

Cambridge
International
A Level

Cambridge International Examinations
Cambridge International Advanced Level

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APPLIED INFORMATION AND COMMUNICATION TECHNOLOGY

9713/31

Paper 3

October/November 2016

1 hour 15 minutes

Candidates answer on the Question Paper.

No additional materials are required.

READ THESE INSTRUCTIONS FIRST

Write your Centre number, candidate number and name on all the work you hand in.

Write in dark blue or black pen.

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

You may use an HB pencil for any diagrams, graphs or rough working.

DO NOT WRITE IN ANY BARCODES.

Answer **all** questions.

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

The businesses described in this paper are entirely fictitious.

This document consists of **14** printed pages and **2** blank pages.

Scenario 1**Questions 1, 2, 3 and 4**

Faster Cars is a racing car company that produces high-speed racing cars.

The company uses CAD/CAM.

The company employs engineers and mechanics to maintain the cars. It has an expert system that can be used by the mechanics when trying to diagnose faults in the car engines.

The company has its own racing drivers who use simulators to practise high-speed racing for when they are driving the real racing cars.

[4]

1

2 [2]

1

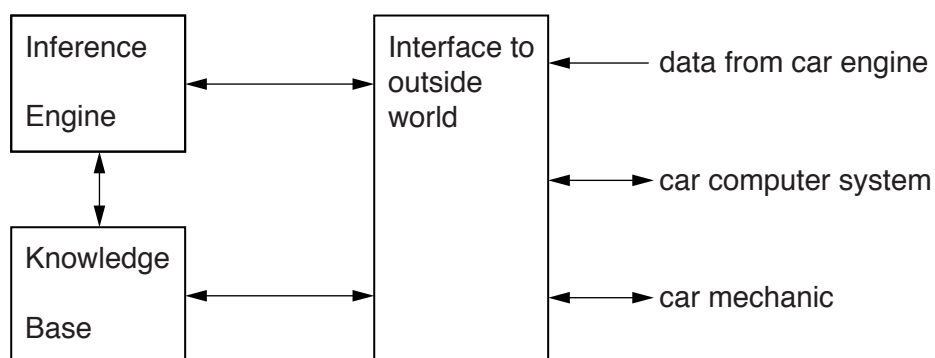
2 [2]

[6]

[4]

- 2 When a car engine develops a fault, a mechanic will use the expert system to help diagnose the fault.

The diagram shows an outline of the expert system that is used by the mechanic.



- (a) Describe **two** inputs to the expert system from the car engine.

- 1

 2

 [2]

- (b) Explain the use of **two** output devices that could be used by the interface.

- 1

 2

 [2]

[6]

[6]

- 3 Describe how each of the following output devices might be used in a racing car simulator.

motor

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.....

.....

buzzer

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.....

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large screen

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loudspeaker

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.....[4]

-[8]

Scenario 2

Questions 5, 6 and 7

Floatem is a multi-national shipping company which owns a fleet of cruise ships. These ships sail to and from ports all over the world carrying passengers on holidays.

Passengers may book holiday cruises in person at any office or online using the company's website.

Every passenger cabin on the cruise ships is equipped with an entertainment system that can be used to:

- listen to music from CDs
- listen to radio programmes
- listen to audio books
- access MP3 files stored on a file server
- watch video on-demand or satellite TV.

- 5 (a) Describe, including their purpose, **six** items of information that a customer would have to enter when booking a holiday cruise online.

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6

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.....[6]

- [6]

-[1]

-[1]

- 6 (a) Describe how each of the following could be used in the entertainment system in the passenger cabins.

(i) USB port

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.....[2]

(ii) Flash memory card

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.....[2]

- (b) Explain why MP3 files are used to distribute content to the entertainment system.

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.....[4]

- Describe how the sports programme is sent to, and received by, the entertainment system for Kumar to watch.

[6]

- Explain how the ship's video on-demand system enables Kumar to watch the movie of his choice.

[6]

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