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APPLIED INFORMATION AND COMMUNICATION TECHNOLOGY

9713/32

Paper 3

May/June 2015

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, glue or correction fluid.

You may use an HB 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.

This document consists of **18** printed pages and **2** blank pages.

Scenario 1

Questions 1, 2 and 3.

Stoner school has a cabled local area network (LAN) and a wireless local area network (WLAN) that allows users to share peripherals, to exchange data and to access the internet.

The network uses a variety of protocols to transfer data.

A user is required to provide a UserID (user name) and a password when logging into the network.

1 (a) Describe how the UserID (user name) is processed to allow the user to gain access to the network.

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..... [3]

(b) Describe how the entry of a password by a user completes the login process.

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..... [3]

3 Tick **one** box in each table to choose the most appropriate protocol for each of the tasks listed.

(a) Downloading a file over the internet.

	(✓)
FTP	
https	
SSH	
Telnet	
UDP	

[1]

(b) Transferring a web page from a server to a client computer.

	(✓)
FTP	
https	
SSH	
Telnet	
UDP	

[1]

(c) Remote access to a computer.

	(✓)
FTP	
https	
SSH	
Telnet	
UDP	

[1]

(d) Streaming video over a network.

	(✓)
FTP	
https	
SSH	
Telnet	
UDP	

[1]

Scenario 2**Questions 4, 5, 6, 7 and 8.**

A bridge is to be constructed across a river.

The bridge will be modelled in a computer system and a scale model prototype will be built before the real bridge is constructed.

Computer Aided Design and Computer Aided Manufacture software (CAD/CAM) will be used to create the prototype.

A mainframe computer will be used to create and test a computer model of the bridge.

Project management software is to be used to create a project plan for the building of the bridge.

4 Describe how features of CAD/CAM could be used to create the prototype of the bridge for testing.

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5 Explain why a mainframe computer was chosen to create and test a computer model of the bridge.

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6 (a) Describe **two** advantages of using a computer model to test the bridge.

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(b) Describe **two** disadvantages of using a computer model to test the bridge.

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7 Describe **two** features of project management software that could be used to organise the stages of the planning and construction of the bridge.

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8 Designing and testing a prototype are two stages in the construction project that must be scheduled in the project plan.

State **three** other stages in the bridge construction that must be scheduled.

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Scenario 3

Questions 9, 10, 11 and 12.

Governments provide online facilities to increase access to employment opportunities and to health, legal and political services.

The digital divide is the gap between individuals and groups of people who are able to make effective use of ICT and those who are not able to do so.

The digital divide affects many areas including access to health services and employment opportunities.

9 Explain, with an example, what is meant by the global digital divide.

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12 Explain how the digital divide can affect access to health services.

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Scenario 4**Questions 13, 14 and 15.**

Sensors are used to collect data about physical variables. The data is sent to a computer for storage and analysis.

Weather stations use sensors to collect data about the weather such as the temperature and barometric pressure.

Hospitals use sensors to collect data, such as body temperature and blood pressure, which are used by computers for monitoring patients in intensive care units.

13 Other than sensors for measuring temperature and barometric pressure, state **four** sensors that could be used when monitoring the weather and describe a use for each.

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14 Describe how the data from sensors could be used for monitoring a patient in an intensive care unit.

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