of toxicity of materials used in manufacture and environmental impact of manufacturing process. The second part was tackled less well overall. There needed to be more said about example standards that could be relevant, such as the ISO 14000 family of environmental management standards. There were some answers where the discussion was more general and talked about standards with no specific examples that would be relevant to the scenario.

Question number: A2
Syllabus area: Remote Sensing, 2.1 and 2.2
Total marks allocated: 25
Examiners' Guidance Notes
This question asked about the use of remote sensing techniques to help manage the potential for uncontained forest fires. The first part of the question asked for a list of remote sensing techniques that could be useful. The second part asked for a discussion of how data from one of those techniques could be used. A number of different techniques were suggested by candidates. LiDAR was a common suggestion, along with satellite imagery including multi-spectral techniques. Candidates are encouraged to avoid cross-over between elements of their response, in order to avoid limiting their potential for high marks. The second part of the question asked for a "report" based on one of these techniques, and a good number of candidates produced well structured, cogent documents which attracted good marks. Solid blocks of text without good structure were, in general, less successful.

Question number: B3
Syllabus area: Legislative and Regulatory Provisions 1.1.
Total marks allocated:
Examiners' Guidance Notes
This question asked amount alternative options for relocating a data centre namely moving to a new site; construction of an additional data centre; outsourcing to a cloud provider. Candidates were asked to discuss one advantage and one disadvantage for each approach. A small number of candidates provided more than one advantage/ disadvantage, but a more common response was to offer somewhat generic points about data centres and cloud services, rather than how these might apply to the scenario provided. Overall, these was scope for more discussion on many answers, which often comprised statements without much supporting evidence. The second part of this question asked about the legal and regulatory requirements for a contract with a cloud provider. There was a tendency in some answers to list GDPR, ISO 9000 etc., without examples of relevance to the scenario.

Question number: B4
Syllabus area: IT in the service of power generation and energy conservation, 6.1
Total marks allocated: 25
Examiners' Guidance Notes
This question had three parts, the first quoting a claim from UK smart meter publicity claiming that smart meter use would save energy equivalent to 60000 cars. Candidates were asked to explain the calculation. The second part of this question went on to ask about the assumptions made in arriving at this result and the final part asked about the changes needed to the supply network to support smart meter technology. For the first part of the question, candidates did not attempt to explain how the CO2 emissions from cars and houses would be estimated then used to create an equivalence. Answers to the second part were better, although the range of possible assumptions about user behaviour and technologies was offer limited in scope. Answers to the final part often provided general discussion of smart grid technology. Better answers would go beyond a general discussion and consider the changes necessary to the electricity supply network.

Question number: B5
Syllabus area: Environmental Impact analysis 3.1 and The Environmental Impact of Information Systems 4.2
Total marks allocated: 25
Examiners' Guidance Notes
This question provided a scenario of a company wishing to increase its working from home provision and, by so doing, to relocate its office building. Candidates were asked to discuss the environmental and social impacts of this plan, the second part of this question asked about options for the future use of the desktop PCs freed up by the plan. There was a range of answers provided. The better responses identified the impacts and then provided examples to relate to the scenario provided. Similarly, the best answers to the second part put the basic reuse, repurpose, recycle, dispose options into the context provided.