

Adabistan-e-Soophia

General Certificate of Education Ordinary Level 3 (Test 1)

Adabistan-e-Soophia
School for Boys & Girls

CANDIDATE
NAME

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CENTER NUMBER							CANDIDATE NUMBER							
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Computer

2210/01

Session

2	0	2	0	-	2	1
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Time

2	h	r	1	5	m	i	n	u	t	e	s
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Marks

4	0
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Additional Materials: *Answer Booklet/Paper*

If you have been given an Answer Booklet, follow the instructions on the front cover of the Booklet. Write your Centre number, candidate number and name on all the work you hand in.

Write in dark blue or black pen.

You may use a soft pencil for any diagrams or rough working.

Do not use staples, paper clips, highlighters, glue or correction fluid.

Answer all questions.

At the end of the examination, fasten all your work securely together.

The number of marks is given in brackets [] at the end of each question or part question

1. Jesse is taking his Computer Science examination. He answers **five** questions about ethics.

(a) For the first question, he writes the answer:

“This type of software can be copied and shared without the permission of the owner.”

State what Jesse is describing.

..... [1]

(b) For the second question, he writes the answer:

“With this type of software, the owner still retains the copyright for the software, but he gives away copies of it for free.”

State what Jesse is describing.

..... [1]

(c) For the third question, he writes the answer:

“This type of software is often a trial version of the full software. To use the full version the user normally needs to pay a fee.”

State what Jesse is describing.

..... [1]

(d) For the fourth question, he writes the answer:

“This is when a person copies another person’s computer program and tries to claim it as his own.”

State what Jesse is describing.

..... [1]

(e) For the fifth question, he writes the answer:

“This is the legal protection that a person can obtain, to provide protection against his work being stolen.”

State what Jesse is describing.

..... [1]

2. An art gallery has a website that is used to display and sell art.

The art gallery is concerned about computer ethics relating to its website.

Explain what is meant by computer ethics **and** why the art gallery is concerned about computer ethics.

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..... [4]

3. The following text is stored as a text file:

She sells sea shells on the seashore. The shells that she sells are sea shells I am sure.

Explain how lossless compression would compress this file.

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..... [4]

4. Two error detection methods that Allison's computer uses are check digit and checksum.

(a) Give **two** similarities between the check digit and checksum methods.

1

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2

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[2]

(b) Identify **one other** error detection method that Allison's computer could use.

Describe how the method checks for errors.

Method

Description

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[4]

5. Carla's computer has a USB port.

Carla uses the USB port to connect her mobile device to her computer, to transfer her photos.

(a) State the type of data transmission used when transferring data using a USB port.

..... [1]

(b) Carla wants to reduce the file size of the photos she has transferred to her computer. She does not want the quality of the photos to be reduced, so she uses lossless compression.

Describe how lossless compression reduces the file size of the photos.

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..... [4]

6. Give the **12-bit binary** value of the denary value **250**.

..... [1]

Working space

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Binary can be represented as hexadecimal to make it easier to read.

Give the **hexadecimal** values of the 8-bit binary values:

10010011

00011101

[2]

7. The library has a website that customers can use to search for a book.

(i) The website has a background colour with the hexadecimal colour code #F92A10

The colour code is stored in two 12-bit binary registers.

Show how the colour code would be stored in the registers.

F92

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A10

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[6]

- (ii) Videos on the library website show customers which books the library will soon have in stock.

The library wants the file size of a video to be as small as possible.

Identify **and** describe a method the library could use to reduce the file size of a video as much as possible.

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[3]

8. An alarm clock is controlled by a microprocessor. It uses the 24 hour clock. The hour is represented by an 8-bit register, **A**, and the number of minutes is represented by another 8-bit register, **B**.

- (a) Identify what time is represented by the following two 8-bit registers.

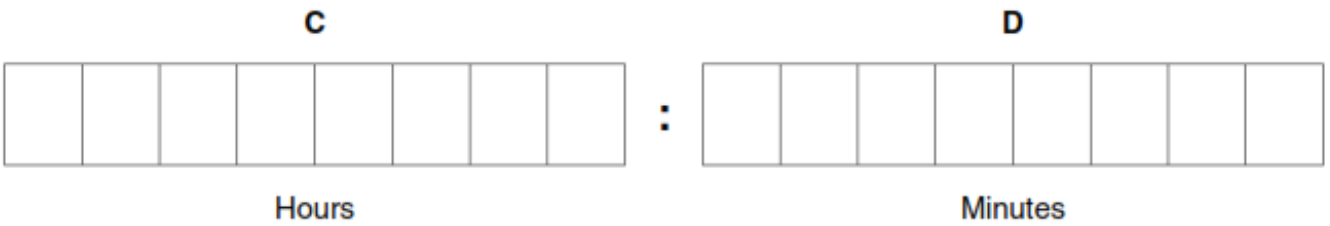


Hours Minutes

[2]

- (b) An alarm has been set for 07:30. Two 8-bit registers, **C** and **D**, are used to represent the hours and minutes of the alarm time.

Show how 07:30 would be represented by these two registers:



[2]