Surname		Centre Number	Candidate Number
Other Names			2

GCE A level

1647/01

APPLIED INFORMATION & COMMUNICATION TECHNOLOGY

UNIT AICT7 – Part A

eConnect

Networking Principles, Design and Management

Paper version of on-screen assessment

A.M. TUESDAY, 17 June 2014

1 hour

For Examiner's use only	
Total (PART A ONLY	

INSTRUCTIONS TO CANDIDATES

Use black ink or black ball-point pen.
Write your name, centre number and candidate number in the spaces at the top of this page.

INFORMATION FOR CANDIDATES

Questions in this paper are based on the context of Garth View Farm Shop.
    The exam consists of two parts:
Time allowed for Part A: 1 hour
    • The Tender (40 marks)

Time allowed for Part B: 2 hours
    • The Recommendation (20 marks)
    • The Implementation (40 marks)
A short break is permitted between parts A and B.
Quality of Written Communication will be assessed in the response to Question 7.

AM*(S14-1647-01)

INTRODUCTION

Garth View Farm Shop

INVITATION TO TENDER

Garth View Farm Shop sells locally produced food and a selection of delicacies from around the world. The Farm Shop business is owned by Mrs Megan Rees. The business is expanding and new premises are being built. The shop sells produce to customers daily but also takes a large number of orders for home delivery.

There will be a new building for the:

- General Store
- Butcher
- Delicatessen
- Office

Customers will be able to buy fruit and vegetables from the General Store, meat and poultry from the Butcher and dairy products from the Delicatessen. The administration will take place in the new Office.

Orders for delivery will be taken over the telephone in the Office or over the counter in the General Store, the Butcher and the Delicatessen.

There will be a team of staff and a manager in each of; the General Store, Butcher and Delicatessen. There will be several administrators working in the Office with Megan Rees.

Garth View Farm Shop has decided to obtain tenders for the contract to design and install a network system to enable electronic communication in the new building.

As an IT consultant specialising in network solutions you have been invited to tender for this contract and have this opportunity to demonstrate your subject expertise by completing a number of tasks.

"Hello. I am the owner of Garth View Farm Shop. We need a network to operate our new business. I would like to know more about the benefits and disadvantages of using a network."

1. *(a)* One benefit of a network is being able to share hardware. Give **three other** benefits of networking computers. [3]

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(b) Identify **two** disadvantages of using networks compared with stand alone computers. [2]

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*"Hello again. I am aware that networks
use different transmission methods
to communicate. I would like you to
demonstrate your knowledge and
understanding of transmission methods."*

2. *(a)* Describe the difference between serial and parallel transmission giving an advantage of parallel transmission. [2]

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(b) Define **each** transmission method named below. [3]

Simplex

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Half Duplex

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Duplex

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From:	Mrs Megan Rees
To:	Candidate
Sent:	Today
Subject:	Connecting Networks

I know that there are several ways of creating computer networks and I would like to know a little more about them.
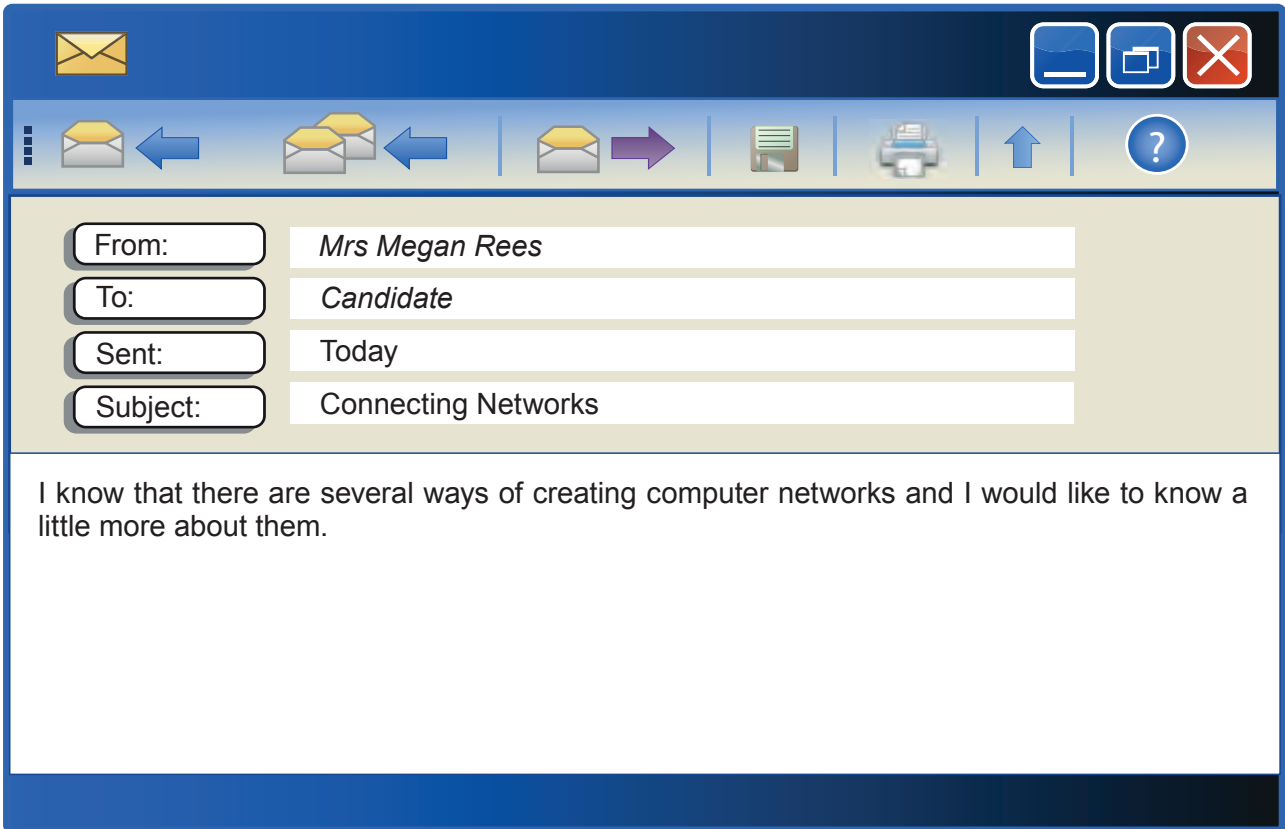
3. *(a)* Identify the hardware required to allow communication over a Wireless Local Area Network (WLAN). [2]

