



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

May/June 2020

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. Blank pages are indicated.

- 1 A company has a local area network (LAN) that can be accessed by its staff using their desktop computers, laptops and mobile devices. The desktop computers use a wired connection but the laptops and mobile devices connect via wireless access points (WAPs).

Describe the drawbacks of using WAPs to access the network.

[8]

2 Many countries use holographic images on their bank notes.

(a) Describe how a holographic image is created.

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..... [4]

(b) Give **one** reason why countries use holographic images on their bank notes.

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..... [1]

(c) Describe **two** other uses of holographic imaging.

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..... [4]

3 Companies are using cloud computing in their IT infrastructure.

(a) Describe what is meant by cloud computing.

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..... [4]

(b) Describe the impact of cloud computing on companies.

[8]

4 Explain how project management tools can be used to help when allocating resources in a project.

[8]

5 Robotics combined with artificial intelligence is having an impact on the human environment.

(a) Describe what is meant by robotics.

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..... [2]

- (b)** By weighing up the advantages and disadvantages, evaluate the impact on the human environment of combining artificial intelligence with robotics.

[8]

- 6** Describe how a digital television signal is broadcast from a satellite to a receiver for display on a television set in a home.

[8]

- 7 By weighing up the advantages and disadvantages, evaluate the impact of tissue engineering on medicine.

[8]

- 8 A new website is being developed. The developer wishes to involve users in the development process.

Analyse the use of interviews for researching the views of the users.

[8]

- 9 A group of company managers are going to use a web-conference to discuss the documentation about a new product.

(a) The developers already have a desktop computer system.

Describe the additional computer hardware they need in order to participate in a web-conference.

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..... [3]

- (b)** Describe, in detail, how a web-conference can be used to discuss their visual materials and documents.

[8]

- 10** A teacher is creating a web page for his students to find out their result, Merit, Pass or Fail, by entering their test score. The teacher has chosen to use the JavaScript switch function to examine the test score entered by the student and report the result on the web page.

The code for the web page is shown in Fig. 10.1. The lines are numbered only for your convenience.

```

1
2  <html>
3  <body>
4
5  <input id="myTscore" type="number" value=0>
6  <button onclick="tscorelookup()">Check Your Result by entering your
   test score 0-100 </button>
7  <p id="myresult"></p>
8
9  <script>
10 function tscorelookup(){
11 var report;
12 var result = document.getElementById("myTscore").value;
13
14 switch(true){
15 case result < 0:
16 report = "You cannot score a mark below 0";
17 break;
18 case result > 100:
19 report = "You cannot score a mark above 100";
20 break;
21 case result >= 40:
22 report = "Your result is a Merit";
23 break;
24 case result >= 20:
25 report = "Your result is a Pass";
26 break;
27 case result < 20:
28 report = "Your result is a Fail";
29 break;
30 default:
31 report = "Please enter a valid mark";
32 }
33 document.getElementById("myresult").innerHTML = report;
34 }
35 </script>
36
37 </body>
38 </html>

```

Fig. 10.1

[8]

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