



UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS
General Certificate of Education Advanced Level

CANDIDATE
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APPLIED INFORMATION AND COMMUNICATION TECHNOLOGY

9713/13

Paper 1

October/November 2011

1 hour 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.

DO NOT WRITE IN ANY BARCODES.

Answer **all** questions.

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

The businesses described in this paper are entirely fictitious.

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This document consists of **19** printed pages and **1** blank page.



Scenario 1
Question 1

East African Media Ltd, based in Nairobi, owns the African Times newspaper. It has built a new printing plant in Mombasa, many kilometres away. The company also has a factory which manufactures the paper used to produce the newspaper. This is situated next to the printing plant.

Many of its reporters work in towns such as Nakuru, Naivasha and Kisumu which are far away from the editor's office in Nairobi.

East African Media Ltd uses the latest technology to print the newspaper. In order to print the paper in Mombasa it requires the use of facsimile transmission. The company uses satellite communications to fax a newspaper for printing.

1 (a) Describe the method of process control which would be used to produce large rolls of paper.

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(b) (i) Describe how the reporters would use ICT to produce their stories and how they would send them to the editor's office.

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(ii) Describe what is done in the editor's office to prepare the story for publication.

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(c) (i) Describe how satellite communications are used to send the newspaper to be printed.

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(ii) Describe what happens between the satellite signals being received and the newspaper being printed.

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*For
Examiner's
Use*

Scenario 2
Questions 2 and 3

Teachers at the International School in Paris use both formative and summative assessment. Formative assessment is the use of test results by the teacher to inform the students of their progress. Summative assessment is the use of the final test result by the teacher to indicate the students' level of achievement.

The teachers use ICT to carry out testing of students.

The teachers like to stay in touch with other international schools and they do this using video conferencing because these schools are very far away. They often share documents such as schemes of work and lesson plans.

2 Describe how ICT is used to carry out

(a) summative assessment

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(b) formative assessment

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3 A teacher at another school wants a teacher at the International School to help them change a lesson plan document. Describe **five** of the steps needed to enable a video conference to take place so this can happen.

*For
Examiner's
Use*

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[5]

Scenario 3
Questions 4 and 5*For
Examiner's
Use*

The North Indian Motor Company has decided to computerise its system of keeping staff records. It currently has personal and payroll details of all its staff.

On the new system human resources staff will need to be able to access records quickly. The payroll system will run using all the data on a weekly basis. The master payroll file is sorted in worker number order.

Jasbir, a systems analyst, has collected a large amount of information about the existing system. The information will be analysed before the system is designed.

4 Describe, in detail, the most appropriate method of organising the data on the master file.

For
Examiner's
Use

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5 (a) Describe **five** ways in which Jasbir will use the collected information to identify the user and system requirements.

*For
Examiner's
Use*

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(b) Describe the different items that Jasbir will need to include at the design stage. Using examples, explain a factor that will influence the choice for each item.

*For
Examiner's
Use*

Item 1

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Factor 1

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Item 2

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Factor 2

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Item 3

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Factor 3

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Item 4

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Factor 4

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[8]

(c) After the system has been designed it will be implemented. Describe **four** methods which could be used to implement the new system. For each method give a different advantage when compared to the other methods.

*For
Examiner's
Use*

Method 1

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Advantage

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Method 2

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Advantage

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Method 3

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Advantage

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Method 4

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Advantage

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[8]

(d) Describe **four** ways that Jasbir can identify the limitations of the system during the evaluation stage.

*For
Examiner's
Use*

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Scenario 4
Questions 6 and 7*For
Examiner's
Use*

Alexandria Bank has changed its banking operations and most of its customers now use its online banking facility.

In this system customers are asked to type in three characters from their password in order to gain access to their accounts.

When the bank created its online banking system, it employed a number of website developers. Each of the website developers was responsible for a particular aspect of the website. A manager, Wissam, became responsible for coordinating the project and used time management software.

When online banking was introduced, some staff were made redundant (retrenched) and others had to job share.

6 (a) Give **two** reasons why customers are asked to type in just three characters from their password.

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(b) The customer has opened the homepage of the online banking system. Describe **four** steps that would be used to transfer money from one account to another.

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(c) Apart from unemployment and job sharing, describe **six** other effects that the change to online banking had on the bank staff's working patterns.

*For
Examiner's
Use*

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[6]

(d) Describe **three** benefits to the customer of online banking.

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(e) Describe **five** drawbacks to the customer of online banking.

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(f) Describe **three** benefits to the bank of their staff sharing jobs.

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(g) Describe **three** drawbacks to the bank of their staff sharing jobs.

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7 (a) Describe the **two** main types of activity that are represented on Gantt charts.

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(b) Describe **three** ways that Wissam would have used Gantt charts to help him plan the project.

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