



Cambridge International AS & A Level

CANDIDATE
NAME

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CENTRE
NUMBER

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INFORMATION TECHNOLOGY

9626/32

Paper 3 Advanced Theory

February/March 2021

1 hour 45 minutes

You must answer on the question paper.

No additional materials are needed.

INSTRUCTIONS

- Answer **all** questions.
- Use a black or dark blue pen.
- Write your name, centre number and candidate number in the boxes at the top of the page.
- Write your answer to each question in the space provided.
- Do **not** use an erasable pen or correction fluid.
- Do **not** write on any bar codes.
- You may use an HB pencil for any diagrams, graphs or rough working.
- Calculators must **not** be used in this paper.

INFORMATION

- The total mark for this paper is 90.
- The number of marks for each question or part question is shown in brackets [].

This document has **16** pages. Any blank pages are indicated.

- 1 Fig. 1.1 shows three interconnected networks (numbered 1 to 3) that use internet protocol (IP) and packet switching when transmitting files.

Network 1 has a server that is used for video streaming.

Network 2 has servers that provide a company with a website used for selling DVDs online.

Network 3 is a network in a home.

There are routers on the internet that can be used to connect the networks.

A user on the home network is watching a video that is being streamed from the server on network 1. At the same time a shopper on the home network is using a web browser to access the company website on network 2 to buy some DVDs online.

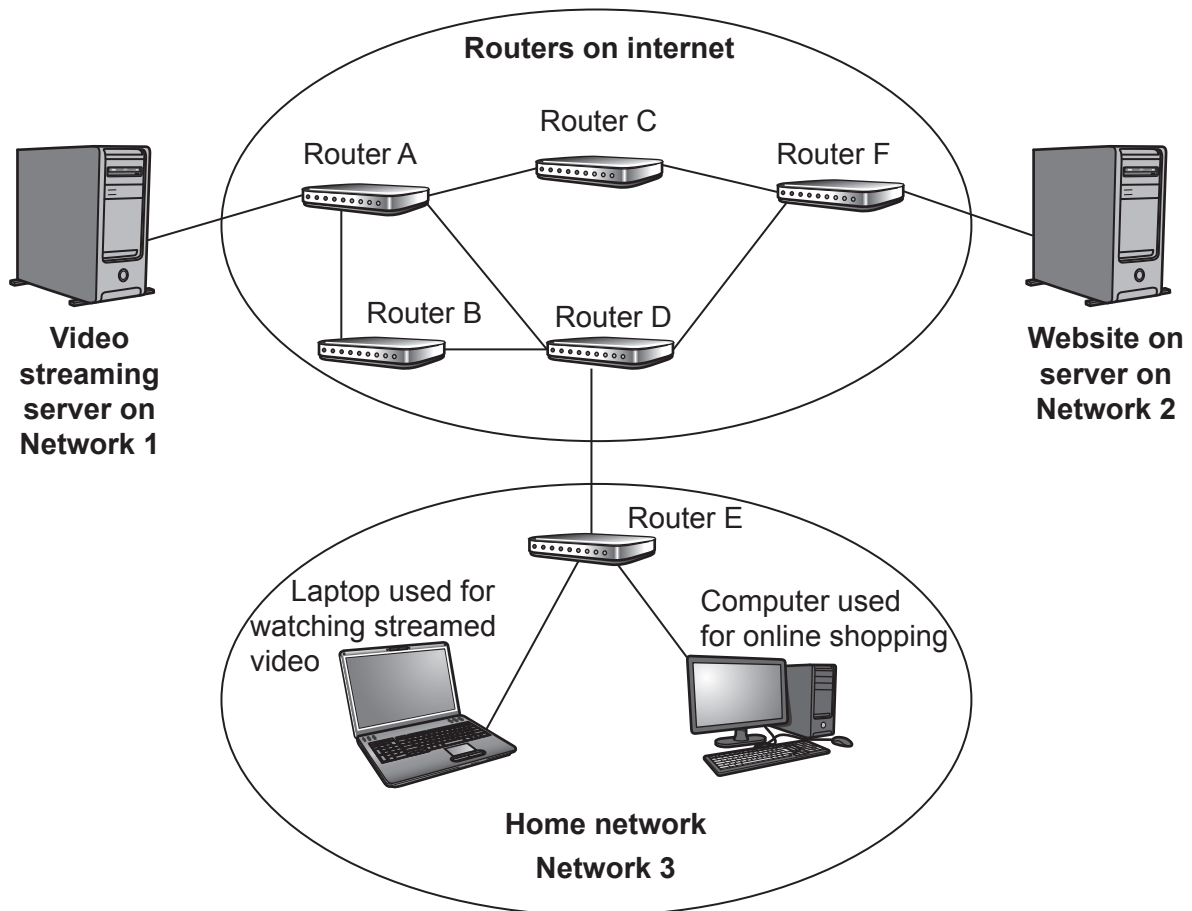


Fig. 1.1

2 Virtual reality and augmented reality are used when training firefighters.

(a) Describe the differences between virtual reality and augmented reality.

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..... [2]

(b) Describe the advantages of using virtual reality when training firefighters.

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3 QR codes are two-dimensional barcodes (matrix barcodes) which store information. The codes can be used to contain links to a website.

(a) Describe **three** other uses of information that can be contained in QR codes.

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(b) QR codes can often be found on products in supermarkets.

Evaluate, by weighing up the advantages and disadvantages, the use of QR codes for holding information about the products.

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(c) During the creation and testing of the products, some developers are allowed to telework.

(i) Describe what is meant by teleworking.

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(ii) Describe **two** possible effects of teleworking on the developers.

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6 Holographic imaging is used in industrial applications.

Describe, in detail, how holographic imaging could be used in each of the following scenarios:

(a) an astronaut in a spacecraft

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..... [2]

(b) a car manufacturing process

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(c) a doctor in a hospital.

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9 A new house is to be built and a project has been set up to oversee its construction. Project management software will be used to estimate the costs.

(a) Describe **three** costs that should be considered for inclusion in the project management software.

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(b) Explain how project management software tools could be used to estimate the costs of building the new house.

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