

Paper Reference(s)

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Edexcel GCE

Applied Information and Communications Technology

Unit 9: Communication and Networks

January 2009

Scenario

Please open this material immediately. It should be distributed to candidates at least three working weeks before the examination.

Note: There are no practice files for this examination.

The description overleaf will be used as the scenario for the above specification, and will be reissued with the examination paper. This scenario should be used for the purposes of preparing candidates for the examination. This material must not be taken into the examination.

Further details are in the Instructions for the Conduct of Examinations, available from the Edexcel website for this qualification and subject.

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Turn over

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Scenario

LAURA ELLE Range of Perfumes

Laura Lewis and Steven Gee met whilst employed by a clinical research organisation in Bracknell. The basis for their business partnership happened largely by accident. Steven was working on the development of a new allergy tablet. He was carrying out an experiment when Laura, from marketing walked past and complimented him on his aftershave. Steven was quite surprised by this as he did not use aftershave and so he called her back. After a while they realised that the aroma was coming from a test tube containing a mixture of chemicals.

Laura was quick to see the possibilities of marketing the mixture as a perfume. She persuaded Steven that this was a good idea and asked him to conduct further experiments. Steven created a laboratory in his garage and the pair bought the chemicals between them. Over the next few weeks Steven experimented with the chemicals in the original mix and in the end he came up with some recipes for perfumes.

Laura then approached a large department store chain which agreed to stock the Laura Elle range of perfumes. Encouraged by this, Laura and Steven are now preparing for larger scale production. Steven's garage is too small for that level of production, so they have rented a building in the newly opened Bracknell Science Park and started trading as Laura Elle.

The building is 15 metres wide and 30 metres long and is divided into three equal sized areas by partitions across its width. Despatch is at the front of the building, warehousing in the middle, and production at the rear. The despatch area is only half the height of the building and has a staircase leading up to a balcony and three rooms. These will be used as a reception room and offices for Laura and Steven. The other areas occupy the full height of the building.

The building is well serviced with telephone points, power sockets, and cable ducts, but there are no data cables or data points. A fibre optic Internet connection is included in the rent. This terminates at a sealed box near the foot of the staircase. The box has a single RJ45 socket. The Science Park management have given Steven a leaflet explaining how his Internet connection works.

The leaflet says that he:

- has been allocated a public Class C address of 164.58.28.250
- may use any private Class C address on his own network

Laura and Steven will be employing warehouse, despatch, and office staff once they move into the building.

Laura and Steven are competent computer users but their network experience is limited. For example, they are able to plug a network cable in or connect to a WiFi system with a laptop.

Your project

You have been asked to advise Laura and Steven about networks and to design a suitable system for Laura Elle.

In discussions with Laura and Steven you find out their immediate requirements are a:

- networked PC and printer in each of the three upstairs rooms
- networked PC and printer in the despatch area
- networked PC and printer in the warehouse area
- facility to connect visitors' laptops to the system while they are in the building
- facility for Steven to use the Laura Elle network through a Virtual Network from his home PC
- facility for Laura to use the Laura Elle network through a Virtual Network from her laptop both at home and during sales trips.

You are also told that their main concerns are cost, security, and reliability.

You have visited the building with Laura and Steven and are familiar with its layout. You may assume that the power system is adequate and that there are sufficient cable ducts, power points, spaces for data points, and mounting points for installing equipment.

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