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(b) Give **two** benefits and **one** possible problem for a business using a WLAN. [3]

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4. *(a)* Local Area Networks are often connected using Shielded Twisted Pair (STP) or Unshielded Twisted Pair (UTP) cables. Describe **in detail** the physical difference between STP and UTP cables giving **one** advantage and **one** disadvantage of using STP compared with UTP. [4]

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(b) Wide Area Networks are often connected using fibre optic cables. State **three** advantages of using fibre optic cables compared with UTP or STP. [3]

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"Hello. I am concerned about the security of the data that will be stored on our new network and would like to know more about network operating and accounting software."

5. State **two** facilities provided by network operating and accounting software. [2]

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"I am aware that networks use different switching methods to communicate. I would like some information about packet switching."

6. *(a)* Data transmitted on a Wide Area Network is broken into packets before transmission. The contents of a packet will typically include the destination address and the actual data to be transmitted.

Identify **two** other data items in a typical packet and **describe** the role of that data. [4]

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(b) Explain the role of a router in a network using packet switching. [2]

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From:	*Mrs Megan Rees*
To:	*Candidate*
Sent:	Today
Subject:	Network Design

I have been informed that peer-to-peer networks can be very useful in some situations but might not be suitable for our business. I would welcome your views.
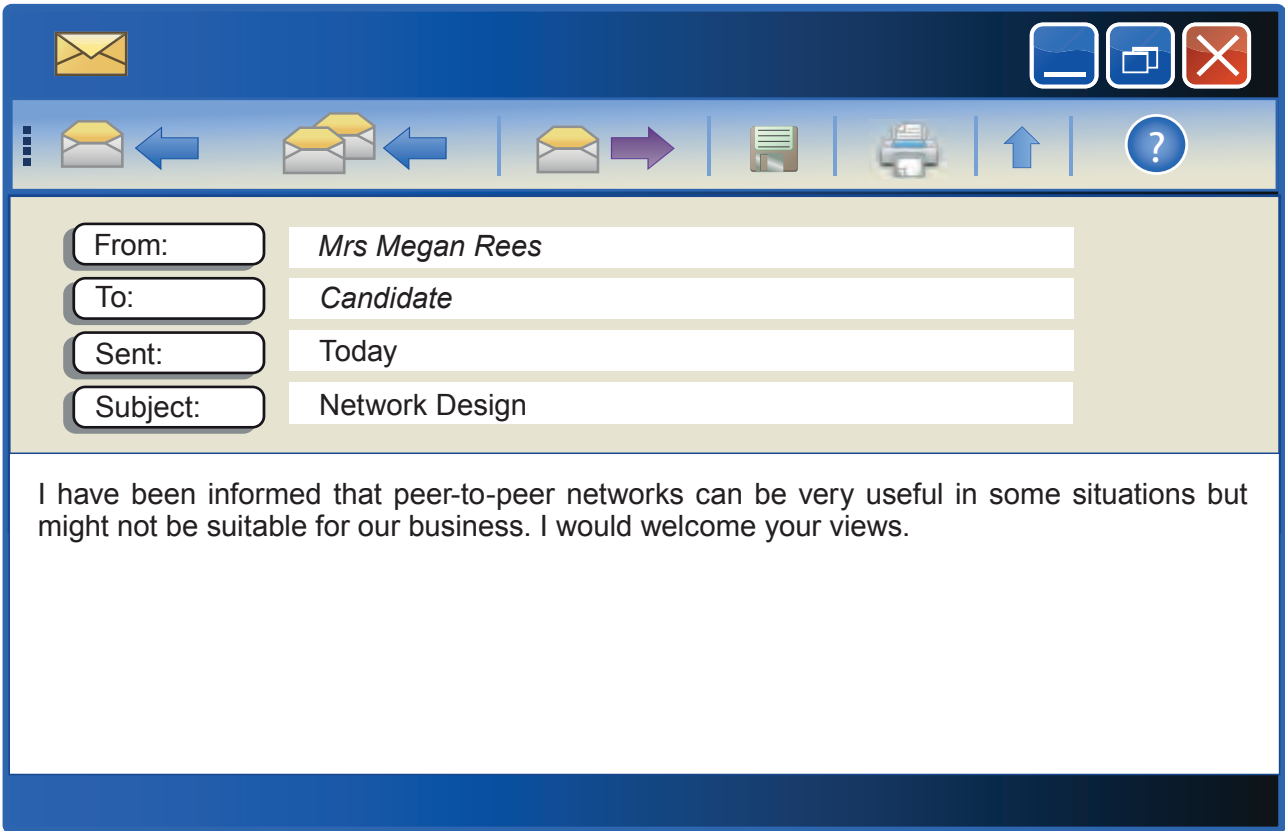
7. Describe **in detail** a peer-to-peer network and a client-server network. Give reasons why you would recommend Garth View Farm Shop should install a client-server network as opposed to a peer-to-peer network. [10]

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END OF PAPER

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