



Cambridge International AS & A Level

CANDIDATE
NAME

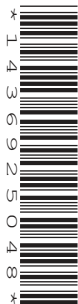
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CENTRE
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INFORMATION TECHNOLOGY

9626/33

Paper 3 Advanced Theory

October/November 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 LANs and WANs use protocols to send, receive and route data across networks.

Describe, in detail, each of the following protocols.

(a) Dynamic Host Configuration Protocol (DHCP)

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..... [2]

(b) BitTorrent

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(c) User Datagram Protocol (UDP)

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(d) Transmission Control Protocol (TCP)

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- 2 Companies are concerned that their employee files may be viewed and used by unauthorised people. A company uses access rights (permissions) to protect files stored on its network.

Explain how different access rights can be used to control access to files.

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3 IT crime (cybercrime) is crime committed using computers and networks.

Explain how encryption can be used to combat IT crime.

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4 A company employs a large number of teleworkers.

Discuss the effects of teleworking on the workers.

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[8]

- 5 (a) The JavaScript code shown in **Fig. 5.1** adds together 12 and 6 to produce the result 18. Line numbers are shown only for reference purposes.

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1 <html>
2 <head>
3 </head>
4 <body>
5 <br>
6 <h1>A Web Page</h1>
7 <p>A Paragraph</p>
8 <script>
9     var x, y;
10    x=12;
11    y=6;
12    window.alert(x + y);
13 </script>
14 </body>
15 </html>
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Fig. 5.1

Describe how the script operates to display the result on the screen.

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[6]

JavaScript uses the display capabilities of web browsers' windows to output the results of its scripts.

(b) Explain why JavaScript uses a browser's windows to display results of running scripts.

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6 A company makes shoes and boots and uses automatic stock control in its operations.

Describe how automatic stock control could be used by the company.

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- 9 When creating letters by mail merge, mail merge rules can be used to automatically select data from sources for inclusion in the letters.

Describe the use of the following mail merge rules to select data.

(a) If...Then...Else

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(b) Next Record If

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(c) Skip Record If

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10 Planners often draw diagrams of the stages in a project so that a critical path can be calculated.

(a) Describe what must be included in a diagram so that the critical path of a project can be calculated.

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(b) Describe **three** outcomes that can be determined from a critical path analysis of a project.

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[3]

11 Mae, a systems analyst, will use document analysis to carry out research into a company.

(a) Describe the steps she should go through when **preparing** to examine the company documents.

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(b) Describe the steps Mae should go through when examining the company documents.

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12 A company has a local area network (LAN) that can be accessed by its staff using their desktop and laptop computers as well as their smartphones.

(a) Describe the role of wireless access points (WAPs) in the network.

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(b) Describe how wireless access points (WAPs) can be configured to improve network security.

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