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INFORMATION AND COMMUNICATION TECHNOLOGY**0417/13**

Paper 1 Theory

May/June 2023**1 hour 30 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.

INFORMATION

- The total mark for this paper is 80.
- The number of marks for each question or part question is shown in brackets [].
- No marks will be awarded for using brand names of software packages or hardware.

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

- 1 A book has an ISBN which is 0 330 24720 4

Tick (✓) the most appropriate validation check to test the validity of the ISBN.

A character check ☐

B format check ☐

C length check ☐

D range check ☐

[1]

- 2 Identify the most appropriate hardware from the descriptions given.

(a) An internal hardware component that connects a computer to a Local Area Network.

..... [1]

(b) An external device that retains a computer's data even after the computer is turned off.

..... [1]

(c) An input device that is attached to a monitor.

..... [1]

- 3** A group of students are producing a class newsletter which they will email to parents of students in the class. They are deciding whether to use a laptop computer or a smartphone to type the newsletter.
- (a)** Discuss the advantages and disadvantages of using a laptop computer rather than a smartphone for this purpose.

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[6]

- (b) The students have decided to use a smartphone. Data for the newsletter will be input, stored and output by the smartphone.

- (i) Identify **two** devices that are part of the smartphone that could be used to input the data for the newsletter.

1

2

[2]

- (ii) Identify **two** devices that are part of the smartphone that could be used to output data from the newsletter.

1

2

[2]

- (iii) Identify **two** appropriate devices that could be used to store data for the newsletter.

1

2

[2]

- (c) The newsletter is to be saved as a PDF and sent as an email attachment to parents.

Describe **two** benefits of saving the newsletter as a PDF.

1

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2

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[2]

(d) Describe the features that the students must include to make the newsletter appeal to the parents.

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[4]

- 4** A company uses an intranet. They are considering using an extranet.

Compare an intranet with an extranet. Your answer must include similarities and differences.

[illegible]

[6]

- 5** Identify **two** appropriate IT-related causes for each of the health issues. Your answers must be different in each case.

- (a)** repetitive strain injury (RSI)

1

2

[2]

- (b) eye strain

1

2

[2]

6 Two-factor authentication can use a number of different forms of identification.

- (a)** One form of identification is to use 'where the user is'.
An example of this would be the user's GPS location.

State **two** other forms of identification. Give an appropriate example of each.

1

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Example

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2

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Example

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[4]

- (b)** Explain the purpose of two-factor authentication.

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[2]

7 The retail industry uses point of sale (POS) systems.

(a) Discuss the benefits of using POS in the retail industry.

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[4]

(b) Describe the steps involved in automatic stock control when an item is sold at a POS terminal.

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[6]

- 8** A teacher is creating a spreadsheet as an electronic mark book. Part of the electronic mark book displays how well a student did on a piece of work. When a student completes a piece of work the teacher will enter the mark into the electronic mark book and a message will be displayed.

- If the student gains 60 or more marks then 'Merit' is displayed
- If the student gains 50 to 59 marks then 'Pass' is displayed
- If the student gains a mark below 50 marks then 'Not Pass' is displayed.

The formula the teacher has used is:

`=IF(A1>=60,"Merit",IF(A1>50,"Pass","Not Pass"))`

The formula will need to be tested. The teacher will do this by entering test data into cell A1.

- (a)** Explain the steps that need to be taken to test the formula. Include in your answer any test data used and the reasons why these were chosen.

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[5]

- (b)** When the teacher enters a mark of 50 he expects 'Pass' to be displayed.

State the changes he needs to make to the formula to ensure 'Pass' is displayed.

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[1]

- (c) When the electronic mark book is complete it needs to be tested with live data.

Explain what is meant by live data.

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[2]

- 9 The manager of an organisation is planning a meeting of its directors. The manager plans to use audio-conferencing for the meeting.

- (a) Explain what is meant by audio-conferencing.

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[3]

- (b) The organisation could use video-conferencing for the meeting.

Describe **three** advantages of using audio-conferencing rather than video-conferencing in this scenario.

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[3]

(c) Identify the hardware and software required to join the audio-conference.

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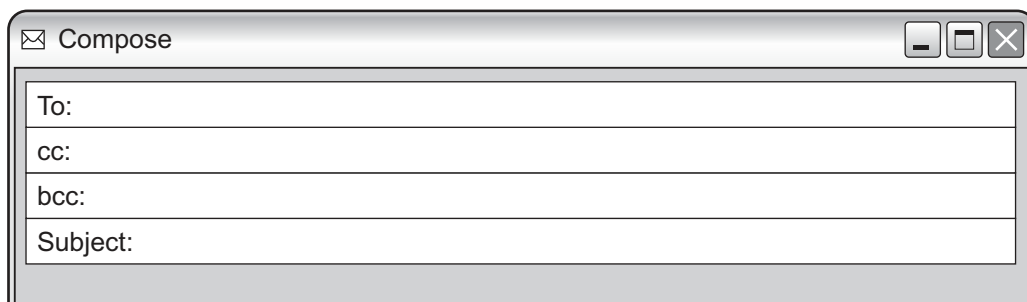
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[4]

- 10** A school secretary is composing an email. She will send the email to a teacher and will copy the headteacher into the message. She can either copy the headteacher in as cc or bcc.



(a) Describe what is meant by cc and bcc.

cc

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bcc

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[4]

- (b) A teacher is considering setting up either a forum or a blog for his class to help his students with their studies.

Describe the benefits of using a forum rather than a blog.

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[5]

- 11 Many books contain a gutter margin.

Explain what is meant by a gutter margin.

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[3]

- 12 A web page has an attached stylesheet in the head section and also has an inline style attribute in the body section.

Explain why the inline style attribute is used.

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[2]

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