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Centre Number	Candidate Number	Name
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UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS
General Certificate of Education
Advanced Level and Advanced Subsidiary Level

**APPLIED INFORMATION AND
COMMUNICATION TECHNOLOGY**

9713/01

Paper 1

For Examination from 2008

Specimen Paper

1 hour and 15 minutes

Candidates answer on the Question Paper.
No additional materials are required.

READ THESE INSTRUCTIONS FIRST

Write your Centre number, candidate number and name on all the work you hand in.

Write in dark blue or black pen.

Do not use staples, paper clips, highlighters, glue or correction fluid.

You may use a pencil for any diagrams, graphs or rough working.

Answer **all** questions.

The number of marks is given in brackets [] at the end of each question or part question.

This document consists of **10** printed pages.



Scenario 1

South African Motors is a car engine manufacturing company which has just started manufacturing complete cars. They are looking to sell cars throughout Africa. The factory is in East London and they have a main office in Johannesburg, where the manager, Simphiwe, organises the day to day running of the business. The main office employs a lot of workers to produce the company payroll for all the workers in East London and for those in Johannesburg. There is also a human resources department in the main office in Johannesburg which keeps all the files on each worker.

Simphiwe has asked Capetown Publicists, an advertising company, to publicise the business on a large scale. The publicist company employs 4 people including the manager Mosola. They need to have regular meetings to discuss their progress with various jobs. This is difficult as they are very rarely in the office together as they all do a lot of their work at home.

- 1 (a) The company uses robotic arms to control a number of processes. Give **two** reasons why they use these robotic arms.

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- (b) Describe how robotic arms are used in two of these processes.

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- (c) Describe how the movements of the robotic arm were originally programmed into the computer.

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- 2 (a) Mosola decides he needs to get in touch with his fellow executives. This has to be done as soon as possible. Describe at least **two** methods by which they could exchange ideas without having to travel into work. Include in your answer the additional hardware they would need to add to their home computers and printers.

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- (b) Discuss the effect of working at home rather than working in the office from the point of view of the company and the workers.

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(c) Mosola has considered a number of ways in which ICT could be used to advertise the company but has decided on a web page. Discuss the reasons for his choice when compared with the other ICT alternatives.

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3 (a) Simphiwe has decided it might be a good idea to computerise the payroll system and also the human resource department records. He has asked a systems analyst to investigate the current system and to suggest a replacement system.

Discuss the different methods of researching the current system and suggest an appropriate method the systems analyst could use.

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(b) One of the recommendations of the systems analyst will probably be to create a database of information about the workers. The information will contain details about both the payroll and personnel information. Explain how the data will be organised on the database including details of how they will be retrieved.

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(c) The workers in East London are hourly paid. The number of hours of workers in East London are sent, via the company network, to the main office. Describe how a payroll system would take in this data and produce their payslips.

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(d) The company has to follow government data protection rules when it comes to storing data about the workers. One of these rules is that the company has to keep the data secure. Describe **three** other rules which the company must obey.

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(e) Explain why it is necessary to have data protection rules.

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Scenario 2

After many successful years of trading, Shazad supermarkets are extending their services to include a home shopping service. Customers will log on to the service using their home computers, choose the products they wish to buy, and then these will be delivered to their home for a small extra charge. The local supermarket will have workers who will go round the store collecting the goods together so that home delivery can take place.

- 4 (a) Describe the minimum hardware and software requirements of the home computer which will be used in this system and why they are needed.

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- (b) Describe what effect the introduction of the system will have on the working opportunities and practices for the supermarket employees.

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(c) Some customers are worried that they will have to pay using a credit card. Discuss why you think this will be a problem or not.

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(d) A number of staff will be needed to update the website on a regular basis. They will be required to use computers for long periods of time. Describe the health and safety issues arising from this.

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Scenario 3

Mr Devlin is the principal of a college of education. He has decided to upgrade the computer network. He wants to have a new system which will allow the college to keep student personal records and test marks. He also wants to have a system which will let the students have the opportunity to use computers to improve their learning. He has invited Sara Lopez, a systems analyst, to design and create the new system.

- 5 (a) When Sara is designing the new system she will produce a number of recommendations. She will need to choose input devices and software for use with the system. Explain the choices she will have to make.

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- (b) Describe the types of input devices and software that she could recommend so that students will benefit from the use of CAL and CBL.

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- (c) Students would like to be able to continue with their computer-based work at home. Discuss the methods which they could use to enable them to do this.

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