ADVANCED GCE   **G055/IC**
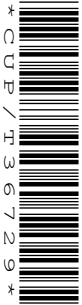
APPLIED INFORMATION AND COMMUNICATION TECHNOLOGY

Unit 16: Networking Solutions

INSTRUCTIONS FOR CANDIDATES

JANUARY 2008

Pre-release Material and Tasks
To be opened on receipt

2

BLANK PAGE

PRE-RELEASE TASKS – INSTRUCTIONS FOR CANDIDATES

Read the attached case study and these instructions carefully, then carry out the tasks detailed below. There are two types of task.

In Task 1 you will produce notes that will help you to answer questions in the examination for this unit. The other tasks will be marked and will contribute up to 30 of the 100 marks available for this unit.

You will need your completed tasks when you take the examination for this unit.

The work produced in response to the pre-release tasks must be submitted to your teacher when it is completed. The work must be presented as a hard copy.

It is not acceptable for you to copy large parts of material from other sources as the tasks require you to apply your knowledge to the case study. Any books, information leaflets or other material (e.g. videos, software packages or information from the Internet) which you have used to help you complete this work must be clearly acknowledged in the work itself. To present material copied from books or other sources without acknowledgement will be regarded as deliberate deception.

You **must not** submit any material other than your response to the pre-release tasks.

The work must be collated so that it is presented in task order.

Each page of the work must be marked clearly with your name, Centre number and task number.

When you have completed the tasks you must sign and date a Candidate Authentication Statement. You must then ask your teacher to sign to confirm that the work is your own.

Task 1

Intrepid Explorations Café (IEC) will need advice on the type of network to install and the way it might be managed.

Carry out your own research and make notes that can be used in discussion with IEC about the planning of the new network. Your notes should include:

* the advantages and disadvantages of installing a network at IEC

* a description of the features of peer-to-peer and client-server networks and the benefits of each type of network to IEC

* a description and evaluation of the possible topologies, with a diagram of each

* a description of the different types of cable and connector and the suitability of each for IEC's network

* a description of the function and purpose of other network hardware and software

* a description of different network protocols and the suitability of each for IEC's network

* a description of communication logs and problem logs and how these can be used by IEC.

Customers will be making use of the Internet to look for flights, hotels and activities, and for making secure on-line bookings.

Describe in your notes:

* the services that the Internet could offer IEC and its customers, with an evaluation of each service

* the use of an extranet by IEC and an evaluation of its use

* the software and hardware required for each service you have described.

Task 2

One option is to use a client-server network with a proxy server and shared access to the Internet. Produce an outline network design for IEC, which should include:

* a network diagram that shows the physical layout of the network. Use the diagram in Fig. 1 to show where you plan to put servers, cabling and connecting equipment **[6]**

* a list of **selected** components for the network with **justification** for including each component. This list should include:

    ⇒ cables and connectors
    ⇒ connecting equipment
    ⇒ any other additional hardware
    ⇒ any additional software and where it will be installed. **[12]**

Briefly evaluate the method(s) you used to complete this task. **[3]**

Task 3

Intrepid Explorations Café (IEC) wants to set up an extranet to allow its customers to have access to outline services, including email accounts, while they are travelling. You have been asked to report on the security implications of this.

Your report should describe the potential security risks and how these risks might be minimised.   **[6]**

The work you produce for Task 3 **must not** exceed 250 words. You should include a word count.

The quality of your written communication will be assessed through this task.   **[3]**

CASE STUDY

Intrepid Explorations Café (IEC) is a travel agency with a difference. Customers can look through travel brochures and travel guides and talk to advisers over a cup of coffee and a snack. Advisers can book flights, hotels and activities and can make a customised holiday package for each customer. Bookings are made by telephone or on three stand-alone computers with telephone connections to a remote on-line booking system.

IEC now wants to allow customers to search for their holiday ideas on the Internet, with advisers there to help. Customers will be able to book their own flights, hotels and activities on the Internet computers or an adviser can do the booking for them on an adviser's booking computer or by telephone. Customers will pay to use the Internet computers and will be restricted to holiday bookings and information only.

