Cambridge International AS & A Level

CANDIDATE NAME

CENTRE NUMBER

CANDIDATE NUMBER

INFORMATION TECHNOLOGY **9626/32**

Paper 3 Advanced Theory **October/November 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   Designers often use computer-aided design (CAD). Fig. 1.1 shows the design of a room.
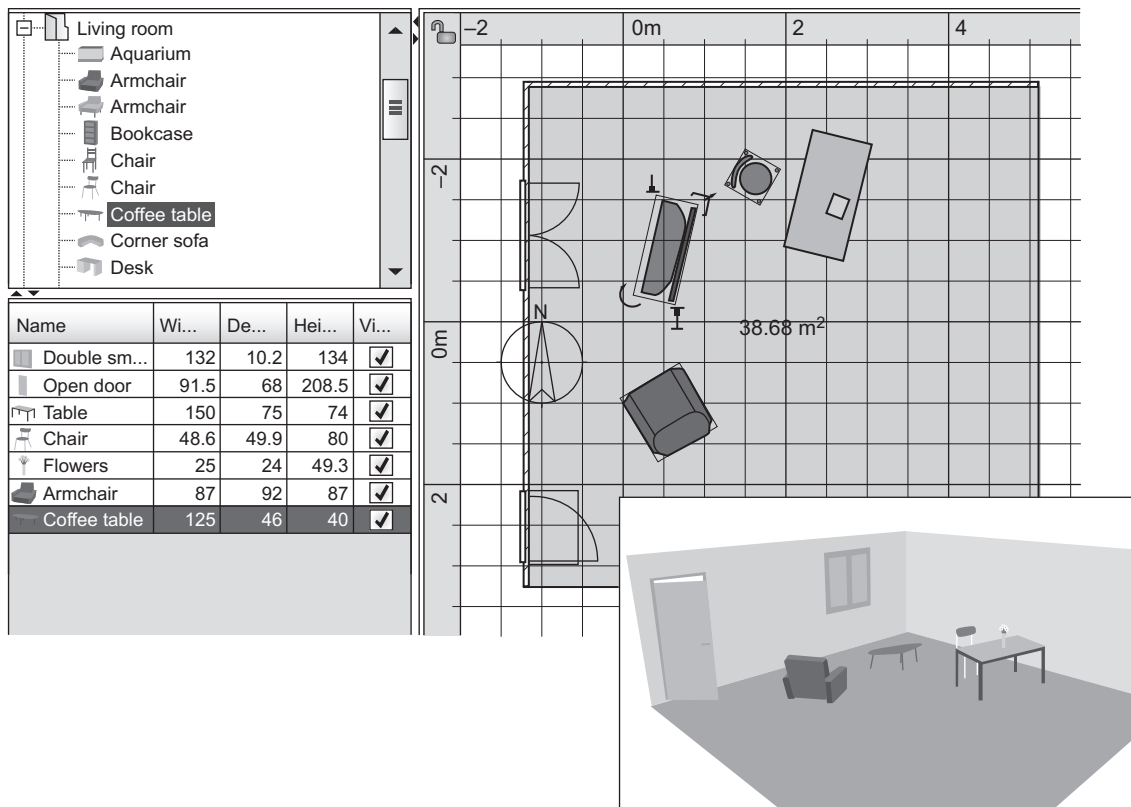
Fig. 1.1

Describe how the features of CAD software can be used to design the room.

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2 When beta testing a new software application, the tester found an error and created a report about the error.

Describe the items of information, including those related to the test plan, that should be included in the report.

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3 JavaScript is a programming language used within HTML on web pages.

Explain why it is considered good practice when coding in JavaScript to:

(a) place all declarations at the start of each script or function

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(b) initialise variables when first declared

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(c) avoid using `eval()` to run a string as code

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(d) always declare local variables.

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4 A photographer has used her smartphone to capture some images and wishes to transfer these images to her laptop for editing. She has decided to transfer the images using Bluetooth.

Describe the benefits and drawbacks of using Bluetooth to transfer the images.

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5 Robotic technology is used in the car manufacturing industry.

Describe how robotics are used in the car manufacturing industry.

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6 A college is going to provide each student with a portable computing device. These devices will be used by the students in their studies.

Discuss the advantages and disadvantages to the students of using laptops instead of smartphones.

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7   Airports and railway stations provide public WiFi access to the internet for their passengers. Using public WiFi may put the passengers' information at risk.

Explain how passengers can try to protect their information from security issues when using public WiFi.

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8 Describe the benefits and drawbacks of using microblogs for social networking.

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9 Many web pages now use vector graphics as well as bitmap graphics for images and icons.

Evaluate, by weighing up the advantages and disadvantages, the suitability of vector graphics compared with bitmap graphics for this purpose.

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10 3D printing is a manufacturing method in which objects are made by fusing or depositing materials. It is used in the fields of medicine and manufacturing.

Discuss the benefits and drawbacks of using 3D printing.

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11 The role of a network interface card (NIC) is to enable devices to communicate over a computer network.

Describe how a network interface card carries out its role.

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12 The global positioning system (GPS) is a network of satellites orbiting the Earth. It is used by devices such as a 'satnav' in a delivery vehicle that assists the driver in finding destinations.

(a) Describe the benefits and drawbacks of the use of a satnav with GPS by the driver of a delivery vehicle.

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(b) Explain why the satnav may not be able to provide an accurate location.

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(c) The global positioning system (GPS) can be used by satnavs in vehicles and by the military.

Describe **three other** ways that GPS may be used.

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