IEC would like to install a network so that they can manage access to four Internet computers, use the three booking computers and also include their three office computers, which are used for administration.

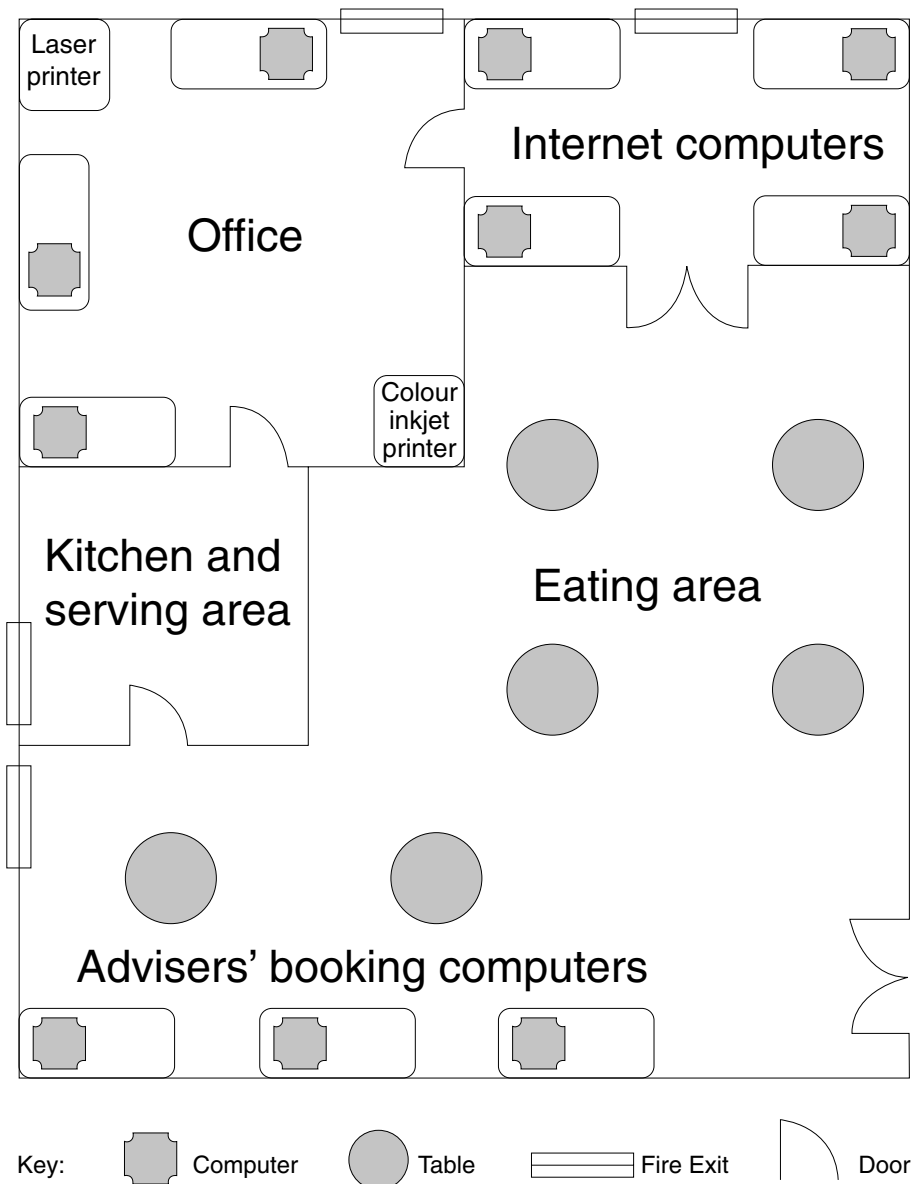Fig. 1 shows the required layout at Intrepid Explorations Café.

Fig. 1 - required layout

BLANK PAGE